The University of Alabama Graduate Catalog
July 2003

The University of Alabama, Graduate School, 102 Rose Administration Building, Box 870118, Tuscaloosa, AL 35487-0118; (205) 348-5921; e-mail usgradapply@aalan.ua.edu (U.S. students) or intergradapply@aalan.ua.edu (international students); Web site graduate.ua.edu

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The University is committed to making its programs and services accessible to individuals with disabilities and seeks to be responsive to the needs of qualified students with disabilities. Students who may need special services or reasonable accommodations because of a disability are encouraged to contact the Office of Disability Services, 220 Research Drive, Box 870185, Tuscaloosa, AL 35487-0185; telephone (205) 348-7966; TDD (205) 348-3081.

CAMPUS SECURITY REPORT

Each year, The University of Alabama publishes the UA Annual Campus Security Report. It contains crime statistics for the three most recent calendar years. It also details UA security policies and procedures. The report is provided in accordance with the Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act and is available online at safety.ua.edu. The Alabama Department of Public Safety, a state agency, also provides an online listing of sex offenders currently registered with the state. This listing is available on the Alabama Department of Public Safety Web site at www.dps.state.al.us (click on the “Alabama Sex Offenders” link). For information regarding the enrollment or employment of registered sex offenders at The University of Alabama, or to request a printed copy of the Campus Security Report, write University Police, Attention: Community Services Lieutenant, Box 870180, Tuscaloosa, AL 35487-0180.
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*911 calls placed from an on-campus phone (prefix of 348 or 347) reach University Police; from off-campus phones, such calls reach the appropriate local dispatcher (e.g., Tuscaloosa).

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2003–04 ACADEMIC CALENDAR

2003 SUMMER TERM ................................................................. May 12–August 18
Interim Session
Classes begin ........................................................................... Monday, May 12
Last day to register or add a course ...................................... Tuesday, May 13
Classes end .............................................................................. Friday, May 30

First Half of Session
Testing and orientation .............................................................. Monday, June 2
Late registration/add/drop (first and second term) .................. Monday, June 2*
Classes begin ............................................................................ Tuesday, June 3
Last day to register or add a course for first term ................. Wednesday, June 4
Last day to register for courses throughout summer session ... Thursday, June 5
Classes end (1st term) ............................................................... Wednesday, July 2
Final examinations ................................................................. Thursday & Saturday, July 3 & 5
Holiday — Independence Day ................................................ Friday, July 4

Second Half of Session
Registration (second term) [deadline for payment of tuition] .... Monday, July 7*
Classes begin ........................................................................... Tuesday, July 8
Last day to register or add a course ...................................... Wednesday, July 9
Classes end ............................................................................... Wednesday, August 6
Final examinations ................................................................. Thursday–Friday, August 7–8
Commencement (9 a.m.) ........................................................ Monday, August 11

2003 FALL SEMESTER
Testing and orientation .............................................................. Monday, August 18
Late registration/add/drop ......................................................... Tuesday, August 19*
Classes begin ........................................................................... Wednesday, August 20
Last day to register or add a course ...................................... Wednesday, August 27
Holiday — Labor Day ............................................................. Monday, September 1
Last day to drop a course with a grade of “W” ......................... Wednesday, October 29
Last day for all tests, etc. ......................................................... Wednesday, November 26
Holiday — Thanksgiving begins at 5 p.m. ......................... Wednesday–Friday, November 26–28
Classes resume at 7 a.m. ......................................................... Monday, December 1
Classes end ............................................................................... Friday, December 5
Final examinations ................................................................. Monday–Saturday, December 8–12
Commencement (9 a.m.) ........................................................ Monday, December 15
All grades due ........................................................................ Tuesday, December 16

2004 SPRING SEMESTER
Testing and orientation .............................................................. Monday, January 5
Late registration/add/drop ......................................................... Tuesday, January 6*
Classes begin ........................................................................... Wednesday, January 7
Last day to register or add a course ...................................... Wednesday, January 14
Holiday — Martin Luther King Jr.’s birthday observed .......... Monday, January 19
Last day to drop a course with a grade of “W” ......................... Wednesday, March 17
Spring holidays begin at 5 p.m. ........................................... Friday–Friday, March 26–April 2
Classes resume at 7 a.m. ......................................................... Monday, April 5
Honors Week ............................................................................ Monday–Friday, April 12–16
Honors Day — classes dismissed after 10 a.m. .................... Friday, April 16
Last day for all tests, etc. ......................................................... Friday, April 23
Classes end ............................................................................... Friday, April 30
Final examinations ................................................................. Monday–Saturday, May 3–7
Commencement ...................................................................... Monday, May 10
All grades due ........................................................................ Tuesday, May 11

*Penalty payment for late registration begins this date.
2004–05 ACADEMIC CALENDAR

Subject to change by appropriate officials of The University of Alabama without prior notice. For up-to-date information, visit the Office of Academic Records and University Registrar online at http://registrar.ua.edu.

2004 SUMMER TERM ................................................................. May 17–August 13

Interim Session
Classes begin ................................................................. Monday, May 17
Last day to register or add a course .................................. Tuesday, May 18
Classes end ................................................................. Friday, May 28

First Half of Session
Testing and orientation ......................................................... Monday, June 7
Late registration/add/drop (first and second term) .................. Monday, June 7*
Classes begin ................................................................. Tuesday, June 8
Last day to register or add a course for first term ................... Wednesday, June 9
Last day to drop a course with a grade of “W” ....................... Friday, June 25
Holiday — Independence Day ............................................. Monday, July 5
Classes end (first term) ..................................................... Thursday, July 8
Final examinations ......................................................... Friday–Saturday, July 9–10

Last Half of Session
Registration (second term) [deadline for payment of tuition] .... Monday, July 12*
Classes begin ................................................................. Tuesday, July 13
Last day to register or add a course .................................. Wednesday, July 14
Last day to drop a course with a grade of “W” (full session) .... Friday, July 16
Last day to drop a course with a grade of “W” (second term) .... Friday, July 30
Classes end ................................................................. Wednesday, August 11
Final examinations ......................................................... Thursday–Friday, August 12–13
Commencement ............................................................. Monday, August 16

2004 FALL SEMESTER

Testing and orientation ......................................................... Monday, August 23
Late registration/add/drop ................................................... Tuesday, August 24*
Classes begin ................................................................. Wednesday, August 25
Last day to register or add a course .................................. Wednesday, September 1
Holiday — Labor Day ...................................................... Monday, September 6
Last day to drop a course with a grade of “W” ....................... Wednesday, November 3
Holiday — Thanksgiving begins at 5 p.m. ......................... Wednesday–Friday, November 24–26
Classes resume at 7 a.m. ................................................. Monday, November 29
Last day for all tests, etc. ................................................... Friday, December 3
Classes end ................................................................. Friday, December 10
Final examinations ......................................................... Monday–Saturday, December 13–17
Commencement (9 a.m.) .................................................... Monday, December 20
All grades due ............................................................. Tuesday, December 21

2005 SPRING SEMESTER

Testing and orientation ......................................................... Monday, January 3
Late registration/add/drop ................................................... Tuesday, January 4*
Classes begin ................................................................. Wednesday, January 5
Holiday — Martin Luther King Jr.’s birthday observed ........... Monday, January 17
Last day to register or add a course .................................. Wednesday, January 12
Last day to drop a course with a grade of “W” ....................... Wednesday, March 16
Spring holidays begin at 5 p.m. ......................................... Friday–Friday, March 25–April 1
Classes resume at 7 a.m. ................................................. Monday, April 4
Honors Week ................................................................. Monday–Friday, April 11–15
Honors Day — classes dismissed after 10 a.m. ..................... Friday, April 15
Last day for all tests, etc. ................................................... Friday, April 22
Classes end ................................................................. Friday, April 29
Final examinations ......................................................... Monday–Saturday, May 2–6
Commencement ............................................................. Monday, May 9
All grades due ............................................................. Tuesday, May 10

*Penalty payment for late registration begins this date.
Legend

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- 113 Parker-Adams Hall .................... 11-E
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<td>136</td>
<td>Kilgore House</td>
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<td><strong>(Alabama Heritage Magazine Office)</strong></td>
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<td>151</td>
<td>Lambda Chi Alpha</td>
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<td>142-N</td>
<td>Lambda Sigma Phi</td>
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<td>179</td>
<td>Law Center</td>
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<td>21</td>
<td>Lewis Hall</td>
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<td>Little Hall</td>
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<td>Lupton Hall</td>
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<td><strong>University Lutheran Chapel</strong></td>
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<td>43</td>
<td>Maintenance Air Conditioning Shop</td>
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<td>38</td>
<td>Maintenance Building</td>
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<td>Operations and Carpentry Shop</td>
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<td>36</td>
<td>Maintenance Director’s Office</td>
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<td>Maintenance Electric and Break Room</td>
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<td>125</td>
<td>Maintenance Greenhouse</td>
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<td>Maintenance Grounds</td>
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<td>Maintenance Heating and Plumbing</td>
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<td>Mallet Hall</td>
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<td>Manly Hall</td>
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<td>Frederick R. Maxwell Hall</td>
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<td>McConvey Hall</td>
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<td>29</td>
<td>McLeod House</td>
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<td>83</td>
<td>McClure Education Library</td>
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<tr>
<td>195</td>
<td>James B. McMillan Building</td>
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<td>182</td>
<td>Frank M. Moody Music Building</td>
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<tr>
<td>115</td>
<td>Moore Hall</td>
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<tr>
<td>32</td>
<td>Moore House (German Supplementary</td>
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<td>School)</td>
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<tr>
<td>77</td>
<td>Morgan Hall</td>
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<tr>
<td>142-L</td>
<td>Multicultural Sorority</td>
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<tr>
<td>187</td>
<td>Natatorium</td>
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<td>109</td>
<td>New Hall</td>
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<tr>
<td>203</td>
<td>Ninth Street Apartments</td>
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<td>128</td>
<td>Nott Hall</td>
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<tr>
<td>127</td>
<td>Nott Hall Annex</td>
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<td>84</td>
<td>Oliver-Barnard Hall</td>
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<td>117</td>
<td>Osband Hall</td>
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<td>49</td>
<td>Palmer Hall</td>
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<td>131</td>
<td>Gordon Palmer Hall</td>
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<td>Martha Parham Hall</td>
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<td>Phi Mu</td>
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<td>Reese Phifer Hall</td>
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<td>Phi Beta Phi</td>
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<td>Phi Kappa Phi</td>
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<td>13</td>
<td>University Police Station (Gorgas</td>
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<td>Hall)</td>
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<td>23</td>
<td>Powers House</td>
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<td>50</td>
<td>Presidential Pavilion</td>
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<td>111</td>
<td>President’s Mansion</td>
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<td>University Presbyterian</td>
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<td>Student Association</td>
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ADMINISTRATION AND FACULTY

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Graduate Admissions and Recruitment
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Students
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LOUIS A. PITSCHMANN, Ph.D., Dean of University Libraries (ex officio)
TAVAN T. TRENT, Ph.D., Faculty Senate Representative (ex officio)

Term Expires

NATALIE ADAMS, Ph.D., College of Education ................................................................. 2005
MARTIN G. BAKKER, Ph.D., College of Arts and Sciences .................................................. 2003
BRUCE E. BARRETT, Ph.D., Culverhouse College of Commerce and Business
Administration ......................................................................................................................... 2003
SHARON E. BEATTY, Culverhouse College of Commerce and Business
Administration ......................................................................................................................... 2005
DAVID W. CORDES, Ph.D., College of Engineering* ............................................................. 2005
BARBARA FISCHER, Ph.D., College of Arts and Sciences* .................................................. 2004
TIMOTHY A. HASKEW, Ph.D., College of Engineering ......................................................... 2005
MARSHA L. HOUSTON, Ph.D., College of Communication and
Information Sciences* ................................................................................................................ 2004
D. JEFF JACKSON, Ph.D., College of Engineering ................................................................. 2004
LAURA G. KLINGER, Ph.D., College of Arts and Sciences* .................................................. 2003
JORDAN I. KOSBERG, Ph.D., School of Social Work ........................................................... 2005
RICHARD G. LOMAX, Ph.D, College of Arts and Sciences .................................................... 2004
MICHAEL D. MURPHY, Ph.D., College of Arts and Sciences ................................................. 2004
SHARON O’DAIR, Ph.D., College of Arts and Sciences ......................................................... 2003
YORGO PASADEOS, Ph.D., College of Communication and
Information Sciences .................................................................................................................. 2004
MARTHA POWELL, Ph.D., College of Arts and Sciences* .................................................... 2003
ERIC E. RODEN, Ph.D., College of Arts and Sciences .......................................................... 2005
DAVID R. ROSKOS-EWOLDSEN, Ph.D., College of Communication and
Information Sciences .................................................................................................................. 2004
NANCY RUBIN, Psy.D., College of Community Health Sciences ........................................ 2003
EDWARD J. SCHNEE, Ph.D., Culverhouse College of Commerce and Business
Administration .......................................................................................................................... 2003
FORREST R. SCOGIN, Ph.D., College of Arts and Sciences ................................................... 2005
B. JOYCE STALLWORTH, Ed.D., College of Education* ....................................................... 2005
MARIETTA P. STANTON, Ph.D., Capstone College of Nursing .............................................. 2004
STEPHEN J. THOMA, Ph.D., College of Human Environmental Sciences ........................... 2003
PIETER B. VISSCHER, Ph.D., College of Arts and Sciences .................................................... 2005
HAROLD M. WEBER, Ph.D., College of Arts and Sciences ..................................................... 2004
S. ALLEN WILCOXON, Ed.D., College of Education .............................................................. 2004
ELIZABETH K. WILSON, Ph.D., College of Education* .......................................................... 2005

*Appointed
QUALIFICATIONS OF THE
GRADUATE FACULTY

The purpose of the graduate faculty of The University of Alabama is to set standards for graduate work and to provide graduate instruction. It is the responsibility of the graduate faculty in each division to elect its representative(s) to the Graduate Council, which acts for the faculty in matters relating to graduate work. There are three categories of members: full, associate, and temporary. Only members of the graduate faculty may teach courses numbered 500 or above, and only members of the graduate faculty may serve on thesis, dissertation, and examining committees. Only full members may chair dissertation committees.

Criteria for full and associate members. The dean of each academic division has the annual responsibility of nominating members who meet the following criteria to serve on the graduate faculty:

I. A. Hold the Ph.D. or other terminal degree and
   B. Hold the rank of at least assistant professor in a full-time, tenure-track position

II. Must demonstrate ability and continuing interest in the graduate program and in research or creative activity. Full members must show a strong, continuing record of productive research, publication, creative activity, and scholarly activity appropriate to the discipline. These broad requirements are best interpreted by each department and college considering their unique aspects.

III. Be recommended by the departmental graduate faculty, department chairperson, and dean of the academic division

These nominations will then be acted upon by the chairperson of the Graduate Council, the dean of the Graduate School.

Terms of appointment. Full and associate members are appointed for six-year renewable terms.

Temporary membership. Temporary membership may be extended to well-qualified individuals who do not satisfy the above criteria, to perform specific functions for specific time periods, not to exceed one calendar year. They should be recommended by the departmental graduate faculty, department chairperson, and dean of the academic division. These nominations will then be acted upon by the chairperson of the Graduate Council, the dean of the Graduate School.

Administrative appointments. Faculty members currently on administrative appointments, or returning to the faculty from such appointments, are eligible for full or associate membership on the graduate faculty. They should show, at a minimum, promise of satisfying the appropriate departmental as well as University membership criteria. The individual’s record of teaching and research before becoming an administrator should be considered.

Retirement. Members of the graduate faculty are automatically permitted to retain graduate faculty status for one year after retirement. After a graduate faculty member retires, he or she may need to continue to serve as chair or committee member on students’ thesis and/or dissertation committees. These graduate faculty members may be appointed as temporary members of the graduate faculty for these purpose and/or to perform other specific functions. The nomination and appointment procedure for these temporary appointments are the same as those adopted by the academic unit and the University.
GRADUATE FACULTY

(First date refers to original appointment at the University. Second date, if any, refers to date of appointment to title listed.)

COLLEGE OF ARTS AND SCIENCES
ROBERT F. OLIN, Ph.D., Dean
D. JOE BENSON, Ph.D., Associate Dean
JONATHAN MICHAELSEN, M.F.A., Associate Dean
CARMEN TAYLOR, Ph.D., Associate Dean

American Studies
MORGAN, STACY. Ph.D. (Emory). Assistant Professor, 2001.
SHABAZZ, AMILCAR, Ph.D. (Houston). Assistant Professor, 1997.

Anthropology
JACOBI, KEITH, Ph.D. (Indiana University). Assistant Professor, 1998.
OTHS, KATHRYN S., Ph.D. (Case Western Reserve). Associate Professor, 1990, 1996.

UAB Anthropology Cooperative Program Faculty

Art
The University of Alabama

Biological Sciences


BENKE, ARTHUR C., Ph.D. (Georgia). Professor, 1984.


REDDING, KEVIN, Ph.D. (Stanford). Assistant Professor, 1998.


STEPPHONSEN, EDWIN C., Ph.D. (Yale). Associate Professor, 1991.


Chemistry

ARDUENGO, ANTHONY J., III, Ph.D. (Georgia Institute of Technology). Saxon Professor, 1999.


BERTSCH, WOLFGANG, Ph.D. (Houston). Associate Professor, 1974, 1979.


CASSADY, CAROLYN JEANE, Ph.D. (Purdue University). Associate Professor, 2000.


REDDING, KEVIN E., Ph.D. (Stanford University). Assistant Professor, 1998.

ROGERS, ROBIN D., Ph.D. (Alabama). Professor and Director of the Center for Green Manufacturing, 1996.

SHAUGHNESSY, KEVIN H., Ph.D. (Stanford University). Assistant Professor, 1999.


**Communicative Disorders**
LAING, SANDRA P., Ph.D. (Memphis). Assistant Professor, 1999.
SCHMITT, JOHN F., Ph.D. (Wichita State). Professor, Associate Dean of the Graduate School, and Assistant to the Provost, 1980, 1989.

**Criminal Justice**
LO, CELIA C., Ph.D. (Alabama). Associate Professor and Chair, 1993, 2002.

**English**
BOLDEN, TONY, Ph.D. (Louisiana State). Assistant Professor, 1999.
BROUWER, JOEL, M.A. (Syracuse). Assistant Professor, 2002.
BRUTT-GRIFFLER, JANINA, Ph.D. (Ohio State). Assistant Professor, 2000.
HORNSBY, JOSEPH, Ph.D. (Toronto). Associate Professor and Director of Blount Undergraduate Initiative, 1986, 1989.
LAZER, HANK, Ph.D. (Virginia). Professor and Assistant Vice President for Undergraduate Programs and Services, Office for Academic Affairs, 1977, 1993.
PICKERING, LUCY, Ph.D. (Florida). Assistant Professor, 2000.
WHITE, HEATHER CASS, Ph.D. (Cornell). Assistant Professor, 2000.
YOUNG, ROBERT, Ph.D. (Syracuse). Assistant Professor, 1998.

Geography
APPIAH-OPOKU, SETH, Ph.D. (Waterloo). Assistant Professor, 2002.
REMINGTON, W. CRAIG, M.S. (Florida State). Adjunct Assistant Professor, 1984.

Geological Sciences
RODRIGUEZ, ANTONIO, Ph.D. (Rice). Assistant Professor, 2000.

History
DORR, LISA, Ph.D. (Virginia). Assistant Professor, 2000.
ROTHMAN, JOSHDUA D., Ph.D. (Virginia). Assistant Professor, 2000.
SELESKY, HAROLD E., Ph.D. (Yale). Associate Professor, 1991.
Mathematics
LIEM, VO THANH, Ph.D. (Utah). Professor, 1979, 1986.
OLIN, ROBERT F., Ph.D. (Indiana). Professor and Dean, 2000.

Modern Languages and Classics
CIPRIA, ALICIA, Ph.D. (Ohio State). Assistant Professor, 2001.
LAZDA, RASMA, Ph.D. (Minnesota). Assistant Professor, 2002.
MAYER-ROBIN, CARMEN, Ph.D. (Oregon). Assistant Professor, 2002.
VILLANUEVA, NERY, Ph.D. (Columbia). Assistant Professor, 2001.
WORDEN, WILLIAM, Ph.D. (Brown). Assistant Professor, 2002.
ZUPANČIĆ, METKA, Ph.D. (Zagreb, Croatia). Assistant Professor, 2000.
Music
MCGUIRE, KENNETH, Ph.D. (Syracuse). Assistant Professor, 1998.
NOFFSINGER, JONATHAN, D.M.A. (Louisiana State). Associate Professor, 1993,

Physics and Astronomy
PIEPKE, ANDREAS G., Ph.D. (Heidelberg). Assistant Professor, 2000.
SCHAD, RAINER, Ph.D. (Hanover). Assistant Professor, 1998.
STANCU, ION, Ph.D. (Rice). Assistant Professor, 2000.

Political Science

Psychology
BOLES, DAVID, Ph.D. (Oregon). Associate Professor, 2000.
DECOSTER, JAMIE, Ph.D. (Purdue). Assistant Professor, 2003.
ROGERS, RONALD W., Ph.D. (Vanderbilt). Professor, Assistant Vice President for Academic Affairs, and Dean of the Graduate School, 1976, 1991.
ROSENBERG, JEROME, Ph.D. (Florida State). Associate Professor, 1969, 1974.
SALEKIN, RANDALL, Ph.D. (North Texas). Assistant Professor, 2000.

Theatre and Dance
BURCH, STEVEN D., Ph.D. (Wisconsin–Madison). Assistant Professor, 2002.
Women’s Studies
PURVIS, JENNIFER, Ph.D. (Purdue University). Assistant Professor, 2002.

Other Graduate Faculty
MCCALLUM, DEBRA, Ph.D. (North Carolina). Director, Institute for Social Science Research and Director, Capstone Poll, 1991.

MANDERSON GRADUATE SCHOOL OF BUSINESS
J. BARRY MASON, Ph.D., Dean
WALTER S. MISIOLEK, Ph.D., Senior Associate Dean and Director of Graduate Programs

Culverhouse School of Accountancy
BALDWIN, AMELIA A., Ph.D. (VPI&SU). Arthur Andersen Faculty Fellow and Associate Professor, 1999.
INGRAM, ROBERT W., Ph.D. (Texas Tech), CPA (Texas). Director and Steven J. Ross–Hugh F. Culverhouse Endowed Chair of Accountancy, 1985.
KEE, ROBERT C., Ph.D. (Florida State), CMA, Board of Visitors Research Fellow in Accounting and Associate Professor, 1979, 2003.
LUNSFORD, DALE L., Ph.D. (Ohio State). Assistant Professor, 1999.
ROBERTS, MICHAEL L., Ph.D. (Georgia State), J.D. (Georgia), CPA (Arkansas). Joe Lane Professor of Accounting and Associate Professor, 1987, 1992.
TAYLOR, GARY K., Ph.D. (Ohio State), CPA (Ohio). PricewaterhouseCoopers Fellow in Accounting and Associate Professor, 1996, 2002.
Economics, Finance, and Legal Studies


BOYLAN, RICHARD T., Ph.D. (California Institute of Technology). Associate Professor of Economics, 2002.


DAKHLIA, SAMI, Ph.D. (Washington). Assistant Professor of Economics, 1999.

DOWNS, THOMAS, Ph.D. (Purdue). David J. Cooper Endowed Faculty Excellence Fellow and Associate Professor of Finance, 1989.


GUP, BENTON E., Ph.D. (Cincinnati). Robert Hunt Cochrane–Alabama Bankers Association Chair of Banking and Professor of Finance, 1983.


MCLEOD, ROBERT W., Ph.D. (Texas). CFA, CFP, CLU, AVA. Professor of Finance and John S. Bickley Endowed Faculty Fellow in Insurance, 1978, 1995.


WEBB, DARRYL L., J.D. (Samford). Associate Professor of Legal Studies, 1971, 1981.

Information Systems, Statistics, and Management Science

DUGGAN, EVAN W., Ph.D. (Georgia State). Assistant Professor of Management Information Systems, 1998.
MALLOY, ALISHA D., Ph.D. (Georgia State). Assistant Professor of Management Information Systems, 2002.
MILLER, DAVID M., Ph.D. (Georgia Institute of Technology). J. Reese Phifer Faculty Fellow, Professor of Management Science, and Director of the Alabama Productivity Center, 1983, 1985.
MURPHY, LISA D., Ph.D. (Indiana). Assistant Professor of Management Information Systems, 2002.
SOX, CHARLES R., Ph.D. (Cornell). Professor of Management Science and University Chair of Manufacturing Management, 2002.

Management and Marketing


FERGUSON, CARL, Ph.D. (Missouri). Professor of Marketing and Associate Dean for Research and Technology, 1975, 1985.


SAVAGE, GRANT, Ph.D. (Ohio State). Richard M. Scrushy/HealthSouth Endowed Chair and Professor of Health Care Management, 1999.


COLLEGE OF COMMUNICATION AND INFORMATION SCIENCES

DOLF ZILLMANN, Ph.D., Dean Emeritus for Graduate Research

YORGO PASADEOS, Ph.D., Professor and Associate Dean for Graduate Studies

Advertising and Public Relations

BERGER, BRUCE, Ph.D. (Kentucky). Associate Professor, 1999.


KINNEY, LANCE, Ph.D. (Florida State). Assistant Professor, 1998.

MCKINNON, LORI, Ph.D. (Oklahoma). Associate Professor, 1995, 2000.

PASADEOS, YORGO, Ph.D. (Texas). Professor and Associate Dean for Graduate Studies, 1982, 1995.


Communication Studies
EDWARDS, JANIS L., Ph.D. (Massachusetts). Associate Professor, 2002
HOUSTON, MARSHA, Ph.D. (Massachusetts). Professor and Department
  Chairperson, 1999.
SHULER, SHERIANNE, Ph.D. (Kansas). Assistant Professor, 1997.

Journalism
BISSELL, KIM, Ph.D. (Syracuse). Assistant Professor, 2000.

School of Library and Information Studies
Book Arts

Library and Information Studies
ATKINSON, JOAN L., Ph.D. (Alabama). Associate Professor and Director, 1972, 1980.
BROWN, CHRISTINE, Ph.D. (Western Ontario). Assistant Professor, 1999.
OSBURN, CHARLES B., Ph.D. (Michigan). Professor and Dean Emeritus of the

Telecommunication and Film
BRYANT, JENNINGS, Ph.D. (Indiana). Professor, Ronald Reagan Professor of
  Broadcasting, and Director of the Institute for Communication Research, 1987.
ZHOU, SHUHUA, Ph.D. (Indiana). Assistant Professor, 1999.

COLLEGE OF COMMUNITY HEALTH SCIENCES
HIGGINBOTHAM, JOHN C., Ph.D. (Texas–Austin). Associate Professor, 1998.
Graduate Faculty

COLLEGE OF EDUCATION
W. ROSS PALMER, Ed.D., Interim Dean
L. NAN RESTINE, Ph.D., Associate Dean

Educational Leadership, Policy, and Technology Studies
Computers and Applied Technology

Educational Leadership and Policy Studies
DAGLEY, DAVE, Ph.D. (Utah), J.D. (Cumberland–Samford). Professor and
        Department Head, 2000, 2002.
FREEMAN, JOHN, Ph.D. (Louisiana State). Assistant Professor, 1997.
RESTINE, L. NAN, Ph.D. (New Mexico). Associate Professor and Associate Dean,
        2000.

Higher Education Administration
MAJOR, CLAIRE H., Ph.D. (Georgia). Assistant Professor, 2000.

Social Foundations of Education
EREVELLES, NIRMALA, Ph.D. (Syracuse). Assistant Professor, 2000.
PETROVIC, JOHN E., Ph.D. (Colorado). Assistant Professor, 2000.

Educational Studies in Psychology, Research Methodology,
and Counseling
Counselor Education
BURNHAM, JOY, Ph.D. (Auburn). Assistant Professor, 2002.
DUNN, PATRICK L., Ph.D. (Ohio State). Assistant Professor, 1999.

Educational Psychology
ROBINSON, CECIL, Ph.D. (Colorado). Assistant Professor, 2003.

Research Methodology
MILLS, JAMIE D., Ph.D. (Georgia). Assistant Professor, 2000.
ROSIEK, JERRY LEE, Ph.D. (Stanford). Assistant Professor, 1998.
School Psychology
HARRISON, PATTI L., Ph.D. (Georgia). Professor and Associate Dean of the Graduate School, 1985, 1996.
LOGAN, PATRICIA, Ph.D. (Mississippi State). Assistant Professor, 2002.

Elementary Education Programs
GOLDSTON, JENICE FRENCH, Ph.D. (Georgia). Associate Professor, 2002.

Interdisciplinary Teacher Education
MUTUA, KAGENDO, Ph.D. (Kent State). Assistant Professor, 2001.
RILEY, TAMAR F., Ph.D. (Florida). Assistant Professor, 2000.
ROCK, MARCIA, Ph.D. (Pittsburgh). Assistant Professor, 2000.

Kinesiology
VINCENT, JOHN, Ph.D. (Florida State). Assistant Professor, 2000.

Music Education
MCGUIRE, KENNETH M., Ph.D. (Syracuse). Assistant Professor, 1998.

Secondary Curriculum, Teaching, and Learning
MANTERO, MANUEL, Ph.D. (Florida State). Assistant Professor, 2002.
MOODY, VIVIAN ROBINSON, Ph.D. (Georgia). Assistant Professor, 1997.
NICHOLS, SHARON, Ph.D. (Florida State). Associate Professor, 2000.
THOMPSON, ANTHONY, Ph.D. (Florida State). Assistant Professor, 2002.

COLLEGE OF ENGINEERING
TIMOTHY J. GREENE, Ph.D., Dean
ROBERT A. GRIFFIN, Ph.D., Associate Dean for Research and Graduate Studies
KEVIN W. WHITAKER, Ph.D., Associate Dean for Academic Programs

Aerospace Engineering and Mechanics
OLCMEN, SEMIH M., Ph.D. (VRP&SU). Associate Professor, 2002.
WHITAKER, KEVIN W., Ph.D. (Texas A&M). Associate Dean for Academic Programs and Associate Professor, 1987, 2000.

Chemical Engineering
BRAZEL, CHRISTOPHER S., Ph.D. (Purdue). Assistant Professor, 1999.
GRIFFIN, ROBERT A., Ph.D. (Utah State). James R. Cudworth Professor of Environmental Engineering, Director of the Environmental Institute, and Associate Dean for Research and Graduate Studies, 1990, 1996.
JOHNSON, DUANE T., Ph.D. (Florida). Assistant Professor, 1998.
RITCHIE, STEPHEN M.C., Ph.D. (Kentucky). Assistant Professor, 2001.

Civil and Environmental Engineering
FRIDLEY, KENNETH J., Ph.D. (Auburn). Professor and Head, 2003
GRIFFIN, ROBERT A., Ph.D. (Utah State). James R. Cudworth Professor of Environmental Engineering, Director of the Environmental Institute, and Associate Dean for Research and Graduate Studies, 1990.
JOHNSON, PHILIP W., Ph.D. (New Mexico Institute of Mining and Technology). Associate Professor, 1990, 1996.
   Associate Professor, 1980.
TURNER, DANIEL S., Ph.D. (Texas A&M), P.E. (Alabama, Georgia, Mississippi), L.S.
   (Alabama, Georgia). Professor and Director of the University Transportation Center for Alabama, 1976, 1999.
WILLIAMSON, DEREK G., Ph.D. (Texas–Austin). Assistant Professor, 1999.

Computer Science
BORIE, RICHARD B., Ph.D. (Georgia Institute of Technology). Associate Professor, 1990, 1995.
BRADFORD, PHILLIP G., Ph.D. (Indiana). Assistant Professor, 2002.
CORDES, DAVID W., Ph.D. (Louisiana State). Associate Professor and Head, 1988, 1999.
HAWKER, J. SCOTT, Ph.D. (Lehigh). Assistant Professor, 1999.
PARRISH, ALLEN S., Ph.D. (Ohio State). Associate Professor, 1990, 1996.
RAY, SIBABRATA, Ph.D. (Nebraska). Assistant Professor, 1999.
SMITH, RANDY K., Ph.D. (Alabama). Assistant Professor, 2002.
ZHANG, JINGYUAN, Ph.D. (Old Dominion). Assistant Professor, 1999.

Electrical and Computer Engineering
MURPHY, GREGORY V., Ph.D. (Tennessee). Assistant Professor, 2003
   Associate Professor, 1987.
Industrial Engineering
RAY, PAUL S., Ph.D. (Oklahoma). Associate Professor, 1989, 1995.

Mechanical Engineering
BAKER, JOHN W., Ph.D. (Kentucky). Associate Professor, 2001.
CHOU, Y. KEVIN, Ph.D. (Purdue). Assistant Professor, 1999.
GUO, YUEBIN, Ph.D. (Purdue). Assistant Professor, 2001.
SHEPARD, W. STEVE, JR., Ph.D. (Georgia Tech). Assistant Professor, 1999.

Metallurgical and Materials Engineering
The University of Alabama

COLLEGE OF HUMAN ENVIRONMENTAL SCIENCES

MILLA BOSCHUNG, Ph.D., Interim Dean
STEVEN THOMA, Ph.D., Chair, Graduate Committee

BOSCHUNG, MILLA D., Ph.D. (Alabama). Assistant Professor, Chair of the Department of Consumer Sciences, and Interim Dean, 1977, 1993.
CULP, ANNE, Ph.D. (Kansas). Associate Professor, 1998.
CULP, REX, J.D., Ph.D. (Kansas). College of Human Environmental Sciences Endowed Research Chair and Professor, 1997.
ENDERS, LINDA, Ph.D. (Iowa State). Associate Professor, 2002.
FARR, BRECCA, Ph.D. (Iowa State). Assistant Professor, 1997.
KNOL, LINDA, Ph.D. (Tennessee). Assistant Professor, 2002.
KOONTZ, MARCY L., Ph.D. (Florida State). Assistant Professor, 1998.
WIMBERLEY, VIRGINIA, Ph.D. (Ohio State). Assistant Professor, 1992.

INTERDISCIPLINARY PROGRAMS

Applied Statistics

CONERLY, MICHAEL D., Ph.D. (Southern Methodist). Director and Professor, 1982, 1998.
MANSFIELD, EDWARD R., Ph.D. (Southern Methodist). Department Chairperson and Professor, 1975, 1985.
Materials Science

METZGER, ROBERT MELVILLE, Ph.D. (California Institute of Technology).
Professor, 1986.
NIKLES, DAVID E., Ph.D. (Case Western Reserve). Associate Professor, 1990, 1996.
REDDY, RAMANA G., Ph.D. (Utah). Professor, 1996.
SCHAD, RAINER, Ph.D. (Hanover). Assistant Professor, 1998.
STEFLANESCU, DORU MICHAEL, Ph.D. (Polytechnic Institute of Bucharest).
WEAVER, MARK L., Ph.D. (Florida). Associate Professor, 1997.

CAPSTONE COLLEGE OF NURSING

SARA BARGER, D.P.A., Dean
DONNA PACKA, D.S.N., Associate Dean for Academic Programs

BARGER, SARA, D.P.A. (Georgia). Professor and Dean, 1995.
SCHOOL OF SOCIAL WORK

JAMES P. ADAMS, Ph.D., Dean
GINNY T. RAYMOND, Ph.D., Associate Dean
JORDAN KOSBERG, Ph.D., Chairperson of the Ph.D. Program
CAROL S. DROLEN, Ph.D., Chairperson of the M.S.W. Program

DROLEN, CAROL S., Ph.D. (Southern California). Associate Professor and
KOSBERG, JORDAN I., Ph.D. (Chicago). Research Professor and Chairperson of
the Ph.D. Program, 1999.
NELSON-GARDELL, DEBRA, Ph.D. (Florida State). Associate Professor, 1995,
2002.
RAYMOND, GINNY T., Ph.D. (Denver). Associate Professor and Associate Dean,
1975, 1996.
SIMON, CASSANDRA E., Ph.D. (Texas–Arlington). Assistant Professor, 2000.
GENERAL INFORMATION

MISSION OF THE UNIVERSITY

The University of Alabama, the state’s oldest public university, is the senior comprehensive doctoral-level institution in Alabama. Established by constitutional provision, with subsequent statutory mandates and authorizations, the University’s purpose is to advance the intellectual and social condition of all the people of the state through quality programs of research, instruction, and service.

The University of Alabama bases its activities on a broad range of research programs, many of which are recognized for their contributions to the economic, technological, and cultural growth of the state and region. This research, supported by a library that is a member of the national Association of Research Libraries, yields continuing stimulation for the instructional programs offered by the University’s 13 colleges and schools.

At the undergraduate level, the University offers a comprehensive range of baccalaureate programs in the arts and humanities and in scientific, technological, preprofessional, and professional fields. A University-wide core curriculum provides a strong general education component as the keystone of every undergraduate program. Graduate programs, built on these strong undergraduate foundations, concentrate on the development of original scholarship and research. In selected areas, including the state’s only public law school, professional programs develop the highest levels of competence and leadership.

As one of the two major residential campuses in the state, the University enhances the academic and personal growth of all its students through its on-campus student life environment. Recognizing that education is a lifelong endeavor, the University offers a wide array of continuing educational opportunities to adult and nontraditional students.

The University recognizes the importance of educating students to live and work in a global community of increasingly interdependent countries. To this end, the University supports a variety of international programs for faculty and students.

The University’s research and instructional programs form a base for extensive outreach activities, providing continuing linkages with business, industry, and government through applications of new knowledge. These relationships cause the University’s influence to extend beyond the bounds of the state as it assists developmental efforts at regional, national, and international levels.

MISSION OF THE GRADUATE SCHOOL

The Graduate School, through graduate offerings of the various schools and colleges, prepares students for careers in a wide range of teaching, research, and service activities. The graduate faculty offers courses leading to the following degrees: Master of Accountancy; Master of Arts; Master of Business Administration; Master of Fine Arts; Master of Library and Information Studies; Master of Music; Master of Public Administration; Master of Science; Master of Science in Aerospace Engineering, Chemical Engineering, Chemistry, Civil Engineering, Commerce, Computer Science, Criminal Justice, Electrical Engineering, Engineering, Engineering (Environmental Engineering), Engineering Science and Mechanics, Human Environmental Sciences, Industrial Engineering, Marine Science (Biology), Mechanical Engineering, Metallurgical Engineering, and Nursing; Master of Social Work; Master of Tax Accounting; Educational Specialist; Doctor of Education; Doctor of Musical Arts; and Doctor of Philosophy.

The Graduate School operates in cooperation with the other divisions of the University to foster the research and scholarly activities that are the hallmark of a graduate institution.
HISTORY AND ORGANIZATION

In 1819, the Congress of the United States donated 46,000 acres of land within the state of Alabama for the endowment of a seminary of learning. The board of trustees of the University was created by the General Assembly of Alabama in 1821, and on April 18, 1831, the University was opened for the admission of students. From the outset, the University offered graduate degrees, the first being a master of arts degree conferred in 1832. On April 4, 1865, most University buildings were burned to the ground by a body of federal cavalry. Construction of new buildings began in January 1867, and classes were resumed in April 1869. On February 25, 1884, the federal government donated 72 sections of public lands within the state to The University of Alabama in restitution for its loss in buildings and equipment when the campus was destroyed in 1865.

The Graduate School was organized as a specialized division of the University in 1924. Since 1924, the master’s degree in some of the professional schools has been offered with a designation of the field. In the fall of 1950, the University began to offer the Ph.D. degree. Today, The University of Alabama provides a comprehensive program of graduate study that embraces the humanities, the sciences, education, and several professional areas.

The Graduate School is composed of the divisions that offer graduate instruction leading to advanced degrees. The faculty of the Graduate School consists of those faculty members of the divisions who are deemed qualified by their peers and deans to teach and do research of graduate caliber and who participate actively in these graduate activities. The Graduate School has supervision over all graduate work in the University except law and medicine.

The Graduate Council, composed of four appointed and 22 elected members, formulates graduate policy. The dean of the Graduate School is ex officio chairperson of the council and is responsible for the administration of the regulations and requirements for advanced degrees.

Graduate study is designed for college graduates who desire a deeper and more thorough involvement in scholarship and research and more thorough professional preparation in their chosen fields. Graduate study, especially on the doctoral level, aims at the development of independent scholarship, originality, and competence in research or competence in the various professional areas in which doctoral programs are offered.

ACCREDITATION

The University of Alabama is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (1866 Southern Lane, Decatur, GA 30033-4097; telephone 404-679-4501) to award bachelor’s, master’s, educational specialist, and doctoral degrees. In addition, selected graduate programs have been accredited by the American Assembly of Collegiate Schools of Business, American Bar Association, American Library Association, American Psychological Association, American Speech-Language-Hearing Association, Association of Research Libraries, Council on Social Work Education, National Association of School Psychologists, National Association of Schools of Art and Design, National Association of Schools of Music, National Association of Schools of Theatre, Council on Accreditation of Counseling and Related Educational Programs, Council on Rehabilitation Education, and National Council for Accreditation of Teacher Education.

LIBRARIES AT THE UNIVERSITY OF ALABAMA

The University of Alabama provides research library facilities and services to its faculty, students, staff, and other scholars and information users through a system of discipline-related libraries. Amelia Gayle Gorgas Library, serving the humanities, social sciences, and arts, is centrally located on the University Quadrangle. Three other units are located adjacent to their discipline-related teaching areas: Angelo Bruno Business Library, McLure
Education Library, and Eric and Sarah Rodgers Library for Science and Engineering. The W. S. Hoole Special Collections Library is located on the second floor of Mary Harmon Bryant Hall. Under separate administration are the Health Sciences Library, located in the Educational Tower at DCH Regional Medical Center, and the Bounds Law Library, located in the Law Center.

The University’s libraries are committed to providing service and access to information resources equally to all library users. Each of the libraries provides special accommodations for users with disabilities. In addition, two of the libraries have adaptive technologies workstations. Library services supporting distance education are available by telephone and through the University Libraries’ Web site at www.lib.ua.edu. On campus the libraries offer library instruction classes designed to assist students and faculty with research and instruction.

The libraries combined hold more than two million cataloged items. In addition to books and microform materials, the collections include a broad selection of journals, newspapers, and other serial titles in paper and electronic format. The libraries serve as the regional depository for United States government publications.

The William Stanley Hoole Special Collections Library contains materials related to Alabama and the Deep South, rare editions, Confederate imprints, pamphlets, maps, archives of the University, and Alabama state publications. Various Congressional collections are deposited here. Hoole Library staff have begun digitizing key library collections to make them available to readers beyond the library’s physical location. The libraries’ catalog, e-journals, e-books, and a wide variety of databases may be accessed electronically in each of the libraries. These resources are available also via the University Libraries' Web site.

The University of Alabama has an academic membership in the Association of Research Libraries, a selective group of institutions emphasizing research and graduate instruction at the doctoral level and supporting large, comprehensive collections of library materials. The University’s libraries also hold memberships in the Center for Research Libraries, the Association of Southeastern Research Libraries, the Southeastern Library Network, the Coalition for Networked Information, and the Network of Alabama Academic Libraries.

SCHOOL OF MINES AND ENERGY DEVELOPMENT

The School of Mines and Energy Development (SOMED) is a University-wide support organization for mineral- and energy-related research. An important task of SOMED is to support research and service opportunities for University faculty that will enhance the development and growth of industry and the economy in Alabama, as well as in the nation.

The director of SOMED works closely with the deans of various divisions of the University in developing research activities of mutual interest to those colleges and SOMED. These activities are promoted through the SOMED Faculty Research Grants Program, the College Research Support Fund, and the Cooperative Research Program of matching funds. At SOMED opportunities for support of and participation in research in energy and minerals are created for a broad sector of the University faculty and graduate student body. The sources of funding for these activities include state and federal agencies, corporations, and foundations.

Primary research emphasis is on the resources of the state, including minerals, coal, coalbed methane, oil shale, lignite, biomass, and water. One important SOMED mission is developing interdisciplinary research that addresses not only science and engineering study of the materials, but also study of their economic and environmental impact on the state and nation. To accomplish this mission, SOMED serves as a coordinating organization for multidisciplinary research projects that cross department, division, campus, and state university lines.
The University of Alabama

CENTER FOR MATERIALS FOR INFORMATION TECHNOLOGY

The Center for Materials for Information Technology (MINT) at The University of Alabama is a multidisciplinary research program, located in the Bevill Building, that involves 23 faculty members, 13 postdoctoral fellows, and 42 graduate students from six departments. Research focuses on materials used in flexible magnetic media and heads and optical storage. MINT is supported by the University, by industrial sponsors, and by federal grants and was designated a Materials Research Science and Engineering Center by the National Science Foundation. The MINT’s director is Dr. William Butler, professor of physics, who has more than 30 years’ experience in materials research. Dr. Butler may be reached at the following e-mail address: wbutler@mint.ua.edu.

OFFICE OF INFORMATION TECHNOLOGY

The Office of Information Technology (OIT) is responsible for delivering state-of-the-art computer, network, telecommunication, and consulting services to the University of Alabama community. Faculty, staff, and students can turn to the OIT for access to and assistance with e-mail, Web sites, voice mail, and much more.

E-mail Accounts

Upon registration, accounts are automatically created for all students on the central academic computer, bama.ua.edu. These accounts are primarily used as the students’ official University e-mail addresses, but they can also be used to publish personal Web sites or for direct login to a Sun Solaris system with programming languages and other tools.

Telephone Service

Students living on campus receive their telephone service from Telecommunications, a department of OIT. Basic service includes unlimited local calls, a long distance calling card, voice mail, caller ID, call waiting, three-way calling, and local last number redial. For more information, see the Telecommunications Web site at http://telecom.ua.edu.

Internet Access

Another service for on-campus living is ResNet, a high-speed Internet connection available in many of the large residence halls. For information about which halls are connected to ResNet and how to subscribe, go online to http://ResNet.ua.edu. Students living in non-ResNet halls or off campus may be able to get a high-speed Internet connection through the local cable company; DSL connections are not available on campus but are available in much of the Tuscaloosa area. All students may opt to use a dialup Internet service. The University offers free limited service, but many students contract for service from an outside company. More information about Internet connection options is available online at http://helpdesk.ua.edu/internet.

Computer Labs

Students who do not own their own computers should be able to complete their coursework in the many computer labs on campus. Some departments have special labs with the software needed by their students, and there are also many general-purpose labs that are open to any University student. For details, see http://pclabs.ua.edu.
Resources for Research

Those students who need computing resources for their research are also served by OIT. As noted previously, bama.ua.edu accounts are given to all students and can provide a Unix platform for programming, statistical computing, or Web development. The University of Alabama is also a member of the Alabama Research and Education Network AREN, which provides high-speed network access to the Cray SVI supercomputer and other network facilities. For more information about AREN local access and support, visit the Alabama Supercomputer Authority’s Web site (http://www.asc.edu). Finally, the University is also a charter member of the Internet2 project, which connects schools and universities with a dedicated high-speed network for research.

For Assistance

The Network and Computing Support HelpDesk provides a central call center and solution provider for faculty, staff, and students’ computer and network problems. For assistance, or for more information about the services offered by the Office of Information Technology, call (205-348-2435), e-mail (Help.Desk@ua.edu), or come by (A-203 Gordon Palmer Hall) the HelpDesk, or check out the HelpDesk Web site at http://helpdesk.ua.edu.

RESEARCH AGENCIES

Oak Ridge Associated Universities

Since 1946, students and faculty of The University of Alabama have benefited from its membership in Oak Ridge Associated Universities (ORAU). ORAU is a consortium of 87 colleges and universities and a contractor for the U.S. Department of Energy (DOE) located in Oak Ridge, Tennessee. ORAU works with its member institutions to help their students and faculty gain access to federal research facilities throughout the country; to keep its members informed about opportunities for fellowship, scholarship, and research appointments; and to organize research alliances among its members.

Through the Oak Ridge Institute for Science and Education, the DOE facility ORAU operates, undergraduates, graduates, postgraduates, and faculty enjoy access to a multitude of opportunities for study and research. Students can participate in programs covering a wide variety of disciplines, including business, earth sciences, epidemiology, engineering, physics, geological sciences, pharmacology, ocean sciences, biomedical sciences, nuclear chemistry, and mathematics. Appointment and program length range from one month to four years. Many of these programs are specially designed to increase the numbers of underrepresented minority students pursuing degrees in science- and engineering-related disciplines. A comprehensive listing of these programs and other opportunities, their disciplines, and details on locations and benefits can be found in the Resource Guide, which is available at www.orau.gov/orise/resgd/htm, or by calling either of the contacts below.

ORAU’s Office of Partnership Development seeks opportunities for partnerships and alliances among ORAU’s members, private industry, and major federal facilities. Activities include faculty development programs, such as the Ralph E. Powe Junior Faculty Enhancement Awards, the Visiting Industrial Scientist Program, and various services to chief research officers.

For more information about ORAU and its programs, contact Professor Robert A. Griffin, ORAU Council Member, at (205) 348-1591; or Ms. Monnie Champion, ORAU Corporate Secretary, at (423) 576-3306; or visit the ORAU home page at www.orau.gov.
Other Research Organizations

The following organizations also contribute to the research environment at The University of Alabama:

- Alabama Business Research Council
- Alabama Council on Economic Education
- Alabama Law Institute
- Alabama Museum of Natural History
- Alabama Productivity Center
- Alabama State Oil and Gas Board
- Animal Care Facility
- William R. Bennett Alabama International Trade Center
- Bevill Center for Advanced Manufacturing Technology
- J. Nicholene Bishop Biological Station
- Brewer-Porch Children’s Center
- Bureau of Educational Services and Research
- Bureau of Legal Research
- Capstone International Center
- Capstone Poll
- Cartographic Laboratory
- Center for Business and Economic Research
- Center for Current Accounting Issues
- Center for Developmental and Learning Disorders
- Center for Economic Education
- Center for Land Information Analysis and Mapping
- Center for Materials for Information Technology (MINT)
- Center for Public Television
- Center for the Study of Aging
- Center for Teaching and Learning
- Child Development Center
- Coalbed Methane Resource Center
- Critical Languages Center
- Early Childhood Learning Center
- Electron Microscope Laboratory
- English Language Institute
- Evaluation and Assessment Laboratory
- Gadsden Educational and Research Center
- Geographic Information Systems Laboratory
- Geological Survey of Alabama
- Health Research Consulting Service
- Hess Institute for Retailing Development
- Human Resources Institute
- Infant Laboratory
- Institute for Communication Research and Service
- Institute for the Book Arts
- Institute for Social Science Research
- Institute of Alcoholism Research and Studies Inc.
- Institute of Higher Education Research and Services
- Inter-University Consortium for Political Research
- Laboratory for Human Osteology
- Latin American Studies Program
- Legal Counsel for the Elderly
- Marine Environmental Sciences Consortium
- Marine Science Program
- Metal Casting Technology Center
- Minority Culture Archives
- Moundville Archaeological Park
- National Network of State Polls
- Natural Resources Center
- Office of Archaeological Research
- Office of Educational Media
- Office of Informational Technology
- Office of Institutional Research
- Office of Sponsored Engineering Programs
- Program for Rural Services and Research
- Project ROSE
- Psychology Clinic
- Remote Sensing Laboratory
- Research Grants Committee
- RISE Program
- School of Mines and Energy Development (SOMED)
- Small Business Development Center
- Speech and Hearing Center
- State Data Center
- Transportation Research Group
- University Child Care Services
- University of Alabama Arboretum
- University of Alabama Art Gallery
- University of Alabama Ichthyological Collection
- University of Alabama Press
- University of Alabama Theatre
- U.S. Bureau of Mines
- U.S. Geological Survey
- West Alabama Comprehensive Services (WACS)
FINANCIAL ASSISTANCE*

Students applying for financial assistance through the Graduate School must be admitted to the Graduate School and to The University of Alabama. Financial assistance information is located at the Graduate School’s Internet site (http://graduate.ua.edu).

Application

Only academically superior students are eligible for teaching assistantships, research assistantships, or the other awards listed; an eligible student must also hold regular or conditional admission to a degree program. Conditionally admitted students whose graduate GPAs fall below 3.0 at any time during their conditional status will not be allowed to hold graduate teaching assistantships until such time as the GPA has increased to 3.0 or better. Nondegree students or students on academic warning may not hold assistantships. Prospective graduate students should contact their proposed departments and request information and application forms for assistantships, scholarships, and other awards. Prospective applicants should start the application process in the fall of a preceding academic year and have their applications completed no later than February 15 in order to be considered for financial assistance. Some departments may have earlier deadlines. Applicants should contact their departments for additional information.

Students enrolled in the Graduate School are also eligible to apply for federally supported financial aid. Further information can be obtained from the Office of Student Financial Aid, 106 Student Services Center, Box 870162, Tuscaloosa, AL 35487-0162; telephone (205) 348-6756; Web site http://financialaid.ua.edu.

Fellowships and Assistantships**

Departmental assistantships. Most academic departments of the Graduate School have teaching or research assistantships with a minimum stipend of $8,678 per academic year for 6 semester hours of teaching per semester or 20 hours per week of research or the equivalent. Assistantships with lesser assignments carry proportionate stipends. Figures are for the 2002–03 academic year. Current rates may be found at the Graduate School’s Web site http://graduate.ua.edu.

Students should contact departments directly to obtain information and application forms for assistantships.

Teaching and research assistants who are assigned duties of .5 FTE or more may possibly receive tuition scholarships. The semester tuition grant for any eligible graduate assistant is limited to the full University charges for 9 graduate hours or to the student’s actual tuition costs, whichever is less. Graduate assistants assigned duties of less than .5 FTE receive payment at the ratio of assigned FTE to .5 FTE. When an assistant is paid from funds other than permanently budgeted funds, the provider of the funds used to create the assistantship may also provide a tuition grant, if the department has made such a provision.

Recipients of assistantships may be entitled to relief from paying full nonresident tuition during the Interim and/or summer sessions, again dependent upon the FTE of their appointments. Please inquire at the Graduate School for more information or refer to our Web site http://graduate.ua.edu.

Any nonresident foreign student who is offered a graduate assistantship is limited to a maximum .5 FTE assistantship. All non-native speakers of English who accept classroom teaching or other instructional duties must successfully complete the International Teaching Assistant Program (ITAP). Students are recommended for ITAP by their departments.

*Note: Amounts of the listed awards vary from year to year; amounts shown may change.

**Fellowships and scholarships may impact a student’s allowable federal financial aid. Students who receive federal financial aid should consult with the UA Office of Student Financial Aid (205-348-2989) before accepting any of the fellowships listed above.
Graduate assistants whose appointments are terminated before the end of the academic semester or term are eligible only for reduced tuition grants. Those assistants who resign or are dismissed from their duties before the end of the academic semester or term are personally responsible for the payment of any tuition and fees not covered by the reduced tuition grant.

For more detailed information concerning departmental graduate assistantships, please refer to the Graduate School’s Internet site http://graduate.ua.edu/dept_ga_guide/appendix1.html.

Future Faculty Fellows Program. An African-American graduate student who is seeking the terminal degree in his or her field and plans to become a college or university professor may apply for aid from the University of Alabama Future Faculty Fellows Program. To increase the numbers of college faculty members from minority groups, this program provides funds for African-American students working toward doctoral or other terminal degrees. Consideration for the program is based upon departmental nomination of graduate students. More information may be obtained by contacting the Graduate School.

Graduate Council Fellowships. The Graduate School awards a number of non-renewable regular Graduate Council Fellowships each year with stipends of $14,000 per academic year. Except in exceptional cases, only students who have completed no more than 60 semester hours of graduate credit at The University of Alabama are eligible. Preference will be given to students beginning their graduate programs. No service to the University is required, but recipients must carry a normal course load of 12 graduate hours during each semester.

Recipients for the coming academic year are selected at three times: the first week in February, the first week in March, and mid-April. Nominations are made by academic departments. Interested students should inquire at the Graduate School office.

Students who are awarded Graduate Council Fellowships also receive scholarship grants equal to their full in-state and out-of-state tuition charges. Normally, 55 to 60 Graduate Council Fellowships (including regular Graduate Council Fellowships and Research/Creative Activity Fellowships) are awarded each year. A small number of regular Graduate Council Fellowship recipients also may be selected to receive special supplements to their fellowship stipends.

Graduate Council Research/Creative Activity Fellowships. Graduate Council Research/Creative Activity Fellowships with stipends of $14,000 per academic year are available to support graduate students in their own thesis/dissertation work or working on faculty projects.

Recipients for the coming academic year are selected once a year, in January. Nominations are made by academic departments. Interested students should inquire at the Graduate School office.

Students who are awarded Graduate Council Research/Creative Activity Fellowships also receive scholarships equal to their full in-state and out-of-state tuition charges. Normally, 55 to 60 Graduate Council Fellowships (including regular Graduate Council Fellowships and Research/Creative Activity Fellowships) are awarded each year.

Graduate Student Travel and Research Support Fund. These awards are available to all graduate students on a competitive basis and are based on departmental nominations. For more information, contact the Graduate School office.

Joint Minority Faculty Development Program Fellowships. The University of Alabama Graduate School has joint programs with Alabama A&M University, Alabama State University, Oakwood College, and Stillman College for practicing minority faculty members at those institutions who do not have terminal degrees in their fields of instruction. Faculty members must be nominated for the fellowship by their home institutions. Faculty members participating in this program receive support from both their home institutions (to be negotiated with each institution’s vice president for academic affairs) and the University of Alabama Graduate School.

National Alumni Association graduate scholarship program. To be eligible for these awards, an applicant must hold regular admission to the Graduate School, must possess entrance examination scores well above the national norm, and must have
A grade point average indicative of a high probability of success in graduate school. Preference is given to new students. Nominations for these awards are made by the dean of each division at the request of the Graduate School.

Each college and school that awards a postbaccalaureate degree will receive one $1,000 annual scholarship from the National Alumni Association. Also, any college or school participating in the Alumni Association Membership “Shred-Out” Program receives additional scholarships, with the number being dependent on the level of participation. Nominations from each college are made in early March.

The National Alumni Association graduate fellowship awards a $14,000 stipend plus a full-tuition scholarship. The source of the fellowship is the National Alumni Association's Collegiate License Tag Endowed Graduate Education Fund. The award is based on students' academic and professional records and potential to make outstanding contributions during their careers to the lives of the people of the state of Alabama. Nominations for these fellowships are made by the academic departments in the spring of each year.

The Alumni Heritage Graduate Scholarship rewards the children and grandchildren of University of Alabama alumni for choosing the University for higher education. The scholarship is a one-year, nonrenewable award for 10 percent of in-state tuition. In order to qualify, students must be enrolled full-time (9 hours of graduate classes) and have a parent or grandparent who both 1) holds a degree (undergraduate, graduate, or law) from the University and 2) has been an active member of the Alumni Association for three of the past five years. For more information, contact Kathleen Nodine at the Graduate School, Box 870118, Tuscaloosa, AL 35487-0118; telephone (205) 348-8280.

Scholarships and Grants

A number of departments and divisions offer special financial aid for graduate students.

College of Arts and Sciences

James and Elizabeth Ball and James and Teresa Duggan Endowed Scholarship in Psychology. Established in 1993 by Dr. James C. Ball and Mrs. Catherine D. Ball to honor their parents, this scholarship is to support an entering student over 30 years of age pursuing a doctoral degree in general or adult clinical psychology. Contact: Department of Psychology, 348 Gordon Palmer Hall or Box 870348, Tuscaloosa, AL 35487-0348.

J. Nicholene Bishop Biology Fellowship Awards. These awards, established by a gift from Ms. Alma Bishop Williams in honor of her aunt, Ms. J. Nicholene Bishop, provide supplementary stipends to graduate teaching assistants in the Department of Biological Sciences in order to recruit and retain outstanding teaching assistants in the biological sciences. Contact: Department of Biological Sciences, 319 Biology Building or Box 870344, Tuscaloosa, AL 35487-0344.

Buford Boone Memorial Fellowships. These fellowships were established in 1984 by the Tuscaloosa News in honor of its longtime publisher, Buford Boone. They are used to support graduate teaching fellowships in English. Contact: Department of English, 103 Morgan Hall or Box 870244, Tuscaloosa, AL 35487-0244. Application deadline: January 25.

Ralph L. Chermock Prize. This prize was established in 1978 by friends and colleagues of the late Dr. Ralph L. Chermock. The annual prize is given to a graduate student in natural history or evolutionary biology. Contact: Department of Biological Sciences, 319 Biology Building or Box 870344, Tuscaloosa, AL 35487-0344.

David and Elizabeth DeJarnette Endowed Scholarship in Anthropology. This scholarship, established in 1993, is presented annually to a student of promise who is conducting research on the archaeology of prehistoric Moundville. Contact: Department of Anthropology, 19 ten Hoor Hall or Box 870210, Tuscaloosa, AL 35487-0210. Application deadline: January 25.
Lex Arden Fikes Jr. Award. This award is presented in memory of Lex Arden Fikes Jr., a graduate student in the Department of Political Science. It acknowledges the highest level of professional development and departmental service achieved by a student in the graduate program. All graduate students in the Department of Political Science are eligible to be nominated for this award by a faculty member in the department.

Isabella H. Graham Prize. This prize was established in 1932 by Dr. John Y. Graham in memory of his wife, and encourages and rewards graduate work in biology. Contact: Department of Biological Sciences, 319 Biology Building or Box 870344, Tuscaloosa, AL 35487-0344.

Miriam Locke Scholarships. This fund provides support of professional travel for graduate students in English. Contact: Department of English, 103 Morgan Hall or Box 870244, Tuscaloosa, AL 35487-0244.

Robert E. Gross Lockheed Fellowship in Physics. This is a fellowship awarded to graduate students majoring in physics. Contact: Chairperson, Department of Physics and Astronomy, 206 Gallalee Hall or Box 870324, Tuscaloosa, AL 35487-0324.

Inge and Ilouise Hill Fellowships. Established by a donation from Mr. and Mrs. Inge Hill, these fellowships aid in recruitment and retention of graduate students in the Department of Biological Sciences, by supplementing teaching or research assistantships. Contact: Department of Biological Sciences, 319 Biology Building or Box 870344, Tuscaloosa, AL 35487-0344.

W. Gary Hooks Fund. This fund was established in 1982 by friends, former students, and colleagues of geology faculty member Gary Hooks. The fund provides research support for graduate students in geology. Contact: Department of Geological Sciences, 202 Bevill Building or Box 870338, Tuscaloosa, AL 35487-0338.

Henry E. Jacobs Fund. The fund was established in 1986 by friends and colleagues of Dr. Jacobs to provide travel and publication funds for graduate students in English. Contact: Department of English, 103 Morgan Hall or Box 870244, Tuscaloosa, AL 35487-0244.

A. S. Johnson Memorial Fund. This fund, established in 1982, provides travel support for graduate students in the Department of Geology who are making presentations at regional, national, and international meetings. Contact: Department of Geological Sciences, 202 Bevill Building or Box 870338, Tuscaloosa, AL 35487-0338.

Margaret S. Quayle Scholarship Fund. Established by Dr. Quayle in 1975, the fund provides gift scholarships to deserving graduate students in clinical psychology, preferably women. Contact: Department of Psychology, 348 Gordon Palmer Hall or Box 870348, Tuscaloosa, AL 35487-0348.

Society for the Fine Arts (SFA) Scholarships in Creative Writing. Funded by members of SFA, this award of at least $1,000 goes to deserving graduate students in the creative writing program of the Department of English. Contact: Creative Writing Program, 101 Morgan Hall or Box 870244, Tuscaloosa, AL 35487-0244.

Hudson Strode Fellowships for the Study of English Literature. These fellowships were established in 1989 to commemorate Hudson Strode, who taught Shakespeare and creative writing classes at the University from 1916 to 1963. The awards support graduate study in English, preferably Renaissance studies. Contact: Director of the Strode Program, Department of English, 103 Morgan Hall or Box 870244, Tuscaloosa, AL 35487-0244. Application deadline: February 21.

Hudson Strode Research Awards. These awards were established in 1989 to support graduate student research projects in English Renaissance literature. Contact: Director of the Strode Program, Department of English, 103 Morgan Hall or Box 870244, Tuscaloosa, AL 35487-0244.

Donald Strong Award. The Strong Award is presented annually for the best research paper written by a political science graduate student. Papers are submitted to the Graduate Studies Committee by individual graduate students.

Irene Thames Endowed Fine Arts Fellowship Fund. This fund was established in 1986 to recruit and support graduate students studying ceramics, painting, photography, printmaking, and sculpture. Contact: Department of Art, 103 Garland Hall or Box 870270, Tuscaloosa, AL 35487-0270.
**General Information**

**Joab Thomas Endowed Fellowship Fund.** Established in 1983 by friends and colleagues of Dr. Joab L. Thomas, president of the University from 1981 to 1988, this fund provides a fellowship for a graduate student pursuing an advanced degree in one of the biological sciences. Contact: Department of Biological Sciences, 319 Biology Building or Box 870344, Tuscaloosa, AL 35487-0344.

**Bob Work Award for Scholarly Excellence in Archaeology.** This annual graduate student paper competition was established in 1978 by the Archaeological Research Association of Alabama in honor of contributors Robert and Anne Work of North Carolina. Contact: Department of Anthropology, 19 ten Hoor Hall or Box 870210, Tuscaloosa, AL 35487-0210. Application deadline: January 25.

**Manderson Graduate School of Business**

**Alabama Power Company Endowed Educational Fellowship.** Provides graduate scholarships and postdoctoral fellowships for students pursuing a course of study in or conducting research in commerce and business administration. Contact: Director of Graduate Programs (or the department head/director of any academic department or program in the School), Box 870223, Tuscaloosa, AL 35487-0223.

**AmSouth M.B.A. Graduate Fellowship.** Provides fellowship awards to students pursuing M.B.A. degrees. Contact: Director of M.B.A. Programs, Box 870223, Tuscaloosa, AL 35487-0223.

**Clifford H. and Mary K. Armstrong Fellowship.** This fund was established to attract top-quality students to graduate degree programs in commerce and business administration. Academic quality and merit take precedence over all other considerations in selecting recipients. Contact: Director of Graduate Programs (or the department head/director of any academic department or program in the School), Box 870223, Tuscaloosa, AL 35487-0223.

**Raymon J. Baker M.B.A. Student Endowed Scholarship in Investment Banking.** Priority of consideration shall be given to graduate students enrolled in the Culverhouse College of Commerce and Business Administration who are seeking a master of business administration degree with an emphasis in investment management. Contact: Director of M.B.A. Program, Box 870223, Tuscaloosa, AL 35487-0223.

**James O. Banks Endowed C&BA Scholarship.** Established by James O. and Ann H. Banks to promote the education of graduate and undergraduate accounting students. Contact: Director, Culverhouse School of Accountancy, Box 870220, Tuscaloosa, AL 35487-0220.

**Becker CPA Review Course Award.** Awarded to a graduating senior or graduate student. Contact: Director, Culverhouse School of Accountancy, Box 870220, Tuscaloosa, AL 35487-0220.

**J. L. Bedsole Memorial Endowed Fellowship.** Provides fellowship awards to promote the education of exceptional graduate students in any academic program in the School. Recipients are distinguished as J. L. Bedsole Scholars. Contact: Director of Graduate Programs (or the department head/director of any academic department or program in the School), Box 870223, Tuscaloosa, AL 35487-0223.

**Culverhouse School of Accountancy Benefactor Award.** Awarded to an undergraduate or graduate student in good standing and majoring in accounting. Financial need is a primary factor. Contact: Director, Culverhouse School of Accountancy, Box 870220, Tuscaloosa, AL 35487-0220.

**Emily S. and Lee Bidgood Memorial Endowed Fellowship.** Established by the Bidgood children to honor the memory of their parents and to promote the education of outstanding graduate students in commerce and business administration. Recipients are recognized as Bidgood Scholars. Contact: Director of Graduate Programs (or the department head/director of any academic department or program in the School), Box 870223, Tuscaloosa, AL 35487-0223.

**Young J. Boozer Endowed Graduate Student Fellowship.** Established by Colonial BancGroup Inc. to honor the memory of Mr. Young Boozer and to promote the education of full-time graduate students in commerce and business administration. Contact: Director of Graduate Programs (or the department head/director of any academic department or program in the School), Box 870223, Tuscaloosa, AL 35487-0223.
Fred Bostick Endowed Fellowship. Established by the Bostick family to promote the education of students pursuing courses of study leading to graduate degrees in commerce and business administration. Recipients are distinguished as Bostick Scholars. Contact: Director of Graduate Programs (or the department head/director of any academic department or program in the School), Box 870223, Tuscaloosa, AL 35487-0223.

Wilbur J. Bradford Scholarship. Awarded annually to an outstanding accounting student. Financial need is considered. Contact: Director, Culverhouse School of Accountancy, Box 870220, Tuscaloosa, AL 35487-0220.

Frederic Augustin Brett Memorial Endowed Scholarship. Established by Elizabeth Maye J. Brett in memory of her husband to promote the education of deserving students pursuing doctoral degrees in accounting or management. Contact: Director of Graduate Programs, Director of the Culverhouse School of Accountancy, or Head of the Department of Management and Marketing, Box 870223, Tuscaloosa, AL 35487-0223.

Ehney Addison Camp Jr. Memorial Endowed Scholarship. Established in 1993 to promote the education of full-time, needy, and qualified students preparing for careers in business. Priority consideration is given to M.B.A. students. Contact: Director of Graduate Programs or Director of M.B.A. Program, Box 870223, Tuscaloosa, AL 35487-0223.

Robert G. Campbell Class of 1936 Endowed Scholarship. Established in 1999 to promote the education of full-time graduate students in the Manderson Graduate School of Business. Contact: Director of Graduate Programs or Director of M.B.A. Program, Box 870223, Tuscaloosa, AL 35487-0223.

Cap Gemini Ernst & Young M.B.A. Health Care Scholarship. Priority of consideration shall be given to second-year students enrolled in the M.B.A. Program in the Manderson Graduate School of Business who have undergraduate backgrounds or licensing in health care management or nursing, and/or to students enrolled in the M.B.A./M.S.N. Program in the Capstone College of Nursing. Contact: Director of M.B.A. Program, Box 870223, Tuscaloosa, AL 35487-0223.

Comer Foundation Graduate Fellowship. Supports truly deserving graduate students pursuing master’s or doctoral degrees in commerce and business administration. Contact: Director of Graduate Programs (or the department head/director of any academic department or program in the School), Box 870223, Tuscaloosa, AL 35487-0223.

Sara Elliott Donahoo Memorial Endowed Accounting Scholarship. Established by J. Wesley Donahoo to honor his first wife and to promote the graduate and undergraduate education of students majoring in accounting. Contact: Director, Culverhouse School of Accountancy, Box 870220, Tuscaloosa, AL 35487-0220.

Mark and Dawn Dunning Endowed C&BA Master’s in Business Administration Scholarship. Established in 1996 to promote the education of full-time M.B.A. students in the Manderson Graduate School of Business. Recipients are selected based on scholastic merit and leadership. Contact: Director of M.B.A. Program, Box 870223, Tuscaloosa, AL 35487-0223.

Durr-Fillauer Endowed Graduate Fellowship. Established by Durr-Fillauer Medical Inc. to award fellowships to outstanding students pursuing graduate degrees in commerce and business administration. Contact: Director of Graduate Programs (or the department head/director of any academic department or program in the School), Box 870223, Tuscaloosa, AL 35487-0223.

Ernst and Young Accounting Scholarship. A scholarship for an accounting major of junior standing or a candidate for an accounting master’s degree. Contact: Director, Culverhouse School of Accountancy, Box 870220, Tuscaloosa, AL 35487-0220.

Federal Tax Clinic Scholarship. Awarded to an incoming master of tax accounting student. GPA, GMAT score, and overall potential for success are considered. Contact: Director, Culverhouse School of Accountancy, Box 870220, Tuscaloosa, AL 35487-0220.

Federation of Schools of Accountancy Student Award. Awarded to a graduating master’s student in accounting. Contact: Director, Culverhouse School of Accountancy, Box 870220, Tuscaloosa, AL 35487-0220.
First Alabama Bank Endowed C&BA Scholarship for Productivity and Quality Enhancement. Established in 1993 by First Alabama Bancshares to support both scholarly work that directly benefits the economic well-being of the state and students assisting business and industry through the activities of the Alabama Productivity Center. Contact: Director, Alabama Productivity Center, Box 870318, Tuscaloosa, AL 35487-0318.

Paul Garner Graduate Accounting and Research Award. An award for an accounting graduate student. Contact: Director, Culverhouse School of Accountancy, Box 870220, Tuscaloosa, AL 35487-0220.

C. E. Hornsby Jr. and Emily Jones Hornsby Endowed Scholarship. Established in 1998 to promote the education of full-time graduate and undergraduate students in the College of Commerce, with preference to graduates of Bibb County, Alabama, high schools. Contact: Director of Graduate Programs or Director of Undergraduate Programs, Box 870223, Tuscaloosa, AL 35487-0223.

Ingram-Reid Endowed Accounting Scholarship. Established by Professor Robert W. and Christine M. Ingram in honor of their parents to promote the education of graduate and undergraduate accounting students. Contact: Director, Culverhouse School of Accountancy, Box 870220, Tuscaloosa, AL 35487-0220.

Jackson, Thornton and Company Scholarship. Awarded annually to an accounting major. Contact: Director, Culverhouse School of Accountancy, Box 870220, Tuscaloosa, AL 35487-0220.

Bill Jessup Endowed Scholarship. A scholarship for a graduate or undergraduate student in accounting. The award is renewable. Contact: Director, Culverhouse School of Accountancy, Box 870220, Tuscaloosa, AL 35487-0220.

L. Paul Kassouf & Company Scholarship. Awarded to an undergraduate or graduate student in accounting desiring to enter public accounting. Contact: Director, Culverhouse School of Accountancy, Box 870220, Tuscaloosa, AL 35487-0220.

Dr. Saburo Kawai Endowed Scholarship. Established in 1998 by Dr. Saburo Kawai of Tokyo, Japan, to promote international business in a global economy by means of promoting the education of deserving full-time graduate students in the Culverhouse College of Commerce and Business Administration. Priority consideration is given to students expressing an interest in Japanese business or culture who intend to pursue master’s degrees, with preference to M.B.A. students specializing in insurance or finance. Contact: Director of Graduate Programs or Director of M.B.A. Program, Box 870223, Tuscaloosa, AL 35487-0223.

Chester Knight Memorial Scholarship. A scholarship awarded to an accounting major of junior, senior, or graduate standing. Contact: Director, Culverhouse School of Accountancy, Box 870220, Tuscaloosa, AL 35487-0220.

KPMG Peat Marwick Endowed Accounting Scholarship. Awarded annually to an accounting student. Contact: Director, Culverhouse School of Accountancy, Box 870220, Tuscaloosa, AL 35487-0220.

Allen J. Lambert Annual Accounting Award in C&BA. Awarded to a fifth-year student (master’s level) who intends to sit for the CPA exam. Contact: Director, Culverhouse School of Accountancy, Box 870220, Tuscaloosa, AL 35487-0220.

Joe Lane Memorial Endowed Accounting Scholarship. Established in memory of Professor Emeritus Joseph E. Lane Jr. to promote the education of graduate and undergraduate accounting students. Contact: Director, Culverhouse School of Accountancy, Box 870220, Tuscaloosa, AL 35487-0220.

Lewis Manderson Graduate School of Business Scholarship. Established in 1994 to promote graduate education in commerce and business administration and to support qualified minority students who have high potential for success in graduate study in business. Contact: Director of Graduate Programs or Director of M.B.A. Program, Box 870223, Tuscaloosa, AL 35487-0223.

Lewis Manderson M.B.A. Fellowship. A competitive award for exceptionally well-qualified M.B.A. students. Provides an annual scholarship award of $4,470 plus one-half of the student’s University tuition. Contact: Director of M.B.A. Program, Box 870223, Tuscaloosa, AL 35487-0223.
Marvin L. Mann Endowed C&BA Graduate Scholarship. Established in 1999 through a gift from Lexmark International to honor the retirement of Lexmark’s first chairman and chief executive officer, and University alumnus, Marvin L. Mann, and to promote the education of deserving graduate students in the Manderson Graduate School of Business. Contact: Director of Graduate Programs or Director of M.B.A. Program, Box 870223, Tuscaloosa, AL 35487-0223.

Charles Irving Massey Endowed Graduate M.B.A. Scholarship. Established by Mr. Charles Rayford Massey to promote the education of exceptional students pursuing M.B.A. degrees. Recipients are recognized as Massey Scholars. Contact: Director of M.B.A. Program, Box 870223, Tuscaloosa, AL 35487-0223.

Master of Tax Accounting Alumni Endowed Fellowship. Awarded to a student accepted into the master of tax accounting program. Scholarship, leadership, and financial need are considered. Contact: Director, Culverhouse School of Accountancy, Box 870220, Tuscaloosa, AL 35487-0220.

Minnie C. Miles Human Resources Management Endowed Graduate Scholarship. Established to promote the education of full-time students pursuing graduate degrees in management. Contact: Head of the Department of Management and Marketing, Box 870223, Tuscaloosa, AL 35487-0223.

Minnie Cadell Miles Endowed Graduate Scholarship. Awarded to a master’s degree candidate, with preference to the behavioral area. Contact: Director of Graduate Programs or Head of the Department of Management and Marketing, Box 870225, Tuscaloosa, AL 35487-0225.

National Alumni Association Graduate Scholarship Program. The National Alumni Association provides funds for $1,000 scholarships for students in any business discipline. Priority consideration is given to first-year master’s degree students. Contact: Director of Graduate Programs, Box 870223, Tuscaloosa, AL 35487-0223.

Larry E. Newman–Ernst & Young Endowed Accounting Scholarship. Priority awarded to undergraduate or graduate students who have been accepted into the accounting program in the Culverhouse School of Accountancy, and have demonstrated either academic merit or financial need, although not necessarily financial need as defined by federal guidelines. Contact: Director, Culverhouse School of Accountancy, Box 870220, Tuscaloosa, AL 35487-0220.

Roy C. Ossman National Food Brokers Association Foundation Scholarship. A $1,000 scholarship awarded to a student at the undergraduate or graduate level who is interested in a career in the food industry. Scholastic ability, character, and financial need will be considered in selecting the recipient. Contact: Head of the Department of Management and Marketing, Box 870225, Tuscaloosa, AL 35487-0225.

Timothy M. Parker Sr. and Thelma F. Parker Endowed Scholarship. Provides scholarships to graduate students who are either Alabama natives or graduates of Alabama high schools. Financial need is considered in making awards. Contact: Director of M.B.A. Program or Director of Graduate Programs, Box 870223, Tuscaloosa, AL 35487-0223.

Culverhouse School of Accountancy Patron Scholarship. Awarded to full-time undergraduate or graduate student enrolled in the Culverhouse School of Accountancy in good academic standing. Need is a consideration. Contact: Director, Culverhouse School of Accountancy, Box 870220, Tuscaloosa, AL 35487-0220.

John Howell Pearson Endowed Scholarship in Accounting. Established by Jack H. and Sue A. Pearson in memory of their son, John Howell Pearson, to promote the education of students who intend to pursue degrees in accounting; who have demonstrated strong character and commitment, as evidenced by involvement in community activities, school activities, and/or employment; and who have minimum GPAs of 2.5. Priority of consideration shall be given to students from the state of Alabama. Contact: Director, Culverhouse School of Accountancy, Box 870220, Tuscaloosa, AL 35487-0220.

Dr. A. J. Penz Endowed Graduate Accounting Scholarship. Established by Dr. A. J. Penz to promote the education of accounting graduate students. Contact: Director, Culverhouse School of Accountancy, Box 870220, Tuscaloosa, AL 35487-0220.
**PricewaterhouseCoopers–Joe Lane Accounting Scholarship.** An award for an accounting major of junior standing or a candidate for a master’s degree who is judged to have outstanding potential for success in public accounting. Must have a minimum overall GPA of 3.3, oral and written communication skills, an ability to interact with people, and leadership qualities as demonstrated by positions of responsibility in campus, civic, or service organizations. Contact: Director of the Culverhouse School of Accountancy, Box 870220, Tuscaloosa, AL 35487-0220.

**Professional Advisory Board Graduate Scholarship.** Awarded to fifth-year incoming (master of accountancy or master of tax accountancy) accounting students. Contact: Director, Culverhouse School of Accountancy, Box 870220, Tuscaloosa, AL 35487-0220.

**Roland Pugh Endowed M.B.A. Scholarship in Family Business and Entrepreneurship.** Established in 1998 by Mr. Roland Pugh to promote the education of deserving full-time graduate students in the Manderson Graduate School of Business. Priority consideration is given to M.B.A. students who are concentrating in family business and entrepreneurship. Contact: Director of M.B.A. Program, Box 870223, Tuscaloosa, AL 35487-0223.

**J. Ronald Renzetti Sr. M.B.A. Endowed Fellowship.** Established to promote the education of exceptional students pursuing M.B.A. degrees. Recipients are recognized as Renzetti Scholars. Contact: Director of M.B.A. Program, Box 870223, Tuscaloosa, AL 35487-0223.

**Martha Lou Jones Riddle Endowed M.B.A. Scholarship.** Established by Kenneth A. Riddle to honor his wife and to promote the education of deserving full-time graduate students pursuing M.B.A. degrees. Contact: Director of M.B.A. Program, Box 870223, Tuscaloosa, AL 35487-0223.

**Steven J. Ross Endowed Graduate Accounting Scholarship.** Established by the Ross Family Charitable Foundation in honor of Steven J. Ross to promote the education of graduate students in accounting. Contact: Director, Culverhouse School of Accountancy, Box 870220, Tuscaloosa, AL 35487-0220.

**Sales and Marketing Executives of Birmingham Inc. Fellowship.** A gift scholarship for outstanding seniors or graduate students interested in sales and marketing. Contact: Head of the Department of Management and Marketing, Box 870225, Tuscaloosa, AL 35487-0225.

**Savela & Associates Scholarship.** Awarded annually to a master of accountancy student. Preference is based on academic performance and “well-roundedness” as reflected in the candidate’s extracurricular activities. Contact: Director, Culverhouse School of Accountancy, Box 870220, Tuscaloosa, AL 35487-0220.

**Young Ho Shin Endowed Scholarship.** Established through a gift from the Daehan Kyoyuk Insurance Company Ltd. to promote international business in a global economy. Priority consideration is given to Korean graduate students who intend to pursue master’s or doctoral degrees specializing in the field of insurance or finance. Contact: Head of the Department of Economics, Finance, and Legal Studies or Director of Graduate Programs, Box 870223, Tuscaloosa, AL 35487-0223.

**Morris “Munny” Sokol Endowed Memorial C&BA Scholarship.** Established by Mr. Aaron Aronov, former trustee of The University of Alabama, in honor of civic leader Munny Sokol to support students enrolled in the Culverhouse College of Commerce and Business Administration. Contact: Director of Graduate Programs (or the department head/director of any academic department or program in the College), Box 870223, Tuscaloosa, AL 35487-0223.

**Sonat Foundation Scholar.** In-state tuition for full-time accounting major; junior, senior, or graduate status; member of a population group that is underrepresented in C&BA; selection made on the basis of merit, scholarship, character, and/ or leadership qualities; must have demonstrated solid academic promise and have a minimum GPA of 3.0 or higher to be deemed otherwise academically acceptable by the University. Contact: Director, Culverhouse School of Accountancy, Box 870220, Tuscaloosa, AL 35487-0220.

**Charles William Stephan Endowed M.B.A. Scholarship.** Established in 1998 to be used for the betterment of M.B.A. students in the Manderson Graduate School of Business. Contact: Director of M.B.A. Program, Box 870223, Tuscaloosa, AL 35487-0223.
Elton B. Stephens Sales and Sales Management Scholarships. Awarded annually to undergraduate or graduate marketing majors. Contact: Head of the Department of Management and Marketing, Box 870225, Tuscaloosa, AL 35487-0225.

Way, Ray, Shelton & Company—ASCPA Scholarship. Awarded annually to an accounting student. Contact: Director, Culverhouse School of Accountancy, Box 870220, Tuscaloosa, AL 35487-0220.

Marcus Whitman Endowed Graduate Fellowship. Established by Dr. Marcus Whitman, professor emeritus of finance, to promote the education of deserving graduate students in commerce and business administration. Overall merit of the recipient is the primary consideration. Preference is given to students pursuing graduate degrees in finance. Contact: Director of Graduate Programs or Head, Department of Economics, Finance, and Legal Studies, Box 870223, Tuscaloosa, AL 35487-0223.

James W. Wilson Sr. Memorial Endowed Scholarship in Tax Accounting. Priority to a Master of Tax Accounting student based on academic achievement and financial need. Contact: Director, Culverhouse School of Accountancy, Box 870220, Tuscaloosa, AL 35487-0220.

Murray D. Wood–Joe Lane Graduate Fellowship. Established by Murray D. Wood to honor Professor Joe Lane and to promote the education of outstanding students in graduate study in tax accounting. Contact: Director, Culverhouse School of Accountancy, Box 870220, Tuscaloosa, AL 35487-0220.

College of Communication and Information Sciences — School of Library and Information Studies

Alabama Public Library Service Scholarships. Scholarships of up to $250 per credit hour for employees of Alabama public libraries who are pursuing graduate library and information studies degrees on a part-time basis. Contact: Scholarship Committee, Alabama Public Library Service, 6030 Monticello Drive, Montgomery, AL 36130; 1-800-723-8459 and ask for Jim Smith. Application deadline: May 1.

Alabama Library Association Scholarships. Awarded to promising Alabama students who wish to pursue graduate degrees accredited by the American Library Association or by the National Council for Accreditation of Teacher Education. Contact: Alabama Library Association Scholarship and Loan Fund, (334) 262-5210 or allaonline@mindspring.com. Application deadline: June 1.

Martha Jule Blackshear Scholarship. Awarded annually to a student in SLIS who is planning a career in public or school librarianship and providing evidence of this commitment through prior work experience.

Marie Drolet Bristol Endowed Scholarship. Awarded annually to one or more SLIS students, based on scholastic potential and financial need.

Corr Scholarship. Awarded to students currently enrolled in SLIS and pursuing specializations in school or youth services. Awarded on Honors Day.

Barbara Doughty Scholarship. Awarded to a student in SLIS on the basis of scholastic potential.

Mary Elizabeth Webster Edwards Scholarship. Awarded annually to students in SLIS on the basis of scholastic potential and need.

Bethel Fite Endowed Scholarships for Part-Time Students in SLIS. Awarded on Honors Day to a part-time student pursuing an M.L.I.S. degree.

Cherie D. Feenker Law Librarianship Scholarship. Awarded annually to a student planning a career in law libraries.

Pauline M. Foster Endowed Librarianship Scholarship. Awarded annually to a student from Alabama specializing in school librarianship.

Mary Lou Jones Griffin Scholarship. Awarded to a student in SLIS on the basis of scholastic potential and need.

Mildred and Karl Harrison Endowed Scholarship in SLIS. Awarded annually to a student in SLIS based on scholastic potential and financial need.

Elizabeth Melton Lee Endowed Scholarship. Awarded to a student in SLIS on the basis of scholastic potential and financial need.
Library School Association Endowed Graduate School Scholarship. Awarded annually to a student in SLIS based on scholastic potential and financial need.

Mary Sue McGarity Endowed Scholarship. Awarded to a student in SLIS on the basis of scholastic potential and need.

M.L.I.S. Faculty Scholar Endowed Award. Awarded on Honors Day to an outstanding SLIS student in recognition of academic excellence, outstanding service, and professional promise.

James D. Ramer Endowed Outstanding Doctoral Dissertation Award in SLIS. $1,000 awarded to a doctoral student in SLIS based on the quality of his or her dissertation. Awarded on Honors Day.

James D. Ramer Scholarship. Awarded to students in SLIS to help defray the cost of summer school study.

Jewell Sandoval Endowed Student Support Fund in SLIS. Established by the Library School Association for students in SLIS to support student research and special projects.

Fannie Schmitt Scholarship. Awarded annually to students in SLIS on the basis of scholastic potential and financial need.

SLIS Minority Quasi-Endowed Scholarship. Awarded annually to students in SLIS who are members of a minority group.

Bernice Stacy Endowed Scholarship. Awarded annually to a student in SLIS on the basis of scholastic potential and financial need.

Annabel and Nell K. Stephens Memorial Endowed Scholarship. Awarded to a student in SLIS on the basis of career potential and financial need. Preference is given to a student pursuing a career in public librarianship in Alabama.

Elton B. Stephens Scholarship. Awarded annually on the basis of academic achievement and merit to a doctoral student in SLIS.

George R. Stewart Endowed Scholarship. Awarded annually to a student in SLIS based on scholastic potential and financial need.

Ruth Waldrop Part-Time Student Endowed Scholarship in SLIS. Established by the Library School Association. Awarded to graduate students pursuing degrees in SLIS on a part-time basis.

Annie Ford Wheeler Endowed Scholarship. Awarded annually to a student in SLIS based on scholastic potential and financial need.

H. W. Wilson Endowed Scholarship. Awarded annually to a student in SLIS based on scholastic potential and financial need.

Kenda Wise Endowed Scholarship in SLIS. Awarded annually based on scholastic potential and financial need.

Powers-Meriam Wyman Endowed Scholarship. Awarded annually to a student in SLIS based on scholastic potential.

College of Continuing Studies

Information on all the following awards can be obtained by contacting the College of Continuing Studies, Adult Student Programs, Box 870388, Tuscaloosa, AL 35487-0388.

Alabama Natural Gas Association Scholarship. This scholarship is awarded to a part- or full-time undergraduate or graduate student who is either currently enrolled or accepted for admission to The University of Alabama; an Alabama resident; an employee of a member company or the dependent of an employee or a member company of the Alabama Natural Gas Association. Applicant must demonstrate academic excellence, exhibit outstanding leadership qualities, and establish financial need to begin or continue his or her college education. Preference will be given to students enrolled in courses through the College of Continuing Studies. Amount is variable.

Barksdale Warrior Paper Company—Robert M. Barksdale Memorial Endowed Scholarship. Awarded to part-time or full-time undergraduate or graduate students, with priority given to employees and their dependents of Barksdale-Warrior Paper Company who plan to enroll in academic programs facilitated through the College of Continuing Studies; secondary consideration will be given to applicants from the West
Alabama area, at least 25 years old, who demonstrate satisfactory academic progress and who are enrolled in programs facilitated through the College of Continuing Studies. The amount is variable.

**James C. Caldwell Endowed Scholarship.** Awarded to part-time or full-time undergraduate or graduate students. Priority will be given to applicants from Winston and Marion counties; secondary consideration will be given to deserving applicants who are enrolled in academic programs facilitated through the College of Continuing Studies. Demonstration of financial need (not necessarily as defined by federal guidelines) may also be a consideration for the award. The amount is variable.

**Thomas S. Graves Memorial Endowed Scholarship.** This annual scholarship is awarded to a part-time or full-time undergraduate or graduate student, currently enrolled or accepted for admission with demonstrated academic excellence. A minimum 3.0 GPA, a major in a science-based curriculum, and enrollment in at least one College of Continuing Studies course during the semester in which the award is received are required. Priority will be given to students pursuing degrees in disciplines served by the College of Continuing Studies.

**Jerold Kennedy Memorial Endowed Scholarship.** This scholarship is awarded to part- or full-time undergraduate or graduate students who are at least 25 years old and who are enrolled in academic programs facilitated through the College of Continuing Studies, with preference given to students pursuing degrees in disciplines served by the College of Continuing Studies.

**Colonel Floyd H. Mann Memorial Endowed Scholarship.** This scholarship is awarded to an undergraduate or graduate student, part- or full-time, who is enrolled at The University of Alabama or accepted for admission. Priority will be given to students who are children of law enforcement officials and/or who intend to pursue careers in law enforcement and who demonstrate financial need (not necessarily as defined by federal guidelines). Amount is variable.

**Clarice L. Parker Memorial Endowed Scholarship.** This annual award is given to a part-time or full-time undergraduate or graduate student, currently enrolled or accepted for admission. An applicant must be at least 25 years old and a resident of Alabama, have a GPA of 2.5 or above for the previous semester, be enrolled in at least one College of Continuing Studies course during the semester in which the award is received, and demonstrate financial need. Applicants must also file a Free Application for Federal Student Aid by March 1.

**William Henry Rhea Jr. Memorial Endowed Scholarship.** This annual scholarship is given to a part-time or full-time undergraduate or graduate student who is an Alabama resident at least 25 years old and who has demonstrated academic excellence (minimum GPA of 3.0) and established financial need. Preference will be given to students majoring in engineering or business who are taking courses facilitated through the College of Continuing Studies.

**Warrior Roofing–Thomas G. Shurett Endowed Scholarship.** This scholarship is awarded to a full-time undergraduate or graduate student who is currently enrolled or accepted for admission and an Alabama resident. Priority will be given to students intending to enroll in academic programs facilitated through the College of Continuing Studies during the term in which the award is received. Preference will be given to employees (or dependents of employees) of Warrior Roofing Company Inc. and students from West Alabama. Amount is variable.

**John C. Snider Scholarship.** This scholarship is awarded to part-time or full-time undergraduate or graduate students who are at least 25 years old, who are enrolled in academic programs facilitated through the College of Continuing Studies, and who demonstrate satisfactory academic progress. The amount is variable.

**Ruth P. Snider Memorial Scholarship.** This scholarship is awarded to part-time or full-time undergraduate or graduate students who are at least 25 years old and are enrolled in academic programs facilitated through the College of Continuing Studies, with preference given to students with a major or minor in music, music education, or a related field. Recipient must demonstrate satisfactory academic progress. The amount is variable.
Hershel Trimm Memorial Endowed Scholarship. This annual scholarship is given to a part-time or full-time undergraduate or graduate student who is currently enrolled or accepted for admission. An applicant must be at least 25 years old and a resident of Alabama, have a GPA of 2.5 or above for the previous semester, and be enrolled in at least one College of Continuing Studies course during the semester in which the award is received. Priority will be given to those who desire careers in the home-building industry.

Robert L. Williamson Endowed Memorial Scholarship. This award is given to a University of Alabama undergraduate or graduate student over the age of 25 who is majoring in engineering or business and is facilitating his or her education through the College of Continuing Studies and its Division of Distance Education. Priority will be given to undergraduate students who are taking at least one course through QUEST (Quality University Extended Site Telecourses) or other distance learning methods. Must demonstrate academic excellence (GPA of 3.0 on a 4.0 scale) and show financial need. Variable amount.

Jerry F. Wilson Sr. Memorial Endowed Scholarship. This scholarship is awarded to an undergraduate or graduate student enrolled part- or full-time who is at least 25 years old; enrolled at The University of Alabama or accepted for admission; and enrolled in an academic program facilitated through the College of Continuing Studies. Preference is given to students pursuing degrees in disciplines served through the Distance Education division of the College of Continuing Studies. Variable amount.

College of Education

Descriptions of graduate-level College of Education scholarships and an accompanying application form may be obtained from the office of the scholarship steward (104 Carmichael Hall) during regular University hours (8:00 a.m.–4:45 p.m., Monday through Friday). The mailing address for this office is Box 870231, Tuscaloosa, AL 35487-0231; the telephone number is (205) 348-6073.

Scholarships available through this office for full-time graduate education students range from $350 to $2,000. For its purposes, the College’s graduate scholarship committee defines a full-time graduate student as a student enrolled in at least 9 credit hours per semester for an academic year. A graduate teaching or research assistant is considered to be a full-time student if he or she is enrolled in 6 or more credit hours per semester for an academic year. The following information must be submitted to the office of the scholarship steward no later than the deadline date printed on the application form:

- cover letter
- application form
- statement of purpose
- official transcript(s)
- three letters of recommendation
- vita or resumé

A detailed description of each component of the application is included in the College’s scholarship information packet.

Scholarship recipients are selected annually during the spring semester that precedes the academic year to which the award will be applied. All applicants will be notified by letter of the disposition of their applications within two weeks prior to the College of Education Honors Day convocation in April. Recipients will be announced during the convocation.

Generally, scholarships are awarded for one academic year; however, some may be renewable, offering the recipient an opportunity to receive funding for one or more subsequent years. A recipient must request consideration for continuation in a letter submitted with an updated application. Renewal requests are subject to review and evaluation by the scholarship committee. A request does not guarantee renewal. A nonrenewable scholarship will not be awarded to an individual more than once.
The University of Alabama

Each scholarship is awarded in two equal installments. One installment is made during the fall semester; the other is made during the spring. Receipt of the second installment is contingent upon the recipient’s continued maintenance of the eligibility requirements established by the respective scholarship.

Questions about the application or the application process should be directed to the scholarship steward.

College of Education Graduate Scholarships
- Sandra R. Apolinsky Memorial Scholarship (counselor education)
- Susan Duckworth Bedsole Scholarship (J. L. Bedsole Scholars)
- Russell S. and Mary Louise Cantwell History Scholarship (social sciences)
- Jean Cecil Memorial Scholarship (counselor education)
- Merlin G. Duncan Memorial Scholarship (educational leadership)
- Irene Merriwether Jones Memorial Scholarship (general; master’s level)
- Leeman C. Joslin Scholarship in Behavioral Studies (behavioral studies)
- Paul G. Orr Memorial Fellowship (education administration; international programs)
- Thelma J. M. Smith Scholarship (counselor education)
- Esther J. Swenson Scholarship (early childhood/elementary education)*
- TCI Companies Choice Award in Education Scholarship (general)
- Paul W. Terry Memorial Scholarship (educational psychology)
- Yewell R. Thompson Memorial Scholarship (early childhood/elementary education)**

College of Human Environmental Sciences
- Agnes Ellen Harris Scholarship. This scholarship is awarded on the basis of academic achievement and merit, as determined by the scholarship committee. Eligibility is restricted to full-time graduate students majoring in an area in human environmental sciences. Contact: Dean, College of Human Environmental Sciences, Box 870158, Tuscaloosa, AL 35487-0158.
- Mabel Hewitt Lynch Scholarship. This scholarship is awarded on the basis of academic achievement and merit, as determined by the scholarship committee. Eligibility is restricted to full-time graduate students majoring in clothing and textiles or in interior design. Contact: Head, Department of Clothing, Textiles, and Interior Design, Box 870158, Tuscaloosa, AL 35487-0158.
- Thompson-Bramblett Scholarship. This scholarship is awarded on the basis of academic achievement and merit, as determined by the scholarship committee. Eligibility is restricted to full-time graduate students majoring in clothing and textiles or in interior design. Contact: Head, Department of Clothing, Textiles, and Interior Design, Box 870158, Tuscaloosa, AL 35487-0158.

School of Social Work
For more information about scholarships for graduate students in the School of Social Work, contact the Associate Dean, School of Social Work, Box 870314, Tuscaloosa, AL 35487-0314.
- Warren G. Augins Scholarship. The award supports a full-time, first-year student in the master of social work program who has shown promise in the profession.
- Lola Louise Bealle Scholarship. This scholarship assists full-time students in the School of Social Work.
- Lucille Clark Bennett Scholarship. This scholarship assists outstanding M.S.W. students who have career interests in geriatrics in their second year of study.
- Ehney A. Camp Jr. and Mildred Fletcher Tillman Camp Scholarship. This scholarship assists outstanding students in the M.S.W. program.

*Available during even-numbered years.
**Available during odd-numbered years.
Daniel Foundation Scholarships. These scholarships are awarded annually to outstanding graduates of each of the accredited B.S.W. programs in Alabama who are admitted to the University’s advanced-standing M.S.W. program.

Eulene Hawkins–Alabama Chapter NASW Scholarship. This scholarship is for a deserving full-time M.S.W. student.

Lori Kaye Hebert Scholarship. This award assists an M.S.W. student with a career interest in mental retardation and developmental disabilities.

Madeleine M. Hill Graduate Scholarship. The award assists a full-time student in the master of social work program who is preparing for a career in social work program and agency administration.

Hill Crest Foundation Inc. Graduate Scholarship. This scholarship is awarded to a master of social work student with a strong interest in a mental-health career.

Marilyn Brewer Lauber Scholarship. This scholarship assists graduate students in the School of Social Work.

Peggy Spain McDonald Scholarship. This scholarship assists a promising student in the M.S.W. program whose home is in the greater Birmingham area.

Arlene Mitchell Scholarship. This scholarship assists outstanding students in the M.S.W. program.

Ada Kate Morgan Scholarship. This scholarship assists students in the M.S.W. program.

National Alumni Association Scholarship. This scholarship is awarded to an outstanding incoming student in the M.S.W. program.

John M. Nixon Fiesta Bowl Graduate Scholarship. The scholarship assists African-American students who are pursuing the M.S.W. degree.

Ben Avis Orcutt Fellowship. This scholarship is awarded to a doctoral student who has displayed outstanding dedication and commitment to the social work profession.

Nell Hopkins Clarkson and Sue Clarkson Phifer Scholarship. This scholarship assists graduate students pursuing the M.S.W. in the School of Social Work.

Charles S. Prigmore Scholarship. This scholarship assists outstanding M.S.W. students. Priority is given to African-American students with interests in program and agency management.

Cartis T. and Rose N. Roff Scholarship. This scholarship is for an outstanding M.S.W. student.

School of Social Work Stipends. In addition to grants and stipends related to field education agencies, the School of Social Work awards stipends each year to full-time graduate students in the master’s degree program.

Leslie J. Shellhase Scholarship. This scholarship is awarded to an outstanding doctoral student who has been advanced to candidacy for the degree.

Social Work Society–Dean Lucinda Roff Scholarship. This scholarship is awarded to a full-time student enrolled in the second semester of the second (concentration) year of the master of social work program who shows evidence of superior scholarship, based on graduate grades and an original paper, and evidence of professional citizenship, action, or achievement that furthers the goals of the School and the profession of social work. The scholarship is granted for one spring semester only.

Loraine Bedsole Tunstall Scholarship. This scholarship assists outstanding students in the M.S.W. program. Priority is given to students from the Mobile area with interests in careers in child welfare services.

Cassie Wallace–Helen Brown Scholarship. This scholarship was established to assist students in the School of Social Work who intend to pursue a career in the area of working with elderly or aging people.

James and Teresa Duggan and James and Elizabeth Ball Endowed Scholarship. This scholarship assists full-time graduate students in the School of Social Work at The University of Alabama who intend to pursue a master’s degree in social work in clinical practice and who are over the age of thirty.

Russell and Barbara Beaulieu Endowed Support Fund. This fund was established to support the Program and Agency Administration academic program as well as to support the needs of selected students enrolled in the School of Social Work, who have financial need, although not necessarily as defined by federal guidelines.
Miscellaneous Financial Aid

Loans are administered through the Office of Student Financial Aid, Box 870162, Tuscaloosa, AL 35487-0162. Application for financial aid should be made online at http://www.fafsa.ed.gov.

The University’s housing office offers counseling positions for qualified graduate students. Inquiries should be addressed to the Office of Residential Life, Box 870399, Tuscaloosa, AL 35487-0399; 1-888-498-2262.

The University’s Office of Student Affairs also provides assistantship opportunities in various campus locations to graduate students. Inquiries should be addressed to Graduate Student Services, Office of the Dean of Students, The University of Alabama, Box 870292, Tuscaloosa, AL 35487-0292; (205) 348-6796.

TUITION AND OTHER EXPENSES

All costs are subject to change without prior notice. The current rates for graduate students can be found at the University’s Cost of Attendance Web page at http://cost.ua.edu.

Application Fee

A nonrefundable application fee of $25 is required with all applications for admission to the University.

Estimated Tuition for Full-time Graduate Students — Fall or Spring Semester

The estimated semester costs listed below are based on spring 2003 rates. All rates are subject to change without notice.

University tuition, resident................................................................. $1,778.00
University tuition, nonresident.......................................................... $4,812.00

Full-time enrollment for graduate students is 9–15 hours per regular semester. An overload charge is assessed for each credit hour in excess of the full-time schedule. This charge is $152 per credit hour for graduate residents and $442 per credit hour for graduate nonresidents.

Estimated Tuition for Part-time Graduate Students — Fall or Spring Semester

All costs listed below are based on spring 2003 rates. All rates are subject to change without notice.

<table>
<thead>
<tr>
<th>Hours Enrolled</th>
<th>Resident</th>
<th>Nonresident</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$467.00*</td>
<td>$757.00*</td>
</tr>
<tr>
<td>2</td>
<td>$619.00*</td>
<td>$1,199.00*</td>
</tr>
<tr>
<td>3</td>
<td>$771.00*</td>
<td>$1,641.00*</td>
</tr>
<tr>
<td>4</td>
<td>$923.00*</td>
<td>$2,083.00*</td>
</tr>
<tr>
<td>5</td>
<td>$1,075.00</td>
<td>$2,525.00</td>
</tr>
<tr>
<td>6</td>
<td>$1,227.00</td>
<td>$2,967.00</td>
</tr>
<tr>
<td>7</td>
<td>$1,379.00</td>
<td>$3,409.00</td>
</tr>
<tr>
<td>8</td>
<td>$1,531.00</td>
<td>$3,851.00</td>
</tr>
</tbody>
</table>

*Students registering for 1–4 hours may choose to waive the activity/recreation privileges ($111.25) and/or the health services ($71.50) portion of University tuition, reducing what they owe by a total of $182.75. Students may do this provided they do not wish to use these privileges and services, including facilities. The student may choose to waive these privileges or services when paying the registration bill.
Auditing courses. Auditing a course does not affect the rate charged for the course.

Estimated Tuition for Summer Term

All costs listed below are based on summer term 2003 rates and are subject to change without notice. The current rates for graduate students can be found at the University’s Cost of Attendance Web page at http://cost.ua.edu.

Interim Session

Resident tuition, per credit hour ............................................................... $143.00
Nonresident tuition, per credit hour ........................................................... $404.00

Summer Sessions

There are two five-week summer sessions. The rates below are per session.

<table>
<thead>
<tr>
<th>Hours Enrolled</th>
<th>Tuition Charged</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Resident</td>
</tr>
<tr>
<td>1</td>
<td>$276.00*</td>
</tr>
<tr>
<td>2</td>
<td>$428.00*</td>
</tr>
<tr>
<td>3</td>
<td>$580.00*</td>
</tr>
<tr>
<td>4</td>
<td>$732.00*</td>
</tr>
<tr>
<td>5</td>
<td>$884.00</td>
</tr>
<tr>
<td>6</td>
<td>$1,036.00</td>
</tr>
</tbody>
</table>

Additional hours are charged at the rate of $152.00 for residents and $442.00 for nonresidents.

Auditing courses. Auditing a course does not affect the rate charged for the course.

Residency

Questions regarding resident and nonresident status for the purpose of determining tuition rates should be directed to Office of Academic Records and University Registrar, 206 Student Services Center, Box 870134, Tuscaloosa, AL 35487-0134; (205) 348-4886.

Payment of Registration Expenses and Confirming Enrollment

A copy of the student’s class schedule and the registration bill will be mailed to the student’s permanent address during July for the fall semester, during November for the spring semester, and during April for the summer term. The schedules/bills will contain instructions for confirming enrollment and making payment, if required, by a specified date. Any schedule that is not confirmed by the deadline will be canceled.

The payment of charges is a part of the registration process. Registration is not complete until enrollment has been confirmed by the student directly with the Office of Student Receivables. All prior semester charges must be paid before the student’s enrollment will be confirmed for a subsequent semester.

Enrollment confirmation with required payment may be made through the mail by check or credit card; by telephone (205-348-4470) or on the Web (http://www.tideguide.ua.edu) with a credit card; or in person at the Office of Student Receiv-

*Students registering for 1–4 hours in a summer session may choose to waive the activity/recreation/athletic privileges portion ($27.25) and/or the health services portion ($16.50 per session) of University tuition. Students may do this provided they do not wish to use these privileges and services, including facilities, during the summer session(s). The student may choose to waive these privileges or services when paying the registration bill.
The University of Alabama

ables (105 Student Services Center) by cash, check, or credit card. Confirmation when no payment is required can be made in person, by mail, by telephone (205-348-5350), or via the Web (http://www.tideguide.ua.edu).

If all or a portion of a student’s registration expenses are to be paid by some type of financial aid or by a sponsoring agency and the registration bill does not reflect this actual or anticipated transaction, it is the student’s responsibility to provide written evidence of this support to the Office of Student Receivables.

To verify confirmation has been received, call ALBERT at (205) 348-0700 or check your student account at http://www.tideguide.ua.edu.

Payment of registration charges with a check that is subsequently returned from the bank unpaid will result in an additional late registration fee and a returned check fee.

Failure to clear a returned check taken in payment for registration charges will result in administrative withdrawal from classes. Once this action is taken, the student cannot be reinstated for the semester, but will owe the prorated portion of the charges for tuition, room, and telephone (basic service), as specified in the “Withdrawal from the University” section of this catalog.

All charges collected during the registration process are subject to correction for errors in calculation, to ensure that correct amounts are collected as required by the board of trustees and current policies of the University.

BAMA Plan Installment Payment Option

Students and parents can avoid making a single large payment each semester by participating in the BAMA Plan (Bama’s Affordable Monthly Alternative). This simple, interest-free plan allows payment of annual registration expenses in 10 monthly installments that begin each June. The BAMA Plan may be used to pay for all or part of tuition, residence hall charges, meal plans, and basic telephone service charges for the fall and spring semesters.

There is an annual fee, currently $55.00, to participate in the BAMA Plan. The deadline for BAMA Plan enrollment is July 5. Summer term charges are not eligible for the BAMA Plan.

Signing up for the BAMA Plan and making payments toward anticipated registration expenses does not ensure or affect class enrollment, dorm assignments, or meal plan purchases. Students must apply for dorm assignments through Residential Life, must apply for meal plans through Bama Dining, and must enroll for classes in accordance with Office of Academic Records and University Registrar procedures. Meal plan contracts must be completed and returned to Bama Dining by specified deadlines to be added to the student’s registration bill.

Deferment of Registration Expenses

Students who meet the following eligibility requirements may defer up to one-half of the current semester charges for tuition, residence hall charges, and meal plans:

- All prior semester charges must be paid in full.
- If a student wants to include a meal plan, these charges must be included at the time the deferment is granted.
- At least one-half of the current semester charges must be paid at the time the student’s class schedule is confirmed.

The required payment of one-half of all current semester registration charges can be made with cash, check, money order, credit card (Visa, MasterCard, or Discover), financial aid applied to the student’s account, faculty/staff or graduate student grants, sponsoring agency contracts, or anticipated financial aid verified by Student Financial Aid. The deferred amount plus a deferment fee, currently $30.00, is payable by the midpoint of the semester.

Financial aid (other than work-study) is applied to a student’s account in payment of institutional charges. No refund will be made on applied aid unless the student’s account reflects a credit balance.
Meal plans for which the student has contracted after he or she has confirmed registration for the semester must be paid in full at the Bama Dining office.

**Use of Federal Financial Aid to Pay Prior Year’s Charges**

Federal financial aid awarded for a fall/spring academic year cannot be used to pay for prior year outstanding balances in excess of $100.00. This prior balance must be paid by personal payment, regardless of the amount of aid anticipated or disbursed for the first enrollment period of the academic year, before that enrollment can be confirmed.

**Other Fees and Charges**

The following list of fees is not necessarily exhaustive and the amounts are subject to change without notice.

- **Apartment application deposit**: $100.00
- **Apartment application fee**: 25.00
- **BAMA Plan participation fee (annual)**: 55.00
- **Course fees**: varies
- **Deferment fee (per semester)**: 30.00
- **Diploma fee, master’s**: 40.00
- **Diploma fee, doctorate**: 40.00
- **Diploma fee (if graduation requirements are not met and diploma was ordered)**: 10.00
- **Dissertation/Thesis binding fee**: 25.00
- **Doctoral dissertation publication fee**: 55.00
- **Duplicate diploma and degree identification card**: 20.00
- **Duplicate diploma**: 20.00
- **Duplicate Action Card**: 20.00
- **International student fee**: 50.00
- **Late payment fee, monthly**: 25.00
- **Late registration fee**: 25.00
- **Misused Action Card fine**: 25.00
- **Readmission application fee**: 15.00
- **Reinstatement fee**: 25.00
- **Residence hall application fee**: 25.00
- **Residence hall deposit**: 75.00
- **Returned check fee (per check)**: 20.00
- **Room change fee**: 25.00
- **Spouse activity fee**: 114.25
- **Transcript fee (per transcript)**: 5.00
- **Transcript fee (faxed)**: 11.00
- **Transcript fee (overnight delivery)**: 17.00
- **Transcript hold fee**: 25.00

**Other Expenses**

In addition to registration charges, other expenses, such as library fines, traffic fines, automobile registration fees, and pharmacy charges, may be incurred by the student and charged to the student’s account. These charges are payable when incurred and are billed to the student’s permanent home address by the Office of Student Receivables. Failure to pay these amounts when billed may subject the student to the action(s) specified in the “Delinquent Accounts” section below.

Payment can be made through the mail by check or credit card; by telephone (205-348-4470) or on the Web (http://www.tideguide.ua.edu) with a credit card; or in person at the Office of Student Receivables (105 Student Services Center) with cash, check, or credit card.
Delinquent Accounts

In the event of a past due balance of any nature on the student’s account, diplomas will not be issued; enrollment for subsequent terms will not be allowed; college credits will not be transferred; and transcripts of college credits will not be released until the balance is paid in full. Failure to meet financial obligations of any kind to the University could subject the student to eviction from University housing; suspension of future services; referral of the student’s delinquent account to a collection agency; and the assessment of additional late payment charges, transcript hold fees, attorney’s fees, and other costs and charges necessary for the collection of any amount not paid when due.

Offset of Funds

If a student’s University account has an outstanding balance due and the University has in its possession any funds payable to the student (from payments or credits applied to the student’s account, payroll checks, and/or any other source, except as noted in “Use of Federal Financial Aid to Pay Prior Year’s Charges,” section), the University reserves the right to withhold the funds necessary to clear the student’s outstanding balance and to cover any collection costs incurred. Once those amounts are paid, any remaining funds will be paid to the student.

For further information, write The University of Alabama, Office of Student Receivables, Box 870120, Tuscaloosa, AL 35487-0120, call (205) 348-5350, or e-mail receivables@fan.ua.edu. The Student Receivables Office is located in 105 Student Services Center.

WITHDRAWAL FROM THE UNIVERSITY

A student may withdraw from the University prior to the last day of classes, following clearance by the Office of Academic Records and University Registrar and approval of the dean of the division in which the student is enrolled. A student considering this action should first consult with his or her academic adviser. It is the student’s responsibility to initiate and provide the information necessary to complete the withdrawal process. This process begins in the Office of Academic Records and University Registrar, 206 Student Services Center. A withdrawal cannot be initiated through the use of ALBERT, the University’s telephone registration system. Students should consult the section on withdrawal in the current undergraduate, graduate, or law catalog for specific information.

Financial implications of withdrawal. Tuition charges are reduced following withdrawal from all classes in an enrollment period at a rate based on the date the student initiates the withdrawal process in the Office of Academic Records and University Registrar as reflected in the section “Proration of Tuition and Housing Charges” in this catalog. Exceptions to the withdrawal initiated date policy include medical withdrawals from all classes and withdrawals from all classes due to involuntary military induction. Proration for medical withdrawal is based on the withdrawal effective date determined by the director of the Russell Student Health Center. Withdrawal due to involuntary military induction (supported by valid military induction notice) will result in full tuition removal. For dropping from an individual course, proration is determined by the date the student initiates the action.

Enrollment periods are the fall semester, the spring semester, and the summer term. The summer term includes several different sessions: a three-week Interim session, two five-week summer sessions, and a law school summer session. If a student who has completed or will complete any course enrollment for the summer term wishes to drop classes for a specific session, this will be considered a course drop rather than a withdrawal since the student is still enrolled in the summer term.

Students who receive federal financial aid and subsequently withdraw from all classes before completing the enrollment period are subject to full or partial federal aid cancellation and repayment of funds received. See “Impact of Withdrawal on Students Receiving Federal Financial Aid.”
Students suspended from school for disciplinary reasons have no right to a refund of any tuition paid or to the cancellation of amounts due.

A student is responsible for clearing any outstanding balance on his or her account before leaving campus. A refund upon withdrawal from all classes will not be issued for three weeks, to allow time for all necessary adjustments to be made to the student’s account.

A student is not entitled to a refund or a cancellation of amount due for a residence hall contract unless he or she is withdrawing from all classes. Any student who withdraws during the first week of classes will lose his or her $75 deposit. After the first week of classes, refunds of room charges will follow the same policy that applies to tuition. See “Proration of Tuition and Housing Charges.”

Refunds of housing deposits are issued upon authorization of Residential Life, if the student has a clear account balance.

Refunds of ROTC deposits are issued upon authorization of the ROTC supply officer if the student has a clear account balance.

No refunds will be made to a student who has an outstanding balance on his or her account.

Proration of Tuition and Housing Charges

The following proration of tuition and housing dormitory charges goes into effect in the event of withdrawal from the University or when individual courses are dropped that affect the student’s charges.

### Fall or Spring Semester

<table>
<thead>
<tr>
<th>Cost Incurred</th>
<th>Registration–1st week of term</th>
<th>2nd–4th week</th>
<th>5th–7th week</th>
<th>8th week on</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Registration fee only</td>
<td>25% charge</td>
<td>50% charge</td>
<td>100% charge</td>
</tr>
</tbody>
</table>

### Summer Term

The summer term consists of several sessions — a three-week Interim session and two five-week summer sessions.

<table>
<thead>
<tr>
<th>Cost Incurred</th>
<th>Interim Session</th>
<th>Summer Sessions</th>
<th>Summer Dual Session Courses (see note below)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Registration–2nd class day</td>
<td>Registration–2nd class day</td>
<td>Registration–2nd class day</td>
</tr>
<tr>
<td></td>
<td>3rd class day on</td>
<td>3rd class day–3rd week</td>
<td>3rd class day–4th week</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4th week on</td>
<td>5th week on</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100% charge</td>
<td>100% charge</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50% charge</td>
<td>50% charge</td>
</tr>
</tbody>
</table>

### Impact of Withdrawal on Students Receiving Federal Financial Aid

In addition to the financial impact of institutional costs and charges noted earlier in this section related to withdrawal from all classes in an enrollment period, student recipients of federal Title IV aid (Federal Pell Grants, Federal Perkins Loans, Federal Direct Loans, Federal Supplemental Educational Opportunity Grants, and Alabama State Grants) are subject to additional rules and regulations that may result in cancellation or reduction of federal Title IV aid upon withdrawal from classes in an enrollment period.
Although federal aid is normally disbursed at the beginning of an enrollment period, this aid is “earned” as the student attends classes throughout the period. The difference in awarded and “earned” aid at the point of withdrawal may result in the need to return “unearned” aid.

Reductions in aid associated with the institutional cost portion (tuition, dorm charges, course fees) resulting from withdrawal from all classes for the enrollment period will be returned to each source of aid/scholarship received by the student, up to the total amount received from each source, in the following order:

1. Federal Direct Loan(s) Unsubsidized
2. Federal Direct Loan(s) Subsidized
3. Federal Perkins Loan
4. Federal Direct Loan(s), PLUS
5. Federal Pell Grant
6. Federal SEOG Grant
7. Other aid or scholarships

Any remaining credit, after these cancellations have occurred, will be returned to the student (net of any charges remaining on the student account).

In some circumstances, withdrawal may result in the student assuming liability for the payment of any remaining institutional charges for the enrollment period in addition to any miscellaneous charges outstanding on the student account.

A federal aid recipient who withdraws from an enrollment period is subject to possible repayment of federal aid disbursed to the student (after payment of institutional charges) for living expenses and other educational needs. If the aid disbursed is greater than the “earned” portion of the aid at the point of withdrawal, it may be necessary for the student to repay all or a portion of the federal aid received.

For further information, and a copy of a worksheet used to determine how much, if any, aid is to be returned, contact the Office of Student Receivables, 105 Student Services Center, (205) 348-5350.

Impact of Withdrawal on Institutional and Non-Institutional (Non-Federal Only) Loans and Scholarships

If a student withdraws during an enrollment period for which a University loan or scholarship, or a private loan or scholarship, has been received and used to pay all or a portion of institutional charges (tuition, course fees, dorm room, and basic telephone service fees), and no federal aid is involved, any excess funds (resulting from the reduction of institutional charges stemming from the withdrawal action) will be returned to each non-federal loan or scholarship program according to the percentage of the total institutional charges originally paid by each scholarship or loan program. Institutional loans or scholarships are assumed to be the first payment source in this calculation method.

For further information, write The University of Alabama, Office of Student Receivables, Box 870120, Tuscaloosa, AL 35487-0120, call (205) 348-5350, or e-mail receivables@fan.ua.edu. The Student Receivables Office is located in 105 Student Services Center.

RESIDENTIAL LIFE AND FOOD SERVICE*

General Information

A major component of the University’s academic community is its residential campus. The University has an outstanding residence program that assists graduate students in the pursuit of academic excellence and personal development. There are two basic types of University residences available: residence halls and on-campus apartments.

The advantages of living in on-campus housing are numerous. Benefits cited by students include convenience, affordability, a carefully selected and trained staff to assist residents, programs designed to enhance scholastic achievement, opportunities to meet a diverse cross-section of the student body, and greater access to a wide range of University activities and services.

*ALL FEES AND COSTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.
If you are a student with a disability and have special housing needs, you should notify the Office of Residential Life at (205) 348-6676 before March 1. It is important to inform the housing office about your needs early so they can assist in obtaining the needed housing arrangements.

Semester Room Costs, Fall and Spring
Range of room costs .......... $1,295–$1,760
Rose Towers room cost ............... $1,410

Apartment Costs, Monthly
One-bedroom ......................... $300–$500
   (furnished and unfurnished available, upper end includes utilities)
Two-bedroom ......................... $375–$605
   (furnished and unfurnished available, upper end includes utilities)

University Apartments

The University operates more than 235 on-campus apartments. These facilities offer students the best of independent living, as well as the convenience of living on campus. Graduate and married students receive preference for these units.

Application procedures. Apartment applications are available from the Office of Residential Life, Box 870399, Tuscaloosa, AL 35487-0399. A $125 deposit is required with each application. Because of the demand for apartments, it is recommended that applicants apply early.

Residence Halls

Graduate students interested in living in a residence hall should consider Rose Towers, which houses both graduate and undergraduate students. Each two-bedroom Rose Towers suite has a living/dining area, kitchen, bathroom, and study room. The suites are furnished, and all utilities are included. With three students sharing a suite, the cost of a double room is $1,295 per person per semester.

Application procedures. To reserve a room, a student is required to submit a housing application and a housing deposit. The housing application should be completed and returned to The University of Alabama, Office of Residential Life, Box 870399, Tuscaloosa, AL 35487-0399, as soon as possible. The housing application must be accompanied by a $100 deposit (check or money order payable to The University of Alabama). $25 of this amount serves as a nonrefundable application fee. The remaining $75 deposit is refundable only if the applicant cancels the housing application no later than July 1 for the fall semester or December 15 for the spring semester. The only acceptable form of cancellation is a written notice mailed to the housing office at the address above. Oral communication with members of the housing staff or written communication to other University departments will not serve as cancellation of a housing application. All refund requests must be postmarked by the stated dates.

Additional information. For more information, contact the Office of Residential Life, Box 870399, Tuscaloosa, AL 35487-0399.

Food Service

Bama Dining operates food service areas in Burke, Paty, Rose Towers, and Tutwiler residence halls, as well as the Food Court in the Ferguson Student Center. The Ferguson Center also has Starbucks, Freshens Smoothie, and the new Fresh Food Company opening fall 2003. The Fresh Food Company is an unlimited seconds dining facility where entrees are prepared fresh and made to order by a chef. Students who live off campus, as well as campus residents, can enjoy the convenience of Bama Dining food service.

The Action Card debit account may be used at any Bama Dining location. Students may deposit money in a debit account at any time during the semester. Money-saving meal plans are also available through Bama Dining. Additional information may be obtained
by writing to Bama Dining, Box 870389, Tuscaloosa, AL 35487-0389, or by calling (205) 348-6816 or 1-888-226-2366. Also visit us on the Web at http://www.bamadining.com.

**VETERANS SERVICES**

The Office of Veterans Services provides assistance to veterans, reservists, service persons, and eligible dependents. The office processes all certifications that must be filed with the Department of Veterans Affairs before educational benefits can be received. Students must register with the Office of Veterans Services each semester to begin receiving or to continue receiving benefits. In addition to helping students apply for benefits and complete VA certifications, the Office of Veterans Services provides academic, personal, and financial referrals to students in VA programs. VA-sponsored work-study programs and tutoring are available to those who qualify. Students eligible for veterans benefits include VEAP veterans, reservists and veterans on the “New GI Bill,” disabled veterans, dependents of persons who have total and permanent service-connected disabilities, and dependents of persons whose deaths were service-connected.

Information about services, application procedures, and compliance with VA requirements is available at the Office of Veterans Services, 106 Student Services Center, or by contacting The University of Alabama, Office of Veterans Services, Box 870162, Tuscaloosa, AL 35487-0162; (205) 348-6770, fax (205) 348-2989.

**UNIVERSITY HEALTH SERVICE**

The purpose of the University Health Service is to provide high-quality, low-cost ambulatory health care and related services to the students of The University of Alabama; to educate the University community concerning health issues and prevention strategies; to develop collaborative relationships with related academic areas; and to provide both teaching and learning opportunities to our students and faculty. Students taking more than 4 hours of coursework pay a mandatory student health fee as part of their tuition and are thus eligible for care. Students taking 4 hours or less may waive the health fee, and if they waive the health fee, they are not eligible for care. Health services are not available during the holiday periods when the University is not officially in session. As a registration requirement, all new students born in or after 1957 must provide proof of immunization with two measles-containing vaccines after their first birthday; one of these vaccinations must have been an MMR and must have been given after 1980. All new students must be appropriately screened for tuberculosis within the last year as a registration requirement.

The Russell Student Health Center (RSHC) is a modern facility designed especially for the University Health Service’s purposes. The service is accredited by the Accreditation Association for Ambulatory Health Care (AAAHC) and is the only accredited student health service in the state of Alabama to earn this distinction.

**Outpatient services.** Full clinical services are available from 8:00 a.m. to 8:00 p.m. Monday through Wednesday, from 9:00 a.m. to 8:00 p.m. Thursday and Friday, and from 1:00 p.m. to 4:00 p.m. on Sundays. (During Interim term and the summer session, the health center closes at 5:00 p.m. weekdays and is not open on the weekend.) Students are strongly encouraged to schedule appointments with the health care provider by calling (205) 348-APPT. Care consists of general medicine, women’s health, counseling and psychological services, and minor surgery. Referrals to appropriate specialists are available. The cost of the specialized care is the responsibility of the student.

Any student requiring services not available at the health center will be transferred or referred elsewhere at the student’s expense, under the care of a physician of the student’s choice. Ambulance service is not furnished.

**Charges.** The student health fee provides access to all Russell Student Health Center (RSHC) services and covers the cost of RSHC’s nursing, assessment, triage, health education, health promotion, and counseling services. As is true in other health care settings, there is a charge for office visits with RSHC’s health care providers, X-rays, and laboratory tests. RSHC accepts all health insurance plans and will bill your insurance carrier for these services. RSHC provides health care for all students whether or not they have health insurance and without regard for their ability to pay for services.
RSHC charges for any co-payments required under students' health insurance plans, and there are fees for certain products and services such as orthopedic appliances issued and prescriptions filled at our pharmacy. The student is responsible for fees for any services of non-staff physicians or consultants and for the costs of hospitalization or services other than those provided at the Russell Student Health Center.

The Russell Student Health Center is located on University Boulevard at the corner of Hackberry Lane in Russell Hall. For more information, contact The University of Alabama, RSHC, Box 870360, Tuscaloosa, AL 35487-0360; telephone (205) 348-6262; fax (205) 348-0630.

**CENTER FOR TEACHING AND LEARNING**

The Center for Teaching and Learning (CTL) is an integral part of the University's plan for academic excellence. The mission of the CTL is to enhance learning through the design and delivery of academic support services. CTL services are designed to help students upgrade study strategies and reading proficiencies, succeed in specific University courses — especially quantitative ones — and compete successfully for admission to graduate and professional schools. The CTL maintains a dual service orientation through the provision of opportunities to advance learning strategies for academically gifted students and to enhance learning strategies for students who need to strengthen their academic skills.

Academic support programs are offered through individual tutoring and consultation, a multimedia resource center, curricular courses, structured review programs, supplemental instruction, and informal help sessions. The CTL also serves the entire University community through its educational programming on CTL-TV, a closed-circuit broadcast available 24 hours a day on campus channel 29. Two TRIO programs funded through the U.S. Department of Education also operate in the CTL. Student Support Services provides academic assistance and counseling to 200 first-generation, income-eligible, and disabled students. The Ronald E. McNair Postbaccalaureate Achievement Program prepares first-generation and traditionally underrepresented students for successful entry into and completion of doctoral degree programs. Student involvement in these units is criterion-based. GEAR UP is an early academic intervention partnership program designed to help students improve academic performance, decrease school attrition, increase high-school graduation rates, and increase enrollment in postsecondary education. JUMP (Juvenile Mentoring Program), funded through the Office of Juvenile Justice and Delinquency Prevention, is the most recent program addition in the Center for Teaching and Learning. JUMP connects underserved students in Holt High School with adults, ages 19 years and older, in an innovative mentoring program. JUMP is designed to improve students’ academic successes and promote constructive decision-making skills.

For further information, contact the Center for Teaching and Learning, 101 Osband Hall, Box 870304, Tuscaloosa, AL 35487-0304; telephone (205) 348-5175; or via the Internet at CTL.ua.edu.

**OFFICE OF DISABILITY SERVICES**

The Office of Disability Services (ODS) is the central contact point for University students with disabilities. The goal of ODS is to ensure that University programs and services are accessible to qualified students with disabilities. ODS works to provide individualized academic accommodations and support services, where necessary, while promoting student responsibility and self-advocacy. It is the student’s responsibility to make known a need for academic accommodations and services by providing documentation of his or her disability to ODS and by formally requesting accommodations. For more information, contact ODS at (205) 348-4285 (voice) or (205) 348-3081 (TTY); or write the Office of Disability Services at Box 870185, Tuscaloosa, AL 35487-0304. ODS is located at 220 Research Drive.
GRADUATE STUDENT SERVICES

Graduate Student Services (GSS) offers support for graduate and professional students in many different areas, and, in cooperation with various offices at The University of Alabama, seeks to provide information and to assist and support programs aimed at the unique needs of graduate students. GSS coordinates Orientation for New Graduate Students at the beginning of fall semester and supports scheduled workshops and seminars during the school year that are designed to assist students in succeeding and excelling in graduate school. Development of research skills is the focus of an annual graduate students research conference sponsored by Graduate Student Services, the Graduate Student Association (GSA), the African-American Graduate Student Association (AAGSA), Alpha Epsilon Lambda, and the Graduate School. Additionally, GSS publishes information to keep graduate students informed of campus services and activities; in cooperation with the Counseling Center sponsors the support groups on an as-needed basis; advises the GSA and Alpha Epsilon Lambda; and, in support of the Student Affairs department, publishes an annual brochure listing graduate assistantship opportunities available within that department.

The office of Graduate Student Services is located in the Office of the Dean of Students, 231-C Ferguson Center, and can be reached by telephone at (205) 348-6796 or by fax at (205) 348-7610.

DISTANCE EDUCATION

The College of Continuing Studies offers undergraduate and graduate credit programming from the Division of Distance Education in a variety of subjects, including engineering, education, business, nursing, social work, communication, arts and sciences, law, and human environmental sciences.

Course are delivered through a wide range of cutting-edge technologies, making it possible for distance learning students to enjoy the benefits of a college education from instructors who can reach out beyond the campus to help them succeed.

For more information about any courses offered by the University of Alabama Division of Distance Education, please contact the Division of Distance Education, Box 870388, Tuscaloosa, AL 35487-0388; telephone (205) 348-9278 or toll-free 1-800-452-5971; fax (205) 348-0249; e-mail disted@ccs.ua.edu; Web site http://distanceeducation.ua.edu; or visit the office at 127 Martha Parham Hall West.

GRADUATE TEACHING ASSISTANTS WORKSHOP

Each August, the Graduate School hosts a workshop for all new graduate teaching assistants (GTAs). The program is mandatory for all U.S. and international GTAs. All GTAs who are non-native speakers of English must also successfully complete the International Teaching Assistant Program (ITAP), conducted by the University’s English Language Institute, before they will be allowed to teach. ITAP begins approximately three weeks before fall classes begin.

Faculty and staff who have been recognized for their superior teaching provide formal presentations on topics such as syllabus and course preparation, the advantages and disadvantages of the lecture format for college teaching, using multimedia and the Internet in teaching, effective communication by classroom and laboratory instructors, and the effective use of collaborative learning techniques in both small and large classes.

Experienced GTAs recognized for superior teaching in their respective colleges lead one day of sessions at the workshop. These “Teaching Fellows” videotape new GTAs who have each prepared a short presentation. Each GTA receives both written and oral analyses of teaching strengths and areas for improvement. The new GTAs then have the opportunity to analyze videos that show some of the most frequently occurring problems in the classroom. The fellows conclude the day with the new GTAs by discussing important University policies such as services for students with disabilities, sexual harassment, academic misconduct, academic grievances, and the confidentiality of student records.
Those who complete the entire program receive certificates from the Graduate School to show that they have received training to prepare them for the challenges of teaching at a university.

CAPSTONE INTERNATIONAL

The University of Alabama provides a wide variety of international education programs and services at the Capstone International Center, housed on the first floor of B. B. Comer Hall. Known simply as Capstone International, the Capstone International Center takes its name from its historical pre-eminence in the state as a provider of international education. A combination of several recently integrated units, the Capstone International Center has multiple complementary yet diverse functions, ranging from intensive English language instruction in the English Language Institute (ELI) to U.S. immigration compliance, Fulbright programs, and overseas study. Capstone International is a multipurpose center designed to inform, assist, and educate both international and domestic students, faculty, and staff members, as well as members of the local civic, education, and corporate communities. Capstone International annually welcomes almost 1,000 internationals to campus and makes possible the participation of UA faculty, students, and staff in a multitude of internationally focused degree, research, and outreach programs.

Outreach is an important function within Capstone International as evidenced by its bi-monthly Capstone International newsletter, the Tuscaloosa Saturday School (for school-age children from Japan), the German Supplementary School (for school-age children from Germany), the Japan Culture and Information Center (a resource for both the local and academic communities), and the English Language Institute (on-site corporate programs and tailored courses for usage by children and spouses of the employees). A wide variety of international student activities are coordinated in conjunction with the Rotary International Club of Tuscaloosa, Tuscaloosa’s International Friends (TIF), the Children’s Hands-on Museum (CHOM), University Place Montessori School, and the Tuscaloosa Club of Altrusa International.

The University is a member of national organizations providing Congressional support, professional training, and annual conferences to promote international education at member universities, namely the NAFSA: Association for International Educators, the Institute for International Education (IIE), and the Council for International Education Exchange (CIEE).

Capstone International has three functional focal points known as Programs, Services, and English Language Institute. Collectively they provide courses and activities available to the constituents of Capstone International.

Programs
- Fulbright Programs
- German Supplementary School
- Graduate Research Scholarships
- International Exchange Programs
- International Honors Program
- International Linkages
- Japan Culture and Information Center
- Japan Program
- Overseas Study
- Overseas Study Resource Center
- Tuscaloosa Saturday School

Services
- International Scholar Events
- International Student and Scholar Services
- International Student Programming
- Multicultural Guidance and Counseling
- U.S. Immigration Compliance
- Visa Advising
English Language Institute
Intensive English Program
External Group Programs
International Teaching Assistant Program (ITAP)
Academic Support Program

Capstone International can be contacted by telephone at (205) 348-5256 or (205) 348-5402, by fax at (205) 348-5298 or (205) 348-5406, or by mail at The University of Alabama, Capstone International Center, Box 870254, Tuscaloosa, AL 35487-0254. The office is located in 135 B. B. Comer Hall.

PROGRAMS

Fulbright programs. Capstone International encourages and facilitates active participation in all Fulbright programs. Since the founding of the Fulbright programs in 1948, more than 100 UA students, faculty, and professional staff members have been selected to receive the prestigious Fulbright award. Their appointments have ranged from Austria to Zimbabwe.

German Supplementary School. Established by The University of Alabama in 1995 in cooperation with Mercedes-Benz U.S. International Inc., the German Supplementary School provides supplementary education in German to children ages six to 16 who will return to a German-speaking educational system after living in Alabama for several years. In addition to providing education to German-speaking children, the GSS provides University of Alabama students who have an interest and proficiency in German language and culture the opportunity to work with GSS in a variety of ways. More information about possibilities is available from the director, Dr. Marilyn B. Emplaincourt, 135 B. B. Comer Hall, (205) 348-5312 or fax (205) 348-5298.

Graduate Research Scholarships. Capstone International annually awards a small number of International Research Scholarships to graduate students with summer research projects in another country. These scholarships are made available to Capstone International from the UA Office of Alumni Affairs. Smaller awards are also available from Capstone International for graduate students invited to present papers at international conferences and to participate in other short-term academic projects overseas.

International exchange programs. The University of Alabama offers a number of international exchange programs that allow students to act as visiting scholars at overseas universities. Each program gives students opportunities to learn in a foreign country where they obtain firsthand knowledge of another people, language, and culture in addition to gaining course credits. In some cases, a working knowledge of the language of the host country is a prerequisite. In others, the language can be studied for the first time in the host country; sometimes, no language requirement is necessary (e.g., England and Australia). Students pay University of Alabama tuition based on Capstone International credits and are assisted in arranging transfer of credits through appropriate departments and divisions prior to departure. Graduate students should secure approval from the Graduate School prior to taking any overseas credit that they may wish to transfer.

International exchange programs are available to UA students at the following partner universities for either one or two semesters and, in some cases, summer study:

Australia: Queensland University of Technology (Brisbane), Monash University (Melbourne)
Austria: University of Klagenfurt
Belgium: Hautes Études Commerciales (Liège)
China: Guizhou Educational Consortium (includes a number of institutions in Guizhou Province)
England: University of Hull; University of Birmingham Shakespeare Institute
France: Université François–Rabelais (Tours)
Germany: University of Mannheim; Pädagogische Hochschule (Weingarten)
Japan: Chiba University; Nagoya Institute of Technology; Hiroshima University; Kansai Gaidai University (Osaka)
Korea: Pusan National University; Yonsei University (Seoul), Ajou University (Suwon)
The Netherlands: Hanzehogeschool-Gröningen
Scotland: University of Glasgow
Spain: Universidade de Alcalà
Taiwan: Feng Chia University (Taichung)
Wales: University of Wales (Aberystwyth)

**Short-term group overseas study.** In addition to its longer-term international exchange programs, The University of Alabama conducts many overseas study programs lasting from two to six weeks, most often during the summer and Interim sessions. Scholarships and financial aid are available to students participating in these programs. Programs and fields of study in recent years include the following:

- Alabama at Oxford: English, history, political science
- Alabama in Belgium: economics, business studies
- Alabama in China: art, history, Chinese
- Alabama in France: French, business studies
- Alabama in Germany: German language and culture
- Alabama in Greece: modern Greek studies
- Alabama in Ireland: education
- Alabama in Italy: art, Italian, finance, business studies
- Alabama in Japan: economics, business studies
- Alabama in Korea: Asian studies
- Alabama in Lithuania: social work
- Alabama in Spain: Spanish, business studies
- Alabama in Yucatan: anthropology, sociology, history, economics

Capstone International issues international identification cards made available through CIEE for students wishing to take advantage of travel insurance and discount rates for transportation, as well as educational and cultural programs, during their sojourns overseas.

Additional information about international exchanges and short-term overseas study programs may be obtained from 135 B. B. Comer Hall or by writing The University of Alabama, Capstone International, Box 870254, Tuscaloosa, AL 35487-0254; (205) 348-5256. If The University of Alabama is unable to meet the overseas study needs of a student, Capstone International provides information about additional international education opportunities that are available through other institutions and organizations. A library of materials describing these programs is available in the Overseas Study Resource Center, open daily from 9:00 a.m. until 4:00 p.m., 135 B. B. Comer Hall; (205) 348-9079.

**Japan Program.** The Japan Program, as part of the Capstone International Center, administers academic and cultural programs and activities designed to increase understanding between the peoples of the United States and Japan. Through linkages with universities and other educational or cultural agencies in Japan, the program enables UA students and faculty members to study, conduct research, and teach in Japan.

Reciprocal student exchange programs with Kansai Gaidai University in Osaka, Hiroshima University, and Chiba University enable qualified postgraduate students to study Japanese in Japan while undertaking Asian studies, humanities, social science, and science courses taught in English. Generous AIE-J scholarships providing round-trip transportation and a monthly stipend are available on a competitive basis to UA students. Examples of courses offered at partner institutions include Japanese-Style Management, Japanese Economic Development, Sociology of Everyday Life in Japan, Survey of Modern Japanese History, Japanese Culture and Education, Seminar in Geography, Agriculture and Agricultural Sciences in Japan, and Introduction to Deep-Sea Biology. The Nagoya Institute of Technology and Chiba University offer prestigious Monbusho
The University of Alabama

(Ministry of Education) graduate student research scholarships for 18 months of study. The Monbusho scholarship provides round-trip transportation and monthly stipends to cover living costs.

The Japan Program conducts a variety of outreach and academic enrichment programs in its Japan Culture and Information Center (see below) and the Tuscaloosa Saturday School (supplementary education in Japanese for children from Japan ages six to 16). A founding and active member of the Tuscaloosa Sister-Cities Commission as well as the Japan-America Society of Alabama, the Japan Program also organizes the annual spring Sakura Festival and Haiku contest for the state of Alabama.

Additional information about the Japan Program may be obtained from the director, Dr. Marilyn B. Emplaincourt, 135 B. B. Comer Hall; (205) 348-5312.

The Japan Culture and Information Center. Established by The University of Alabama as part of the Japan Program in 1990, the Japan Culture and Information Center serves as a meeting place and clearinghouse for information about Japan and its culture. Located at 410 Campus Drive, the center is designed to facilitate research, to complement classroom instruction, and to respond to requests for information about either Japan or the U.S., thereby increasing communication and understanding about both countries.

More information about programs at the Japan Culture and Information Center may be obtained from the Programs Coordinator, Mrs. Satoko Seale, 410 Campus Drive; (205) 348-5311 or fax (205) 348-2439.

Tuscaloosa Saturday School. Established by The University of Alabama in 1986 in cooperation with Japanese industries and the Consulate General of Japan in Atlanta, the Tuscaloosa Saturday School provides supplementary education in Japanese to children ages six to 16 who will return to the Japanese educational system after living in Alabama for several years. In addition to providing education to Japanese-speaking children, the TSS provides University of Alabama students who have an interest and proficiency in Japanese language and culture the opportunity to work with TSS in a variety of ways. More information about possibilities is available from the director, Dr. Marilyn B. Emplaincourt, 135 B. B. Comer Hall, (205) 348-5312 or fax (205) 348-5298.

SERVICES

International Services, located within the Capstone International Center of The University of Alabama, provides specialized services for international students, professors, research scholars, visitors, and their families. International Services conducts intensive orientation programs and provides vital information regarding U.S. Immigration compliance as well as multicultural guidance and counseling. These are ongoing services that monitor individual progress according to federal regulations.

Great emphasis is placed on international student programming. International Services coordinates a wide variety of student activities such as a weekly international coffee hour, an annual international week, and an annual “Welcome” reception for international students at the President’s Mansion.

Professional staff members advise and assist the International Student Association, which represents all international students and the many nationality organizations on campus. Professional staff work closely with community groups such as the Rotary Club of Tuscaloosa, which sponsors the Rotary International Student Center, an on-campus residence for male students and a gathering place that fosters international friendships; and Tuscaloosa’s International Friends (TIF), which sponsors a friendship family program for international students.

International Services may be contacted by telephone at (205) 348-5402, by fax at (205) 348-5406, and by mail at Box 870254, Tuscaloosa, AL 35487-0254, USA. Offices are located in 112-D and 135 B. B. Comer Hall.
ENGLISH LANGUAGE INSTITUTE

For the non-native speaker of English, The University of Alabama English Language Institute (ELI), a part of Capstone International, offers two types of year-round English-language programs: the Intensive English Program is designed for individuals who are seeking intensive English study, while External Programs are designed for groups who desire highly specialized curricula. In addition, the ELI has two programs for matriculated students at The University of Alabama: the International Teaching Assistant Program, which trains and evaluates international graduate teaching assistants, and the Academic Support Program, which provides opportunities for undergraduate and graduate students who may want or need additional English-language instruction.

Intensive English Program and Courses. The ELI Intensive English Program (IEP) is designed for individuals who need to learn English as a second language. The focus of the program is on preparing students for academic success, which is accredited by the Commission on English Language Program Accreditation (CEA), in undergraduate and graduate study at The University of Alabama.

Six levels of study, from beginning to advanced, are available. Each level consists of 20 hours of core classes per week; additional optional classes are also available for students who wish to take them. Each level of study lasts eight weeks and is available 5 times per year with eight-week sessions beginning in August, October, January, March, and June. After placement testing, students may begin their English study in any one of these sessions.

Students pursuing graduate study must complete Levels 4, 5, and 6 with a GPA of 3.5. In certain cases, the Graduate School, the ELI, and the student's academic department may together grant permission for a student who has completed Level 4 or higher with a minimum GPA of 3.5 to enroll in one graduate course per semester while completing the ELI program of study. The specific course must be approved by the instructor and department prior to enrollment.

Students who apply for admission to UA and meet the academic and financial qualifications to enter the University but do not have TOEFL scores available or do not meet the TOEFL score requirement may be given the institutional version of the TOEFL examination upon arrival. Students who do not obtain the required minimum score on the institutionally administered version of the TOEFL will not be eligible to begin an academic program and will be required to register for full-time study in the ELI until they meet the TOEFL requirement or satisfactorily complete the ELI program as outlined above.

ELI Intensive English Program courses are designed for those who require a concentrated curriculum of study in English:

Structure Levels One to Six. ELI structure courses provide students with the basic grammatical structures they will need to communicate effectively in English in four language skill areas: listening, speaking, reading, and writing. Each structure course emphasizes communication — both comprehension (listening and reading) and production (speaking and writing). Structure courses meet five hours per week.

Spoken English Levels One to Six. ELI courses in spoken English provide students with the opportunity to improve their listening and speaking skills and to gain confidence in using English to communicate orally. Students practice appropriate conversation management skills, receive instruction on problem areas of pronunciation, and learn useful vocabulary. These activities are carried on through a variety of classroom exercises that focus on the everyday situations students are likely to encounter while adjusting to life in the United States. Spoken English courses meet five hours per week.

Reading/Writing Levels One to Six. ELI reading/writing curriculum is designed to provide students with skills needed to comprehend written discourse at the college level as well as produce written English in a variety of forms. Reading skills include understanding the main idea of a passage, understanding an author's purpose, distinguishing fact from opinion, reading quickly, using the resources of a collegiate dictionary, and discussing written discourse in a relatively sophisticated manner. Writing exercises are designed to stimulate self-expression and personal involvement in writing. With attention to each
step of the writing process — thinking, writing, and rewriting — teachers guide students toward communicating their ideas with increasing clarity and depth. Reading/Writing courses meet ten hours per week.

**Optional Classes.** The ELI offers several choices of optional courses. Some examples of optional courses are TOEFL Preparation, Pronunciation, American Culture, Current Events, Business English, English Through Current Events, English Through Music, and Web Page Design. Optional classes typically meet two or three hours per week.

**Conversation Partner Program.** Through the Conversation Partner Program, ELI students meet regularly with American students to converse in English in relaxed surroundings. The Conversation Partner Program is a comfortable way for ELI students to form friendships with American students and to practice their English.

**Culture and Language Exchange Program.** The Culture and Language Exchange Program pairs an ELI student with an American student who is studying or has expressed an interest in the ELI student’s native language/culture. Once paired, these students then meet as often as they like for conversation practice in both English and in the particular foreign language.

**ELI External Programs.** The External Programs consist of a variety of programs designed for groups of participants with mutual goals and concerns who desire highly specialized, intensive curricula. Such programs are typically designed for international English teachers, students whose international universities have approved given curricula for credit, international graduate students preparing to enter universities throughout the U.S., and business professionals who wish to improve their overall effectiveness in English or to concentrate on specific skills such as written communication.

An organization wishing to enroll in such a program should clearly define the goals of its group and keep in mind that program enrollments require a minimum of 10 participants. Financial sponsorship for the above programs may come from ministries of education, embassies, corporations, private philanthropic organizations, U.S. or other government sponsoring agencies, or the individual participants themselves. Programs may be offered at any time of the year and typically range in length from two to six weeks.

**Academic Support Program.** The ELI Academic Support Program provides opportunities for UA undergraduate and graduate students who may want or need additional English-language instruction. At the graduate level, ESL support courses in written and spoken English are available free of charge to full-time international graduate students each fall and spring semester. In addition, for both undergraduate and graduate students, the UA Language Resource Center is available for individualized language assistance.

**International Teaching Assistant Program.** The International Teaching Assistant Program (ITAP) provides training and evaluation for international students with graduate teaching assistantships. A mandatory ITAP program for all non-native English-speaking GTAs and graduate assistants with any instructional responsibilities is offered twice a year.

The fall course begins approximately three weeks before the start of the fall semester for students wishing to teach during the fall. In addition, a semester-long course is offered in the spring for students wishing to teach during the spring semester.

To obtain more information about any of the above ELI programs, to request a brochure and application to the Intensive English Program, or to discuss the possibility of an external program for your group, contact the director, Mr. Bill Wallace at The University of Alabama, English Language Institute, Box 870250, Tuscaloosa, AL 35487-0250; (205) 348-7413; fax (205) 348-9266; e-mail info@eli.ua.edu. Or you may visit our Web site at www.ua.edu/international/eli.

**ACADEMIC COMMON MARKET**

The Academic Common Market is an association of 16 states (Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia) formed to avoid program duplication and permit out-of-state students to undertake selected programs
at participating institutions while paying in-state tuition rates. Each ACM state outside Alabama allows its residents to participate in only a few of the University’s programs through the market.

The University of Alabama Graduate School administers all undergraduate and graduate ACM programs. A current table of programs that accept Academic Common Market students and the states that permit their residents to access these programs is available online at http://acm.ua.edu.

MILITARY PROGRAMS

General

Army or Air Force ROTC scholarships and other financial assistance may be available to qualified students who plan to be enrolled for at least two years. Interested students may obtain information about current programs from one of the following ROTC offices: The University of Alabama, Professor of Military Science, Box 870260, Tuscaloosa, AL 35487-0260; or Air Force ROTC Detachment 10, The University of Alabama, Box 870258, Tuscaloosa, AL 35487-0258.

Air Force ROTC

An Air Force officer’s commission is available to graduate students through the Air Force ROTC Two-Year Program. If other qualifications are met, a student with at least two full years of full-time coursework remaining (in either graduate studies or a combination of undergraduate and graduate courses) can apply for entry into the Professional Officer Course (POC). Currently, there also is a one-year option.

Applicants must favorably complete the Air Force Officer Qualifying Test, pass a medical physical, pass a physical fitness test, and have at least a 2.0 GPA. Students selected to enter the cadet corps will be scheduled for a summer field training encampment prior to entry into the POC. Field training camps are conducted at Air Force bases throughout the United States. Successful completion of field training qualifies the student to enter the POC. The student then completes the last two academic years of graduate and/or undergraduate studies, taking one 3-hour Air Force studies (AFS) class and a leadership laboratory each semester in order to gain an officer’s commission upon completion of studies. Cadets in the POC are paid a $350–400 stipend per month during the academic year and may be eligible for academic scholarships. To apply, contact The University of Alabama, AFROTC DET010, Box 870258, Tuscaloosa, AL 35487-0258, or call (205) 348-5900 prior to planned entry into Air Force ROTC.

Required Air Force ROTC courses for the Two-Year Program are AFS 350 and AFS 301, AFS 360 and AFS 302, AFS 470 and AFS 401, and AFS 480 and AFS 402. Course descriptions may be found in the University of Alabama undergraduate catalog.

Army ROTC

Army officer’s commissions are available to graduate students through the Army ROTC two-year option. A student with at least two years of full-time coursework remaining (in either graduate studies or a combination of undergraduate and graduate courses) can apply for the Advanced ROTC Program. Students will be required to take three ROTC classes each semester while completing their graduate or undergraduate studies. Advanced ROTC Program students must attend a 32-day summer camp between the first and second years of enrollment, for which they will be paid one-half the pay of a second lieutenant ($887.00). Students are paid a monthly tax-free subsistence allowance ($350.00 per month during the first year and $400.00 per month the second year) while enrolled in the Advanced ROTC Program. To apply, contact The University of Alabama, ROTC Department, Box 870260, Tuscaloosa, AL 35487-0260; or call (205) 348-1056.

Course descriptions may be found in the University of Alabama undergraduate catalog.
AACADEMIC POLICIES

DEGREES CONFERRED

The following degrees are conferred by the Graduate School:

- Master of Accountancy
- Master of Arts
- Master of Business Administration
- Master of Fine Arts in Art, Book Arts, Creative Writing, and Theatre
- Master of Library and Information Studies
- Master of Music
- Master of Public Administration
- Master of Science
- Master of Science in Aerospace Engineering, Chemical Engineering, Chemistry, Civil Engineering, Commerce, Computer Science, Criminal Justice, Electrical Engineering, Engineering (Environmental Engineering), Engineering Science and Mechanics, Human Environmental Sciences, Industrial Engineering, Marine Science (Biology), Mechanical Engineering, Metallurgical Engineering, and Nursing
- Master of Social Work
- Master of Tax Accounting
- Educational Specialist*

Doctor of Education in the fields of
- Counselor Education, Educational Administration, Educational Psychology, Elementary Education, Higher Education Administration, Instructional Leadership, Music Education, School Psychology, Secondary Education, and Special Education
- Doctor of Musical Arts

Doctor of Philosophy in the fields of

CONFERRING OF DEGREES

Advanced degrees are conferred in commencement exercises at the close of each semester. Each candidate for an advanced degree must submit a completed application for advanced degree to the Office of the Graduate School at the time of registration for the semester or the first term of the summer session in which requirements for a degree are to be completed. (A student should have been approved for candidacy for a degree before filing the application for a degree.)

*Offered by some departments that offer doctoral degrees in the College of Education.
At least one week before commencement, the candidate’s record must have been cleared for graduation. A candidate for the doctoral degree must be present at a scheduled commencement to receive the degree, unless excused by the graduate dean. The University of Alabama reserves the right to withhold or withdraw an advanced degree on the recommendation of the graduate faculty.

**ACADEMIC MISCONDUCT**

All acts of dishonesty in any work constitute academic misconduct. This includes, but is not limited to, cheating, plagiarism, fabrication of information, misrepresentation, and abetting any of the above. The Academic Misconduct Disciplinary Policy will be followed in the event that academic misconduct occurs. Students should refer to the online Student Handbook linked from the Dean of Students Internet site at http://www.sa.ua.edu/DoS/.

**APPLICATION**

Please apply online for graduate study at The University of Alabama at http://graduate.ua.edu. Interested persons with restrictions that prevent the use of our online application or who have questions about applications should contact The University of Alabama, Graduate School, Box 870118, Tuscaloosa, AL 35487-0118; telephone (205) 348-5921; fax (205) 348-0400; or e-mail usgradapply@aalan.ua.edu (U.S. applicants) or intergradapply@aalan.ua.edu (international applicants).

Applicants should submit the following materials to the Graduate School using the online application: applicant data sheet and statement of purpose. Two copies of all college or university transcripts should be sent at the applicant's request to the Graduate School directly from the registrar of each postsecondary institution attended (including The University of Alabama), and admissions test scores less than five years old (if required by the department; see p. 84 for departments that do not require a test) should be mailed to the Graduate School directly by the testing service. An application fee of $25.00 should be submitted online or by check mailed to the Graduate School. All of the materials must be received by the Graduate School before an application will be considered.

A student, whether an international or a permanent resident, whose first language is not English, must submit an official score report for the Test of English as a Foreign Language (TOEFL). The minimum score for admission to a degree program or for non-degree admission is 550 on the non-computerized TOEFL or 213 on the computerized TOEFL. The TOEFL score must be less than two years old at the time of the student’s intended enrollment at The University of Alabama. The TOEFL will not be required from any applicant who has earned a degree from an accredited U.S. college or university within the past three years. The Test of Spoken English (TSE) is recommended for international students who wish to be considered for teaching assistantships. Information on registering for the TOEFL and TSE is available worldwide at U.S. embassies, consulates, USIS offices, Institute of International Education offices, AMIDEAST offices, and other organizations concerned with international education. Computer administration of the TOEFL is offered at many sites.

International applicants must submit two certified copies in the native language along with certified English translations of all transcripts, diplomas, and certificates of degree.

Application may be made to only two programs at a time. A person holding a bachelor’s degree from a regionally accredited institution (or the equivalent for an international applicant) is eligible for consideration for admission to the Graduate School of The University of Alabama. Seniors who have completed at least 91 undergraduate credits at a regionally accredited institution are also eligible to apply.
Three letters of recommendation with original signatures should be submitted directly to the department to which the applicant is applying (not to the Graduate School) on forms provided by the Graduate School or letters mailed by the references. Each applicant must have a letter of reference from at least one of his or her professors in (a) his or her undergraduate major, or (b) the proposed field of graduate study, if any courses have been taken in either area within the last five years.

To ensure adequate time for review, applications must be completed at least six weeks before the desired date of registration. International applicants must submit their applications at least four months prior to expected enrollment. However, many departments establish earlier deadlines for receipt of application materials. (Applicants should contact their proposed departments for deadline information.) In those cases, completed applications must be in the Graduate School six weeks prior to the departmental deadline. Requirements and deadlines for submitting applications are subject to change; applicants should review the specific instructions on the application forms for current requirements and deadlines.

Questions regarding resident and nonresident status should be directed to Mrs. Linda Clark in Office of Academic Records and University Registrar, Box 870134, Tuscaloosa, AL 35487-0134; telephone (205) 348-4886; http://www.registrar.ua.edu/residency.html.

New students who were born after January 1957 are required to provide proof of immunization against measles, mumps, and rubella (MMR) and other diseases before being officially enrolled at The University of Alabama. For students without proof of all required immunizations, the Health Center may assess a fine, and registration may be blocked. Also, new students are encouraged to complete a medical history form, which may be obtained from The University of Alabama, Russell Student Health Center, Box 870360, Tuscaloosa, AL 35487-0360; http://www.sa.ua.edu/rshc.

Applicants for readmission who are in good standing should write to The University of Alabama, Office of Academic Records and University Registrar, Box 870134, Tuscaloosa, AL 35487-0134, at least six weeks in advance of the desired date of registration to request registration materials. Some departments may have earlier deadlines; applicants should contact their departments for specific deadlines. For students without proof of all required immunizations, the Health Center may access a fine, and registration may be blocked.

Application Fees

A nonrefundable fee of $25 must accompany each new application for admission before it will be processed.* Credit card payments may be made with online applications at http://graduate.ua.edu. After admission, no fee will be assessed for subsequent applications requesting a change of program area, change of degree objective within the program of study, or change of status from a nondegree to a degree program. If a student applies but does not enroll within 12 months of the requested entrance date, a new application and an accompanying nonrefundable $25 fee must be submitted.

Number of Applications

Application may be made to up to two programs at a time. If a student applies to two programs, he or she must submit two separate and complete sets of application materials (applicant data sheet, statement of purpose, letters of recommendation, transcripts) and two application fees. Each set of application materials must clearly identify the program to which the applicant is applying.

*Under certain circumstances, a refund and cancellation of the application can be requested within 48 hours (two business days) of receipt in the Graduate School office.
ADMISSION

Admission decisions are made by the Graduate School based on a composite of qualitative and quantitative information, including the applicant’s statement of purpose and letters of recommendation, the academic standing of the programs in which the applicant has studied, relevant professional activities and achievements, admissions test scores, previous grades, and the recommendation of the faculty in the area to which the applicant is seeking admission. Each application is considered in the context of other applications to the same area, with due consideration given to the availability of space in the program, the need to maintain a pool of students of superior potential, and the diversity goals of the program. A department may set higher admission standards for doctoral students. Not every student whose credentials meet stated quantitative standards is admitted.

Application may be made to only two programs at a time. A person holding a bachelor’s degree (or who is a senior) from a regionally accredited institution (or the equivalent for an international applicant) is eligible for consideration for admission to the Graduate School of The University of Alabama.

Persons are admitted to a specific program of study as specified on the application. A request for a change of program or continuation beyond an original purpose is viewed as a new application subject to current procedures and standards.

Admission to graduate studies at The University of Alabama is valid for 12 months after the requested entrance date. In some departments, students must seek pre-approval if they wish to change the entrance date initially requested on their applications. International students requesting a change in their entrance date should also be aware that their TOEFL scores must be less than two years old at the time of initial enrollment at the University. If an applicant has not enrolled within 12 months after the requested entrance date, reapplication must be made. If a student enrolls for classes but then fails to register for three consecutive years, the student must reapply for admission.

The dean of the Graduate School is the only person authorized to waive any requirement, admit applicants to the Graduate School, or otherwise notify applicants of the disposition of their applications.

Additional requirements may be stated in the divisional and departmental sections of this catalog.

Admission requirements are subject to change without prior notice.

Regular Admission

An applicant whose credentials meet both of the following minimum requirements may be considered for regular admission:

1. GPA requirement: The applicant must have a grade point average, based on a 4.0 system, of 3.0 overall, 3.0 for the last 60 semester hours in a degree program, or 3.0 for a completed graduate degree program.

   AND

2. Entrance exam score requirement: The applicant must have an acceptable score on the appropriate entrance examination, if required by the department or degree program to which the applicant is seeking admission. (See the departmental sections of this catalog or contact the Graduate School for specific information.) An applicant who wishes to be considered for a Graduate Council Fellowship is strongly encouraged to submit a score on the Graduate Record Examination (GRE) General Test or entrance examination appropriate to the graduate program of interest. Nominations for these fellowships are made by the academic departments (see p. 48). Admission test scores must be less than five years old.

These are minimum requirements; divisions or departments may set higher standards.
Conditional Admission

An applicant whose credentials do not meet the requirements for regular admission may be considered for conditional admission if the applicant has a grade point average of 2.5 overall and an acceptable score on the appropriate admission examination for conditional admission, if one is required by the department.

An applicant may be considered for conditional admission if he or she meets either the GPA requirement for regular admission (GPA of 3.0) or the entrance examination score requirement for regular admission. These are minimum requirements. Divisions or departments may set higher standards or may not consider students for conditional admission.

A graduate student removes the condition by earning an average of “B” or better in the first 12 semester hours of graduate-level work completed, and by satisfying any other conditions specified by the department or the Graduate School at the time of admission. If the 12 hours are completed in a term in which the total credits exceed 12, the evaluation is made on the basis of all graduate-level work completed at the end of that term of enrollment.

Failure to remove the condition within the first 12 hours of graduate work will result in the student’s being dropped from the program. A student who satisfies the condition will assume automatically the status of a regularly admitted graduate student.

Admission Examinations

Graduate admission examinations are required for applicants to most programs and must be less than five year old. Most departments require an acceptable score on the general test of the Graduate Record Examination (GRE). Some departments may allow substitution of the Miller Analogies Test (MAT) for the GRE. Applicants to the Manderson Graduate School of Business are required to submit acceptable scores on the Graduate Management Admissions Test (GMAT). Applicants should consult the department descriptions in this catalog or contact departments directly for more specific information about admissions examination requirements.

The following departments are exceptions to the policy of requiring admissions examinations for applicants:

• The M.S.W. program in the School of Social Work, the M.S.N. program in the Capstone College of Nursing, and the master’s degree programs in health studies, human nutrition, and general human environmental sciences in the College of Human Environmental Sciences do not require an admissions examination if the applicant’s GPA is 3.0 or higher. An admissions examination is required for all applicants with GPAs lower than 3.0.
• The College of Engineering does not require a graduate admissions examination if the applicant’s baccalaureate degree is from an ABET-accredited engineering program or, for the Department of Computer Science, if the applicant’s baccalaureate degree is from an ABET-accredited or CSAB-accredited program. An admissions examination is required if the applicant’s baccalaureate degree is from a program not accredited by ABET or CSAB.
• The School of Music, Department of Theatre (with the exception of the theatre management/arts administration program for which the GRE is required), the studio art degrees in the Department of Art, and the Department of Modern Languages and Classics do not require an admissions examination for applicants. However, additional requirements must be met. Contact the department for more information.
• The Department of Criminal Justice requires a test of all applicants; however, the minimum score requirement is waived for regular admission of applicants with a 3.0 GPA. Applicants with GPAs of 2.5 and above, but less than 3.0, will be eligible for conditional admission upon submission of a minimum score of 50 on the MAT or 1500 on the GRE for scores earned prior to October 1, 2002, and 1000 for scores earned after October 1, 2002.
• The Department of Physics requires the GRE but will accept either the general test or the subject portion of the examination for admission purposes.
Information concerning the GRE and GMAT is available from the Educational Testing Service, Princeton, NJ 08540. The MAT is given by the testing services of most colleges and universities and may be taken by appointment. Applicants should plan well in advance so the results of the required examination will be available when needed to support an application for admission. Braille editions of both the GRE and MAT can be obtained from The University of Alabama, Testing and Data Management Services, Box 870108, Tuscaloosa, AL 35487-0108.

Interested persons with restrictions that prevent the use of our online application should contact The University of Alabama, Graduate School, Box 870118, Tuscaloosa, AL 35487-0118; telephone (205) 348-5921; e-mail usgradapply@aalan.ua.edu (U.S. applicants), or intergradapply@aalan.ua.edu (international applicants).

Other Types of Admission

Admission to doctoral or Ed.S. programs from master’s programs in the same department at The University of Alabama. In participating departments, master’s students enrolled at The University of Alabama may apply for admission to doctoral or Ed.S. programs in the same program by completing a simplified application form, available at http://graduate.ua.edu. Departments determine if submission of a statement of purpose, new test score, or new transcript is required. Interested students should contact their departments to see if they accept the simplified application form and if there are any additional departmental requirements.

Expedited admission for University of Alabama seniors. Undergraduate seniors in participating departments enrolled at The University of Alabama who have completed at least 91 hours, have an overall GPAs of 3.0 or better, are recommended by the faculty in their departments, and wish to apply for admission to graduate study in their current fields may be eligible for a simplified admission process, available at http://graduate.ua.edu. Students should contact the department or program for details. Students who plan to seek scholarships or fellowships are strongly encouraged to follow the application procedures outlined under “Regular Admission.”

Irregular postgraduate (IPG) admission. A person who makes application and is not admitted to the Graduate School may, on the recommendation of the department or division concerned and with the approval of the dean of the Graduate School, seek admission as an irregular postgraduate (IPG) student, for the purpose of attempting to qualify for admission to the Graduate School. An applicant who is denied admission must not assume that this procedure is available to all; specific instructions will be given to those who are eligible.

Work taken as an irregular postgraduate cannot be counted as graduate credit at the time it is taken or at a later date. IPG students register as undergraduates and receive undergraduate credit for all work completed. Upon completion of the required program of IPG studies (no less than 12 semester hours of advanced-level undergraduate credit taken from full-time graduate faculty of The University of Alabama), the student must request a review of the application for admission to the Graduate School within 12 months of the initial requested entrance date, or a new application accompanied by a nonrefundable $25 application fee must be submitted.

The University Scholars Program. This program is intended for gifted and highly motivated candidates for B.A. and B.S. degrees at The University of Alabama whose objectives include degrees at the master’s or doctoral level. In participating University Scholars departments, with a closely integrated undergraduate and graduate program, qualified students begin graduate study in their senior year; such a program may lead to simultaneous completion of requirements for both master’s and bachelor’s degrees, each within its specified framework.

Students in the University Scholars Program are classified as undergraduates until they complete requirements for their undergraduate degrees and therefore may not hold graduate assistantships until their classifications are changed to graduate status. At that time, University Scholars will also become eligible for graduate fellowships and scholarships.
Any department that offers a graduate program may, with the approval of the dean of the Graduate School, participate in the University Scholars Program. The following programs currently are approved to participate in the University Scholars Program: aerospace engineering and mechanics, banking and finance, biology, chemistry, consumer sciences, English, French, geography, German, health studies (sports medicine concentration), human nutrition, and mathematics.

A student who wishes to exercise this option will normally apply for admission to Phase I of the program in the sophomore year.

Phase I: Admission to Phase I is by invitation of the department and the dean of the Graduate School. Admission is chiefly determined by the faculty's estimate of a student's talents, motivation, and potential for graduate study. Students may also apply for admission to Phase I through their major department during the second semester of the sophomore year. Contingent upon completion of 61 semester hours of study and with a grade point average in all courses taken of not less than 3.5, students are admitted to Phase I at the beginning of their junior year on recommendation of the departments to which they have applied. During the junior year, students will take between four and six courses in their major field, as advised by their departments, to prepare them for the work of Phase II. Students seeking admission to Phase I will be informed by their departments if their admission requirements differ from those specified here.

Phase II: Admission to graduate study is also by invitation and is facilitated by, but not dependent upon, participation in Phase I. On completion of no fewer than 91 hours (ordinarily at the end of the junior year), students may apply for and be accepted for admission to the Graduate School. They must have grade point averages of not less than 3.5 in all courses. Transfer students are subject to the published residence regulations and must have completed the last 30 hours in residence. Admission to the Graduate School will be granted if the student has (a) met all the criteria above as well as other minimum requirements for graduate admission (p. 83–85), (b) completed three-fourths of the hours required for the major and the minor, (c) met all requirements for the core curriculum, and (d) been recommended by the department to which he or she is seeking admission.

Upon admission to the Graduate School, the student will begin a program of study leading to the master's or doctoral degree as approved by his or her department and by the dean of the Graduate School. The program of study must be submitted to the Graduate School prior to the student's enrollment in graduate classes.

The bachelor's degree normally will be awarded at the commencement immediately following satisfactory completion of the first year of graduate study and attainment of a total of 128 semester hours of credit or the minimum required by the college. Those courses taken in the senior year/first year of graduate study count toward both the bachelor's and graduate degrees. Participants in the University Scholars Program are exempt from the degree limit of 36 hours in a single department. The master's or doctoral degree will be awarded upon satisfactory completion of the requirements for these degrees. In some cases, the bachelor's and master's degrees may be awarded simultaneously; the completion of the master's degree, however, may require an additional time period.

Nondegree admission. An individual who is interested in earning graduate credit, but who is not an applicant for a graduate degree at The University of Alabama, may be admitted for nondegree studies with the recommendation of the department or program in which the course is offered and approval of the Graduate School dean. Admission may be granted to a qualified student holding a bachelor's degree from a regionally accredited institution, or to a graduate student in good standing at another regionally accredited graduate school. Nondegree application forms are available at http://graduate.ua.edu.

International applicants for nondegree status must submit transcripts (with English translations) and a diploma showing degree earned, and also have TOEFL scores of at least 550 on the non-computerized version or 213 on the computerized version and meet all current immigration requirements.
Admission is granted for attending special institutes and workshops, for meeting professional training requirements, for taking off-campus courses, or for special conditions approved by the dean of the Graduate School. Departments may set restrictions on the number or type of classes in which nondegree students may enroll, may limit nondegree enrollment to one semester only, or may prohibit nondegree admission. A maximum of 12 semester hours of graduate work may be taken as a nondegree student and later applied to the credit-hour requirements for a degree, if the student is later admitted to a degree program. Individuals enrolled as nondegree students cannot register for more than 12 hours without providing written verification to the Graduate School that they do not plan to pursue graduate degrees at the University. No more than 12 semester hours of this nondegree coursework can be evaluated for degree credit. Application of any nondegree credit toward an advanced degree will be contingent upon an evaluation made after the student has been admitted to the Graduate School to pursue a degree program. Responsibility rests with the student to observe the limitations imposed on credit hours, coursework, and transfer of credit. Procedures and online application for this type of admission are available at http://graduate.ua.edu. Students who have had an application to a degree program formally rejected are not eligible for nondegree status.

If a student is not eligible for consideration for conditional or regular admission to a degree program, the grades the student earns as a nondegree student will not make the student admissible for the degree program.

Each student taking courses through the University's international programs in the College of Education must submit an official transcript (with an English translation) and a diploma showing degree.

Nondegree students are not permitted to hold graduate assistantships. Nondegree students may not be eligible for federal financial aid and loan programs. For more information, contact the Office of Student Financial Aid, Box 870162, Tuscaloosa, AL, 35487-0162; telephone (205) 348-6756.

Admission of International Students

Applicants who are citizens of countries other than the United States are welcome at The University of Alabama. Highly qualified students from around the world have been extremely successful in our graduate programs, and the contributions made by our international students in the areas of teaching, research, and general cultural enrichment have been great. Standards for admission and financial aid are extremely competitive, ensuring academic excellence.

Interested students should visit our online application center at http://graduate.ua.edu to apply electronically. Applicants with restrictions that prevent the use of our online application should contact the Graduate School, Box 870118, Tuscaloosa, AL 35487-0118, U.S.A, e-mail intergradapply@aaalan.ua.edu. The request should contain information on the student's citizenship, formal academic preparation, English language ability, standardized test scores, financial situation, proposed major, and date of entry. Requests for application materials receive initial reviews from the Graduate School dean's office.

The fall semester, which starts in August, is considered the beginning of the academic year, and international students are strongly advised to plan to begin their studies then. Many of our departments and programs will consider applications for the spring semester, which starts in January, but fewer openings for new students are available at that time.

The University of Alabama recognizes that, to be accurately evaluated, applications from international students require more time and more supporting information than do domestic applications. For this reason, international applicants applying from outside the U.S. are encouraged to have complete applications, with all supporting documents, at least 180 days before the beginning of the semester for which application is made. All applications must be complete at least 120 days before the beginning of the semester for which application is made. Some departments have earlier deadlines; applicants should
contact the departments in which they are interested to obtain information about department deadlines and other requirements. Applications completed after the deadline will automatically be considered for the following semester. The student whose application is completed well in advance of our deadlines is more likely to be admitted and to receive admission and immigration materials in time to make travel arrangements.

Each international applicant must hold the equivalent of a four-year bachelor’s degree from an accredited institution to be eligible for graduate admission.

A student whose first language is not English must submit an official score report for the Test of English as a Foreign Language (TOEFL). The minimum score for admission to a degree program or for nondegree admission is 550 on the non-computerized TOEFL or 213 on the computerized TOEFL. TOEFL scores must be less than two years old at the time of intended initial enrollment. Should TOEFL scores become more than two years old prior to enrollment, the student will be required to retest and submit an acceptable score before enrolling. The TOEFL will not be required from any applicant who has earned a degree from an accredited U.S. college or university within the past three years. The Test of Spoken English (TSE) is recommended for international students who wish to be considered for teaching assistantships. Information on registering for the TOEFL and TSE is available worldwide at U.S. embassies, consulates, USIS offices, Institute of International Education offices, AMIDEAST offices, and other organizations concerned with international education. Computer administration of the TOEFL is offered at many sites.

The University of Alabama offers intensive English language instruction to prepare students for further academic study at colleges and universities in the United States. In addition, the University maintains (through the English Language Institute) the International Teaching Assistant Program (ITAP), a program that all graduate assistants with any teaching or instructional activities who are non-native speakers of English must successfully complete before they are allowed to teach. Students are recommended for ITAP by their departments. For information about these programs write to the Director, English Language Institute, Box 870250, Tuscaloosa, AL 35487-0250, U.S.A. Admission to the English Language Institute does not constitute admission to a graduate program at The University of Alabama.

Students whose applications to the Graduate School are approved will receive housing and health-service information, a letter of admission, and an immigration document (usually Form I-20 or DS-2019). Upon arrival in Tuscaloosa, students should report to Capstone International Programs and Services in order to obtain registration materials and information on the special orientation session for international students that is held prior to the beginning of each semester.

Nonresident foreign students who are offered graduate assistantships are limited to a maximum .5 FTE assistantship. Additional employment outside the University is not permitted.

Students are encouraged to direct any questions they may have concerning immigration, housing, or the health service to the Director, Office of International Student and Scholar Services, Box 870304, Tuscaloosa, AL 35487-0304, U.S.A. Questions concerning admission procedures should be directed to the Graduate School.

Requirements and deadlines for submitting applications are subject to change; applicants should review the specific instructions on the application forms for current requirements and deadlines.
Provisional Language Admission for International Graduate Students

An international graduate applicant to The University of Alabama may be considered for "provisional language admission" if he or she does not meet the minimum TOEFL score requirement of 550 (i.e., he or she has a lower TOEFL score or has not taken the TOEFL). The applicant must meet all other admission criteria as stated for regular or conditional admission on p. 83–85 of this catalog, meet all financial and immigration requirements, and be recommended by the individual University of Alabama graduate department to receive provisional language admission. A student holding provisional language admission may not hold an internally funded graduate assistantship.

Students who have provisional language admission are accepted to the Graduate School but must attend full-time intensive English language instruction at the English Language Institute (ELI). The student must complete the ELI's Intensive English Program with a minimum GPA of 3.5 in the advanced levels (levels 4, 5, and 6) or earn a score of at least 550 on the TOEFL before he or she will be allowed to enroll in graduate courses, hold teaching assistantships, or hold internally funded research assistantships. Students who have provisional language admission are only eligible to hold externally funded research assistantships. (In special circumstances, the Graduate School, department, and ELI may grant permission for a student who has completed ELI Level 4 or higher with a 3.5 GPA to enroll in one graduate course per semester while completing the remaining levels of the ELI. The specific course must be approved by the instructor and department prior to enrollment.)

When a student with provisional language admission begins enrollment in graduate courses, he or she must meet all other requirements for conditional admission, as stated on p. 84 of this catalog.

International graduate applicants should inform the Graduate School that they wish to be considered for provisional language admission, when they submit their graduate application forms.

Admission of Faculty Members for Graduate Work

The University normally does not permit members of its own faculty to earn advanced degrees from the University. A faculty member who wants an exception to this rule must present an extremely compelling case and must receive prior approval from the dean of the Graduate School, from the dean of the division in which the faculty member holds appointment, from the dean of the division in which the faculty member wants to study, and from the provost/vice president for academic affairs. A faculty member seeking an exception to the rule should begin by arranging an appointment with the dean of the Graduate School.

Seniors in The University of Alabama Taking Graduate Credit

A senior at The University of Alabama who has at least a 3.0 grade point average overall may petition to take graduate courses toward a graduate career. Permission to take a particular course is granted based on approval by the instructor, the instructor’s department chairperson, the dean of the student’s division, and the graduate dean. The total course load for an undergraduate taking graduate courses should not exceed 15 hours a semester. A senior may accumulate no more than 9 hours of graduate credit. Graduate courses taken by a senior cannot also be applied to the undergraduate career.

Change of Major or Purpose

All students changing their majors or degree levels will be required to submit new applications. Students pursuing doctorates in the College of Education should consult the College of Education section of this catalog for additional requirements. Graduate courses taken by a senior cannot also be applied to the undergraduate career.
REGISTRATION

General Requirements

Any graduate student utilizing the assistance of a faculty member or any facility of The University of Alabama in relation to a degree program must be registered in an appropriate course reflecting that activity. This includes such activities as coursework, thesis and dissertation advising and reading, comprehensive examinations, and other degree requirements. Registration in courses numbered 599 (Thesis Research), 699 (Dissertation Research), 598 (Master’s Research), and 698 (Doctoral Research) may be repeated.

Prerequisites

If the student’s undergraduate preparation in either the major or minor subject is considered inadequate, certain preliminary (undergraduate and/or graduate) courses will be prescribed by the department or school concerned. These courses become prerequisites and do not carry graduate credit. They must be taken, if possible, during the first semester of enrollment.

Course of Study

The student’s course of study is selected in consultation with the head of the major department or the chairperson of the graduate committee, and approved by that person and the dean of the Graduate School.

Course Loads

The normal course load for a fall or spring semester is 12 credit hours; the maximum course load for a semester is 15 credit hours.

Students may register for a maximum of 6 semester hours in a summer term or 12 hours during an entire summer dual session. Only 3 semester hours may be taken during the Interim session. Taking more than 12 semester hours in a summer dual term can be justified only in extraordinary circumstances and requires written approval of the Graduate School.

A student who is employed part-time is expected to take a reduced load. The course load of a fully employed student will be evaluated according to the individual graduate program. Fully employed students should be registered in no more than one course plus thesis or dissertation research.

Failure to Register for Three Years

If a student fails to register for three consecutive years, the student must reapply for admission.

Assistantships and Admission Status

Students with regular or conditional admission status may hold graduate assistantships. Students who have received academic warnings or are in nondegree status may not hold graduate assistantships. Conditionally admitted students whose graduate GPAs fall below 3.0 at any time during their conditional status will not be allowed to hold graduate teaching assistantships until such time as the GPA has increased to 3.0 or better. Students with provisional language admission status may only hold an assistantship that is externally funded through a contract or grant.

All graduate assistants must be full-time graduate students. However, “full-time” means from 1 to 12 hours of graduate work, depending upon the obligations of the assistantship. A 1.00 full-time equivalent (FTE) assistantship award would represent a 40-hour work week. Minimum full-time enrollment loads for graduate assistants vary with the FTE of their awards. Maximum course loads are also recommended for each FTE level. The following table illustrates these limits. Normally, a one-course overload while holding an assistantship requires only departmental approval.
Ordinarily the Graduate School allows no more than a 0.75 combined FTE at any one time during the fall and spring semesters regardless of enrolled hours. The limitations described in this section apply to any combination of programs taken on campus, off campus, through weekend college, or by distance learning.

Please note that full-time status here is not the same as that required for other registration and financial situations. For example, fellowships, financial aid regulations, resident visa rules, UA System Cooperative Exchange Program, INS and IRS regulations, and other academic policies use different status definitions with regard to full-time. For more information, please refer to the department(s) administering these other programs.

The Southern Association of Colleges and Schools requires that all graduate teaching assistants with primary responsibility for teaching a course for credit and/or assigning grades must first complete a minimum of 18 graduate semester hours in the teaching discipline and then must have ongoing supervision of their teaching.

Part-Time Temporary Instructors

A graduate student employed as a part-time temporary instructor (PTTI) to teach a credit-bearing course must meet the SACS 18-hour requirement. Such PTTIs do not receive tuition waivers, must pay taxes on the income they earn as PTTIs, and must comply with “Personnel Policies for Student Employees of The University of Alabama” (http://graduate.ua.edu/ga_guide.html).

Class Attendance

Graduate students are subject to the same rules regarding class attendance, the performance of assigned tasks, and course examinations as undergraduate students. Since graduate work presupposes specialization and thorough investigation, students will not be permitted to overload themselves with courses.

Continuous Registration for Doctoral Students

Once a student has met the requirements for admission to candidacy for a doctoral degree, the student is expected to pursue completion of the dissertation without interruption by enrolling each semester for at least 3 hours of dissertation research. This is true whether or not the student has submitted an Application for Admission to Candidacy (http://graduate.ua.edu/forms/formidx.html). The only exception is for D.M.A. students who complete a document rather than a dissertation. D.M.A. students may register for one hour of document research during a semester but must maintain continuous enrollment. A Ph.D. student must have completed a minimum of 24 hours of such work upon completion of the dissertation. The amount of dissertation research for which a student enrolls in any given semester should be commensurate with the progress a student is expected to make on the dissertation, as well as reflective of the extent to which University facilities and faculty time are invested in the proposed activities.

To assist faculty and students in determining the appropriate registration for doctoral research, the following guidelines are recommended.

Three semester hours. The work and writing of the dissertation are complete and only final grammatical corrections and the oral examination on the dissertation remain to be accomplished; or, no substantial progress will be made on the dissertation, only minimal use of University facilities will be involved, and/or there will be only slight faculty contact with the student.
Six semester hours. The student will be devoting approximately one-half of a full-time academic load to the dissertation. Moderate progress on the dissertation is expected of the candidate, only limited use of University facilities will be involved, and/or faculty contact with the student will be limited.

Nine semester hours. The student will be devoting approximately three-fourths of a full-time load to the dissertation. Substantial progress on the dissertation is expected of the student, there will be major use of University facilities, and/or considerable faculty contact with the candidate is anticipated.

Twelve semester hours. The student will be devoting a full-time academic load to the dissertation. Extensive progress on the dissertation is expected, there will be considerable use of University facilities, and/or faculty contact with the student will be extensive.

Graduate Credit

A student must be admitted to the Graduate School and must register as a graduate student in order to receive graduate credit. Approval for graduate registration must be obtained from program advisers prior to registration. No graduate credit may be earned by correspondence study or for experiential learning not conducted under the direct supervision of The University of Alabama.

Withdrawal from a Course

A graduate student who desires to withdraw from a course may do so, with the approval of the student’s adviser or department head, during the period allowed for dropping a class. It is the student’s responsibility to consult the graduate school’s deadline sheet for the specific date by which one may drop a course.

No notation of courses attempted will be made on the permanent record of a student who withdraws from the University during the first week of a regular semester or the first week of a summer session. After the first week of classes, the fact of withdrawal from a course will be noted on the student’s permanent record. It is the student’s responsibility to consult the semester’s schedule of classes for the specific date by which one may withdraw without receiving a grade notation. From the end of that period until the end of the tenth week of a regular semester or the equivalent in a five-week summer session or three-week Interim session, a student may withdraw from a course, and a grade of “W” will be assigned. Normally, graduate students are not permitted to drop a course after the tenth week. In extraordinary circumstances a student may petition the graduate dean to drop a course after the tenth week of class.

Withdrawal from the University

A student may withdraw from the University at any time during a term of registration, following clearance by the Office of Academic Records and University Registrar. A student seeking to withdraw for medical reasons should institute action through the University Health Service. A medical withdrawal cannot be granted if the student has taken any finals or their equivalent, i.e., final papers, projects, or similar assignments for the semester for which a withdrawal is being requested. The procedures for a medical withdrawal are available from the University Health Service.

Active Military Duty

Students called for active military duty will receive an extension to time limits equal to the term of active duty, plus reasonable time to reacclimate to academia. A copy of pertinent military orders must be provided to the Graduate School in order to receive extension.
SCHOLASTIC REQUIREMENTS

Many departments and programs produce manuals, procedures and policy guides, graduate student handbooks, and other publications for their students and faculty in graduate programs. These statements are designed to provide detailed and useful information; however, they are not statements of official policy of The University of Alabama. In all matters, the graduate catalog of The University of Alabama shall supersede departmental, program, or college publications.

Degree requirements and academic performance standards outlined in this section are the minimum required by Graduate School of The University of Alabama. Satisfying these general requirements and standards, however, does not imply that all degree and program requirements have been met. Many programs establish additional requirements for their students. Such requirements are included in individual program descriptions in this catalog and/or in departmental and program manuals or policy statements. These special requirements shall not be considered in conflict with this catalog and shall have the same force as this catalog.

Academic Progress

A graduate student must have a cumulative grade point average of not less than 3.0 on all graduate work undertaken at The University of Alabama in order to be in good standing.

Academic warning. A graduate student with regular status in a graduate program who drops below a “B” average (at any time after earning 12 semester hours) will receive an academic warning. While the academic warning status is in place, the student will not be permitted to apply for admission to candidacy and may not hold an assistantship without approval of the graduate dean. This status must be removed by raising the overall average to a “B” or better during the 12 hours of graduate work immediately following the period in which the status was incurred. Failure to do so will result in the student’s being dropped from the program.

Incomplete grades. A grade of “I” (incomplete) is evaluated as an “F,” and must be removed within two weeks during the next term of enrollment if the student’s overall grade point average drops below a “B” as a result of the incomplete grade. The evaluations of academic progress of students who register with “I” grades still on their records can result in academic warning or dismissal.

In-progress grades. A grade of “IP” must be removed by the end of the semester following assignment of the “IP,” or at the conclusion of the student’s career, whichever comes first. If not removed by that time, the “IP” will convert to an “I,” and appropriate scholarship rules will be applied.

Repeating courses. Courses may not be repeated for graduate credit; this includes courses initially taken on an audit basis. However, a course that is required in a student’s curriculum in which a “D” or “F” is earned may be repeated for credit, upon the recommendation of the major department or program area and the dean of the Graduate School. Both grades will be considered in the computation of the grade point average.

Readmission. A person seeking readmission to the Graduate School to pursue a program of study different from the one from which the person was dismissed can initiate consideration for reinstatement by completing an application for admission in the Graduate School and communicating with the academic unit of the new program. The graduate faculty of the new academic unit will consider the request for readmission upon receipt of the new application, will identify in a written request to the dean of the Graduate School the compelling reasons for readmission to the Graduate School, and will state the conditions required of the student upon readmission.

Reinstatement. A person seeking reinstatement after being dismissed from the Graduate School can initiate consideration for reinstatement by communicating with the academic unit from which the person was dismissed. The graduate faculty of the academic unit will consider the request for reinstatement and, if the faculty request reinstatement, they will identify in a written request to the dean of the Graduate School the compelling reasons for reinstatement and the conditions required of the student if reinstatement is granted by the dean of the Graduate School.
Clinical components. In graduate programs that include clinical components, practicums, and/or internships, each student’s effectiveness will be given a broad-based evaluation by faculty and supervisors. Final decisions will be based on factors such as course grades, demonstrated clinical competence, personality factors, and relevant test scores.

Graduation Requirements

Grade point average. The student must have a cumulative average grade of not less than “B” in graduate courses undertaken at The University of Alabama. Grades below “C” are counted in computing scholastic averages, but do not carry credit toward a degree.

Seventy-five percent rule. At least 75 percent of the hours taken must have been completed with grades of not less than “B” at The University of Alabama. In applying this 75 percent rule, a maximum of 6 hours of thesis research may be counted, if appropriate.

400-level courses. A maximum of 6 semester hours of 400-level course credit may be accepted for a master’s degree program only if conditions noted in the following section (titled “Course-Numbering System”) are met. No 400-level credit (except the 6 hours accepted toward the master’s degree) may be accepted for doctoral degree programs.

Pass/fail courses. A maximum of 20 percent of the student’s required course credit may be taken on a pass/fail basis.

COURSE-NUMBERING SYSTEM

Courses numbered 400–499 are primarily for advanced undergraduate students. Graduate students may use 400-level courses for graduate credit only if (a) the department offering the courses also offers a graduate degree, (b) prior approval is obtained from the student’s graduate adviser and the Graduate School, (c) the course is taught by a member of the graduate faculty, and (d) the course is not available at the master’s (500) level. (e) Graduate students in such courses are required to do appropriate extra work and demonstrate a higher level of mastery. Under no circumstances will graduate credit be given for courses below 400.

The form for approval of 400-level courses is available at http://graduate.ua.edu/application/forms.html.

A maximum of 6 semester hours of 400-level course credit may be accepted for a master’s degree program, and only if a form for approval of 400-level coursework for graduate credit is completed and approved by the Graduate School prior to the semester in which the 400-level coursework will be taken. No 400-level credit (except the 6 hours accepted toward the master’s degree) may be accepted for doctoral degree programs.

Courses numbered 500–599 are primarily at the master’s level.

Courses numbered 600–699 are primarily at the doctoral level.

RECORDS MAINTENANCE AND DISPOSITION

Application Materials

For many years, The University of Alabama has subscribed to the ethical principles for confidentiality of records of the American Association of Collegiate Registrars and Admissions Officers. Following passage of the Family Rights and Privacy Act of 1974 (the Buckley Amendments), the University established policies and procedures for implementation of that legislation. The policy statement is available upon request in the Office of Academic Records and University Registrar and is published in the class schedule each fall semester.

All application materials and records, including academic records from other institutions, become the property of The University of Alabama and may not be returned to the applicant or forwarded to other institutions.
The admission credentials and application materials of applicants who do not register for courses at the time for which they have been admitted; of applicants who have been rejected; of applicants who do not respond to requests for additional information; and of applicants whose applications are not complete with respect to supporting credentials will be retained for 12 months following the requested entrance date, after which time reapplication must be made.

Transcripts

Official transcripts are issued and sent by the Office of Academic Records and University Registrar to recognized institutions and agencies that require such documents. Transcripts are issued only upon the written request of the individual involved. Official transcripts are not issued to the individual, but the student may request an unofficial transcript. A charge of $5 is made for each transcript issued, except for the first copy, which is free. Transcripts will not be issued for persons who have financial obligations to the University.

DEGREE REQUIREMENTS*

Please refer to the Graduate School’s Web site (http://graduate.ua.edu) for master’s and doctoral degree program checklists and the following forms:

General
- Request for Transfer of Graduate Credit for Application to a Degree Program
- Approval of 400-Level Coursework for Graduate Credit
- Override Form
- Application for Degree

Master’s
- Outline of Master’s Program
- Application for Admission to Candidacy for the Master’s Degree
- Thesis Title Card
- Master’s Examination Form
- Thesis Committee Final Defense Form
- Appointment/Change of Master’s Thesis Committee
- Announcement of Thesis Defense or Comprehensive Examination

Doctoral
- Outline of Doctoral Program for the Ph.D.
- Application for Admission to Candidacy for the Ph.D.
- Dissertation Title Card
- Doctoral Major/Preliminary Examination Form
- Dissertation Committee Final Defense Form
- Appointment/Change of Doctoral Dissertation Committee
- Announcement of Dissertation Defense or Comprehensive Examination

Ed.S.
- Application for Admission to Candidacy for the Ed.S. Degree
- Ed.S. Examination Form

The general requirements for advanced degrees are set out below. Special divisional and departmental requirements are given in the sections dealing with the respective divisions and departments. Each student must assume full responsibility for understanding both the general and special requirements of the division and department in which he or she pursues his or her major work.

*The Graduate School reserves the right to change any provision or requirement at any time in order to fulfill its educational mission and exercise its educational responsibility.
MASTER’S DEGREE

Course Requirements

Two plans are offered for the master’s degree:

**Plan I.** Candidates for the master’s degree under Plan I must earn a minimum of 24 semester hours of credit in coursework and write a thesis (a minimum of 6 semester hours of thesis research required).

**Plan II.** Candidates for the master’s degree under Plan II must earn a minimum of 30 semester hours of credit.

Both plans require a minimum of 18 semester hours in the major subject. With the approval of the major department, the remainder of the coursework may be done in either the major or a related field.

In some divisions, and in many departments of the University, candidates are required to do their work under Plan I. Candidates working under Plan II may be required to participate successfully in seminar or problem courses that will give them an acquaintance with the methods of research and an appreciation of the place and function of original investigation in the field.

Residency Requirements

A student’s program at the master’s level must provide sufficient association with the resident faculty to permit individual evaluation of the student's capabilities and achievements.

Transfer of Credit

Courses of full graduate-level credit earned in a **regionally accredited institution** where a student was enrolled in the graduate school may be submitted for review for inclusion in a degree program. Evaluation of credit for transfer will not be made until the student has enrolled in the Graduate School of The University of Alabama. Acceptance of credit requires the approval of the student’s advisory committee and the dean of the Graduate School. Credit will not be accepted for transfer from any institution at which the student failed to achieve a “B” average on all graduate work attempted.

A student initiates in the Office of the Graduate School the request for evaluation of graduate credit obtained at another institution. It is also the student’s responsibility to assure that an official transcript of the credit concerned is received by the Graduate School.

With the approval of the student’s department and the dean of the Graduate School, up to one-half of the required coursework for a graduate degree may be transferred from another institution. All credit toward the master’s degree, including transfer credit, must have been earned during the six years (18 fall, spring, and summer semesters) immediately preceding the date on which the degree is to be awarded.

In some cases, foreign educational credentials may not meet the Graduate School’s criteria for transfer of credit. It may be necessary for students in this situation to secure an evaluation of their credentials from World Education Services Inc., an external foreign credential evaluation service. Additional information on their services can be found at their Web site www.wes.org.

Time Limit

All requirements for the master’s degree must be completed during the six years (18 fall, spring, and summer semesters) immediately preceding the date on which the degree is to be awarded.

Outline of Master’s Program

Master’s students are encouraged to complete an “Outline of Master’s Program” in the first or second semester of enrollment. It is available at http://www.graduate.ua.edu/forms/outlms.pdf.
Admission to Candidacy

Admission to the Graduate School does not imply admission of a student to candidacy for a degree. Admission to candidacy is contingent upon the recommendation of the student’s department and the approval of the graduate dean, after the student has met the formal requirements for candidacy listed below and demonstrated sufficient preparation to pursue the graduate study and research required for the degree sought.

The application for admission to candidacy for the master’s degree can be filed after 12 semester hours of graduate credit have been earned at The University of Alabama. It should be approved by the time of registration for the semester in which requirements for the degree are completed. Approval will depend on (a) the quality of the applicant’s graduate work prior to the time the application is made (see “Scholastic Requirements,” p. 93); (b) the removal of any special conditions; and (c) the certification of the major department or school that the student is well qualified to continue work toward a degree. Application forms will be supplied by the Graduate School office.

Thesis

A thesis evidencing research capacity, independent thought, and the ability to interpret materials is required of all master’s degree candidates who pursue Plan I. The subject chosen must be in the major field and must be approved by the graduate committee of the major department or school and by the head of the student’s major department or division.

The thesis committee must consist of at least three members appointed by the dean of the Graduate School. A form appointing a thesis committee is available at the Graduate School’s Web site. All members of a thesis committee must be members of the Graduate Faculty. One member must be from outside the student’s major department.

The candidate must give members of the examining committee a minimum of two weeks to read the thesis before the date of the final oral examination. A completed copy of the thesis must be submitted to the major department at least eight weeks before the date the candidate expects to receive the degree. At least six weeks before graduation, two copies of the thesis, approved by the thesis committee and the head of the major department or division, must be submitted to the Graduate School office, along with an abstract not exceeding 350 words and a receipt for the binding fee. Theses must comply with the regulations set out in *A Student Guide to Preparing Theses and Dissertations*, available at the Graduate School office and on the Graduate School’s Web site. Approval of the thesis by the graduate dean is necessary before graduation.

The thesis should be completed, if possible, while the student is in residence at the University. To request permission to complete a thesis in absentia, the student must, before leaving the University, submit a satisfactory outline of the thesis, as well as evidence that adequate facilities are available where the work will be done, to the head of the major department or school.

Protection of Human Subjects for Research

Scientific research involving human subjects has produced substantial benefits for society, but it also has posed troubling ethical questions. The mission of the University’s Institutional Review Board for Protection of Human Subjects is to ensure that research involving human subjects is conducted ethically. University and federal policies require that review and approval to use human subjects in research precede the research. In the case of thesis research that involves the use of human subjects, the principal investigator is responsible for contacting the college Human Research Review Committee to obtain approval for the planned research.

The request form for IRB approval can be seen at http://osp.ua.edu/irb.html.
Comprehensive Examinations

In addition to the regular course examinations, a final comprehensive examination representing a “culminating” or “capstone” experience for a degree is required of all candidates for the master’s degree (except for those candidates pursuing the master of accountancy, the master of business administration, the master of library and information studies, the master of social work, and the master of tax accounting). The comprehensive examination is a culminating experience in which the student is expected to integrate prior learning. Each department, with approval of the Graduate Council, determines the most appropriate format. The various exams may consist of 1) a written and/or oral examination based on the content of the degree program; 2) a thesis and final oral defense; 3) a course requiring interpretation and integration of information from previous courses; 4) a research paper, a “policy and practice” paper, or equivalent experience; 5) a public performance or exhibition along with a contextualizing paper; and/or 6) a practicum or internship.

If the comprehensive exam requirement is met with option 1 and/or 2 (above) then the examining committee for comprehensive examinations must consist of at least three members of the graduate faculty appointed by the dean of the Graduate School. The examination must be given at least six weeks before the date of graduation (two weeks before for Plan II) and reported promptly to the dean of the Graduate School on appropriate forms. A final report, on forms available from the Graduate School (http://graduate.ua.edu/forms/msexamfrm.pdf) should be submitted to the Graduate School when all examinations are completed. A student may take the final oral or written examination only twice.

Application for Graduation

Each candidate for a master’s degree must apply for graduation through the Office of the Graduate School no later than the registration period for the semester or the first session of the summer term in which requirements for the degree are to be completed. The form “Application for Degree” is available in the Graduate School and on the Web, is required for this purpose, and must be completed in duplicate.

Second Master’s Degree

Six semester hours of eligible credit from one master’s degree at The University of Alabama may be applied to the requirements for a second master’s degree.

EDUCATIONAL SPECIALIST DEGREE

The educational specialist degree (Ed.S.) is offered in some departments of the College of Education that offer doctoral degrees. Students interested in the Ed.S. degree should contact the department involved regarding availability of the degree.

The Ed.S. degree normally is granted at the end of the sixth year of collegiate study and falls in time between the master’s degree and the doctorate. However, it is not necessarily viewed as intermediate between the master’s and doctoral degrees. In teaching fields, the purpose of the degree is to prepare undergraduate-college teachers, especially those who will be employed in junior colleges, small private and state colleges, and the group of colleges labeled as “developing” institutions. The primary goals of the Ed.S. degree are teaching and acquiring professional proficiency.

Because the purposes of the Ed.S. degree may differ from those of either the Ed.D. or Ph.D., credit earned in an Ed.S. program is not automatically transferable to a doctoral program. Instead, if a holder of an Ed.S. degree enters a doctoral program at a later date, the doctoral advisory committee will decide how much of the credit earned in the Ed.S. program will be counted toward the doctorate.
Course Requirements

The Ed.S. degree requires a minimum of 30 semester hours of study beyond the master’s degree. (Students completing an Ed.S. program who also expect to receive an Alabama Class AA certificate for service in the public schools must complete a minimum of 33 semester hours and achieve a minimum 3.25 grade point average on all work attempted.) Generally, the following requirements will hold for the degree:

1. If a student enters a program with a master’s degree in the same field, a minimum of 12 additional semester hours in the field must be taken. (A minimum total of 36 graduate semester hours in the field is required for graduation.)

2. If a student enters a program with a master’s degree in a field different from the one in which he or she plans to study, sufficient work in the Ed.S. major field must be taken so that the total graduate semester hours in the field is at least 36. Some departments require more than this minimum.

3. Since one of the goals of the Ed.S. degree is to prepare undergraduate-college teachers, certain courses in higher education may be necessary, if required by the major department. A faculty adviser in the program in higher education administration will advise students on the appropriate courses to complete this requirement.

4. Candidates for the Ed.S. degree will be required to complete all coursework at the 500 and 600 levels.

Residency Requirement

A student’s program at the Ed.S. level must provide sufficient association with the resident faculty to permit individual evaluation of the student’s capabilities and achievements.

Transfer of Credit

A maximum of 15 semester hours of appropriate post-master’s-degree credit, earned through a regionally accredited institution approved to offer graduate programs beyond the master’s level in the field of study where the credits were earned, may be transferred to apply toward an Ed.S. degree.

Previous and appropriate post-master’s-degree credit earned at The University of Alabama before a student applies for admission to the Ed.S. program can be applied toward the Ed.S. degree, provided it meets the program requirements of the particular department and the time limitation stated below.

A student in his or her last semester of work toward the master’s degree who does not need a full load to complete the course requirements of his or her master’s program may register for work toward the Ed.S. degree, in the amount needed to complete full registration loads.

In some cases, foreign educational credentials may not meet the Graduate School’s criteria for transfer of credit. It may be necessary for students in this situation to secure an evaluation of their credentials from World Education Services Inc., an external foreign credential evaluation service. Additional information on their services can be found at their Web site www.wes.org.

Time Limit

All requirements for the Ed.S. degree must be completed during the six years (18 fall, spring, and summer semesters) immediately preceding the date on which the degree is to be awarded.

Plan of Study

Each department or program participating in the Ed.S. degree has established a framework of requirements for the degree that indicates the general structure of its program. At or before initial registration, each student will develop a formal plan of study for the degree, designating all courses he or she plans to take in the program. In reaching decisions,
the student should consult with the program director. The student will file a completed plan with the program director who, upon approving the plan, will distribute copies to the Graduate School and to the student, retaining one copy for departmental files.

A plan of study may be amended at any time using appropriate forms and following the procedure described above. Until formal approval of an amended plan of study is made, the original or current modification of the plan will be in effect.

Admission to Candidacy

Requirements for admission to candidacy for the Ed.S. degree are the same as those for the master’s degree in the same area. A student should note any foreign language requirement. Application forms and instructions for applying for admission to candidacy may be obtained from the Graduate School office and on the Web. A plan of study must be filed in the Graduate School prior to admission to candidacy.

Examinations

In addition to the regular course examinations, a final comprehensive examination will be required. The examination may be written or oral or both, at the discretion of the major department, and can be changed at any time. No candidate is eligible for the final examination until approved by the appropriate program director. A student may take the final oral or written examination only twice.

The examination will be prepared and conducted by a committee of at least three people, including the program director in the major area of study and a designee (or two or more people from the major area of study, designated by the program director) and the program director (or a designee) from the minor field of study, if one has been included in a program. No candidate will be judged to have completed the examination(s) satisfactorily who has not satisfied the major department. Committees will be appointed by the dean of the Graduate School on request of the major program director.

If a candidate receives failing marks in both the minor area of study and the professional education field, the candidate will be judged to have failed the examination. If a candidate fails either the minor examination or the professional education examination, the committee as a whole will reach a decision about the satisfactory or unsatisfactory nature of the candidate’s performance on the examination. If a candidate does not have a minor field, the committee members will meet and will reach a decision in the event the student fails the professional education examination.

All written examinations will be kept on file by the program directors for one year following the date of the examination, and students will have the right to confer with their program directors regarding the strengths and weaknesses shown on the examinations.

Application for Graduation

Each candidate for an educational specialist degree must apply for the degree through the Office of the Graduate School no later than the registration period of the semester or the first term of the summer session in which requirements for the degree are to be completed. The form “Application for Degree” is required for this purpose and must be completed in duplicate.

DOCTORAL DEGREES

The University offers two types of doctorates. One kind is for students who intend to become researchers in a given field. The other is for students who intend to become highly skilled practitioners, but not researchers.

The doctor of philosophy degree is regarded as the researcher’s degree. Program requirements may include the acquisition of special skills that would be useful in conducting scholarly investigation — traditionally, a working knowledge of one or more foreign languages or suitable alternatives approved by the department. Ph.D. candidates are expected to demonstrate their potential for careers as publishing scholars by writing and defending a dissertation of publishable quality.
When departmental requirements are more stringent than those of the Graduate School, the department may terminate a student’s doctoral admission when unsatisfactory progress toward completion of the degree requirements is evident.

Admission

Admission is limited to those whose scholastic records show distinct promise of success in doctoral study. Admission to the Graduate School and the earning of a master’s degree from The University of Alabama do not guarantee acceptance into a doctoral program. A student obtaining the master’s degree at the University must submit to the dean of the Graduate School written permission from the department head or division dean to be eligible to work toward the doctoral degree. Students in doubt about their acceptance into doctoral programs should consult with departmental advisers and the Graduate School.

Residency Requirements

The intent of the residency requirement is to ensure that doctoral students contribute to and benefit from the complete spectrum of educational, professional, and enrichment opportunities provided on the campus of The University of Alabama.

The minimum period in which the doctoral degree can be earned is three full academic years of graduate study.

The student must spend an academic year in continuous residence on the campus of The University of Alabama as a full-time student in the Graduate School (or, if specifically approved by the faculty concerned, one full summer consisting of two terms, preceded by or followed by one regular semester). This requirement can be satisfied only by enrolling in coursework; dissertation or thesis research cannot be used.

Instructors, fellows, and assistants who teach more than 3 hours should expect to spend more than the minimum period in residence.

Transfer of Credit

Acceptable graduate credit, earned in a regionally accredited institution in which the student was enrolled in the graduate school, may be transferred and applied to the requirements for a doctoral degree. Only credit that was earned during the six-year period (18 fall, spring, and summer semesters) preceding admission to the doctoral program may be considered for transfer. Evaluation of credit for transfer will not be made until the student has enrolled in the Graduate School of The University of Alabama. Credit will not be accepted from any institution at which the student failed to achieve a “B” average on all graduate work attempted. A student initiates at the Office of the Graduate School the request for evaluation of graduate credit obtained at another institution. The student must also ensure that the Office of the Graduate School has an official (not faxed or copied) transcript of the credit involved.

With the approval of the student’s department and the dean of the Graduate School, up to one-half of the required coursework for a doctoral degree may be transferred from another institution.

In some cases, foreign educational credentials may not meet the Graduate School’s criteria for transfer of credit. It may be necessary for students in this situation to secure an evaluation of their credentials from World Education Services Inc., an external foreign credential evaluation service. Additional information on their services can be found at their Web site www.wes.org.

Time Limits

All requirements for the doctoral degree must be completed within the seven-year period (21 fall, spring, and summer semesters) following admission to the doctoral program, with the following specific exceptions: psychology, modern languages and classics, and English (eight years if entering the doctoral program with a baccalaureate, not master’s, degree). Previous graduate credit may be applied to the doctoral degree
if the credit was earned during the six-year period prior to admission to the doctoral program. Such credit should be identified clearly on the Outline of Doctoral Program for the Ph.D. form, which is available under “Web Forms for Students” on the Graduate School’s home page (http://graduate.ua.edu). Only those students graduating within the time limit for their doctoral program may apply previous graduate credit to the doctoral degree if the credit was earned during the six-year period prior to admission to the doctoral program.

Plan of Study

Soon after admission to the Graduate School, each doctoral student is expected to complete the Outline of Doctoral Program for the Ph.D. form. This form is available from the Graduate School and at the Graduate School’s home page (http://graduate.ua.edu) under “Web Forms for Students.”

Preliminary Examination

A preliminary or qualifying examination is required of all doctoral candidates. This examination is given after (a) any foreign language/research skill requirements are met (for Ph.D. students only); (b) two full years of graduate study are completed; and (c) the supervisory committee deems the student to have adequate preparation in the major and minor fields of study.

The examination is conducted by the student’s supervisory committee or other committee established in the program area. Since one of the purposes of the preliminary examination is to determine the student’s research competence, the examination should be completed at least nine months before the degree is to be awarded. The preliminary (comprehensive or qualifying) examination may be taken only twice.

Admission to Candidacy

When the student has successfully passed the preliminary examination and successfully defended a proposal, the student should be recommended by the major department or school to the dean of the Graduate School for admission to candidacy for a degree.

Continuous Registration

Once a student has met the requirements for admission to candidacy for a doctoral degree, the student (except for those in the D.M.A. program) is expected to pursue completion of the dissertation without interruption by enrolling each semester for at least 3 hours of dissertation research. This is true whether or not the student has submitted an Application for Admission to Candidacy (http://graduate.ua.edu/forms/formidx.html). A Ph.D. student must have completed a minimum of 24 hours of such work upon completion of the dissertation. The amount of dissertation research for which a student enrolls in any given semester should be commensurate with the progress a student is expected to make on the dissertation, as well as reflective of the extent to which University facilities and faculty time are invested in the proposed activities. See p. 91–92 for more information on this requirement.

Dissertation

A dissertation showing ability to conduct independent research and skill in organization and presentation must be prepared on a topic in the major field. It must constitute a definite contribution to knowledge. The subject of the dissertation must be approved by the dissertation committee of the major department or division and by the dean of the Graduate School.

A dissertation committee, with the director of the dissertation as its chairperson, supervises the preparation of the dissertation. The committee shall have not fewer than five members, appointed by the dean of the Graduate School. A form appointing a dissertation committee is available at the Graduate School’s Web site. All members of a dissertation committee must be members of the Graduate Faculty. The committee chair must be a full member of the graduate faculty (see p. 20). One member must be from outside the student’s major department.
The dissertation must comply with the regulations in *A Student Guide to Preparing Theses and Dissertations*. Copies may be obtained from the Graduate School office and on the Graduate School’s Web site. Deadlines and other information useful to doctoral students are also contained in this booklet.

**Article-Style Dissertations.** This approach is intended primarily for doctoral students whose final, completed dissertation will consist of a number of journal-style manuscripts or articles. It is an option available only to students in certain fields. A complete list of these fields is available from the Graduate School and at the Graduate School’s Web site.

Article-style dissertations must be based upon research completed while the student is enrolled at the University of Alabama. For each article used, the student must be the first author, or equivalent, as defined by the discipline.

The dissertation must be the student’s original idea. It must be a unified work and include a sequence of articles of publishable quality around a theme, with a comprehensive review of literature demonstrating an in-depth understanding of the unifying framework.

There will be introductory material to describe the studies, show how they are related, and explain their significance. There will be connecting language to bridge each study to the next, as well as a summary making clear the importance of the studies, integrating the major findings, and discussing the implications for the overall topic. These components do not have to be separate sections or chapters. They may be parts of the manuscripts or may be accomplished in an abstract.

All parts of both traditional and article-style dissertations must conform to the provisions set forth in *A Student Guide to Preparing Theses and Dissertations*, except when the circumstances of a specific project require deviation. Students considering the article-style approach should contact the Graduate School before beginning their work if they have questions concerning specific problems or deviations from traditional procedure.

The candidate must give members of the dissertation committee a minimum of two weeks to read the dissertation before the date of the final oral examination. After successful defense of the dissertation, and at least six weeks before graduation, the candidate must deposit in the Office of the Graduate School two copies of the dissertation (reproduced in an acceptable manner on 100-percent rag bond paper) approved by the head of the major department or division and the members of the dissertation committee. The dissertation must be accompanied by a receipt for the binding fee.

The student must also deposit with the dean of the Graduate School two copies of an abstract of the dissertation, consisting of not more than 350 words, approved by the head of the major department or division and the chairperson of the dissertation committee. Approval of the dissertation by the graduate dean is necessary before graduation.

Candidates must satisfy publication requirements by having their dissertations microfilmed by University Microfilms Inc. of Ann Arbor, Michigan, and by publishing the abstract in University Microfilms’s *Dissertation Abstracts International*. The charge for these services is paid to the Office of Student Receivables, and a receipt for payment must be delivered to the Graduate School. A copyright may be obtained through University Microfilms for a nominal fee.

**Protection of Human Subjects for Research**

Scientific research involving human subjects has produced substantial benefits for society, but it also has posed troubling ethical questions. The mission of the University’s Institutional Review Board for Protection of Human Subjects is to ensure that research involving human subjects is conducted ethically. University and federal policies require that review and approval to use human subjects in research precede the research. In the case of dissertation research that involves the use of human subjects, the principal investigator is responsible for contacting the college Human Research Review Committee to obtain approval for the planned research.

The request form for IRB approval can be seen at http://osp.ua.edu/irb.html.
Final Examinations
When the dissertation has been completed, the candidate will be given a final oral examination by a committee of not fewer than five members, one of whom must be from outside the student’s major department or, for students in the College of Education, outside the student’s area (not program), and appointed by the dean of the Graduate School. This examination will primarily concern the candidate’s research work, as embodied in the dissertation, and the field in which the dissertation lies, but it may encompass the complete program for the degree. The results of the examination must be reported to the Office of the Graduate School at least six weeks before the commencement at which the degree is to be conferred.

Application for Graduation
Each candidate for a doctoral degree must apply for the degree through the Office of the Graduate School no later than the registration period of the semester or the first term of the summer session in which requirements for the degree are to be completed. The form “Application for Degree” is available on the Graduate School’s Web site, is required for this purpose, and must be completed in duplicate.

Doctor of Education Degree
A minimum of two years of graduate study beyond the master’s degree is required for the completion of the Ed.D. program. The student is required to complete 60 semester hours in approved graduate courses beyond the master’s degree, or 90 semester hours of approved graduate courses, and to defend a dissertation. Specific regulations governing the Ed.D. program are described in the “College of Education” section of this catalog.

Doctor of Musical Arts Degree
The D.M.A. degree requires a minimum of 46 semester hours beyond the master of music degree, plus recitals and other examinations as appropriate. Specific requirements for each major area are outlined in the “College of Arts and Sciences” section of this catalog.

Doctor of Philosophy Degree
The doctor of philosophy degree is regarded as a research degree and is granted on the basis of scholarly proficiency, distinctive achievement in a special field, and capacity for independent, original investigation. The first two criteria will be tested in coursework and a comprehensive examination, the last in a dissertation that must present clearly and effectively the results of substantial research. A combination of these accomplishments, rather than the mere accumulation of residence and course credits, is the essential consideration in awarding the Ph.D. degree.

The following are specific requirements pertaining only to the Ph.D. degree:

Field of specialization. A defined field of specialization is required of all candidates for the doctor of philosophy degree. A minimum of 48 semester hours of course credit is required. Candidates should consult their departments or the appropriate section of this catalog for additional requirements. The doctoral course as a whole must be unified, and all its parts must contribute to an organized program of study and research. In addition, a student must complete a minimum of 24 hours of dissertation research.

Research skill/language requirements. There is no University-wide foreign language/research skill requirement for doctoral students; each college or department offering the Ph.D. degree may set its own requirements. This policy reaffirms the importance of research skills and foreign languages in the highest academic degree granted by American universities, but it also recognizes that the departments offering the degrees are in the best position to determine the number and nature of such requirements in the interests of their students.

For further information about Ph.D. foreign language/research skill requirements, students may contact their departments or the Graduate School office.
Interdisciplinary Studies

The doctor of philosophy degree is also offered in interdisciplinary studies. This degree program is administered by the Graduate School. In addition to the general requirements for the Ph.D. degree, the program of study and the supervisory committee for the prospective interdisciplinary degree candidate must be approved by the dean of the Graduate School before the student is admitted to the program.

COOPERATIVE GRADUATE PROGRAMS

To utilize more effectively the educational resources of the state and to prevent excessive duplication of graduate programs, The University of Alabama at Birmingham, The University of Alabama in Huntsville, and The University of Alabama have agreed to the establishment of several cooperative graduate programs. Inquiries regarding available cooperative programs should be directed to specific departments and to the admissions staff of the Graduate School of The University of Alabama.
FIELDS AND COURSES OF INSTRUCTION

COURSE-NUMBERING SYSTEM

Under no circumstances will graduate credit be given for courses below 400. Courses numbered 400–499 are primarily for advanced undergraduate students. Graduate students may use 6 hours of 400-level courses for graduate credit only if the following conditions are met:

(a) The department offering the courses also offers a graduate degree.
(b) Prior approval is obtained from the student's graduate adviser and the Graduate School.
(c) The course is taught by a member of the graduate faculty.
(d) The course is not offered at the 500 level.
(e) Graduate students in such courses are required to do appropriate extra work and demonstrate a higher level of mastery.

General guidelines for how requirements of these courses should differ for graduate students are as follows:

1. Graduate students should submit additional papers that require more analysis, synthesis, evaluation, and application of knowledge.
2. Graduate students should complete additional, higher-level readings.
3. Graduate students’ oral and written work should demonstrate greater depth of thought.
4. Graduate students should attend additional meetings with the professor to discuss course content in greater depth.

Courses numbered 500–599 are primarily at the master’s level. A maximum of 6 semester hours of 400-level course credit may be accepted for a master’s degree program if approval has been obtained in the semester prior to taking the 400-level coursework. No 400-level credit (except the 6 hours accepted toward a master’s degree) may be accepted for a doctoral degree program.

Courses numbered 600–699 are primarily at the doctoral level.

Courses with numbers connected by a colon (e.g., “EN 533:534”) are courses for which credit is given separately for each semester. In some cases, credit is given for the first semester separately, but not for the second semester unless the first semester has been previously completed.

Unless otherwise indicated, all statements of numbers of hours included in the course descriptions refer to semester hours of credit. In the case of courses connected by a colon, the credit indicated is for each semester.
The master of arts program in American studies is designed to enable students to study American culture from a broad, interdisciplinary perspective, combining basic cultural studies with advanced professional training. Drawing upon the graduate resources of the University at large, students develop individually tailored programs of coursework that reflect their own special interests. Students may pursue an academic track or a professional track. Our graduates have used the M.A. in American studies as preparation for positions in journalism, public relations, library service, historical preservation, community organizing, private foundations, law, and education.

Admission Requirements
A student interested in pursuing a master’s degree in American studies must first apply for admission to the Graduate School and satisfy the school’s minimum requirements as stated in this catalog. Each applicant should submit an acceptable score on either the general test of the Graduate Record Examination or the Miller Analogies Test in support of his or her application. The dean of the Graduate School will then forward the student’s records and application to the Department of American Studies for evaluation. Although a basic undergraduate background in American culture (literature, history, and political thought) is preferable, it is not a prerequisite for admission to the program.

General Degree Requirements
Students should refer to the Graduate Handbook of the Department of American Studies for additional information.

Plan I. The student earns a minimum of 24 semester hours of credit in coursework and completes a thesis.

Plan II. The student earns a minimum of 30 semester hours of credit in coursework.

Under either plan, the student’s program must include the following 18 hours of American studies courses: AMS 585, AMS 586, AMS 595, AMS 596, AMS 597, and 6 hours of seminars. A student may take up to 12 hours outside the department, choosing a single disciplinary or cognate area (literature, history, broadcast and film, women’s studies, journalism, the South, etc.) or two minor areas. Most students, however, choose a focus within American studies.

Comprehensive Examinations
Under either Plan I or Plan II, each candidate for the master of arts degree in American studies will write a comprehensive examination designed to reflect the individual’s program. The comprehensive examination is intended as an integrating, synthesizing experience that enables the student to draw together the various component areas of his or her course of study. The results of the examination should attest to the student’s acquisition of an interdisciplinary perspective, as well as an understanding of American culture as a whole.

Course Descriptions
AMS 500 Internship. Three hours. Pass/fail.
An internship opportunity that combines independent study and practical field work focusing on a particular problem or topic related to American culture and experience. Recent examples include internships in museum management, historic preservation, archaeological research, television production, category fiction, promotion of academic
programs, documentary television, academic public relations, with *Alabama Heritage* and *Louisville* magazines, and with the Paul Bryant Museum.

**AMS 502 Special Topics in African-American Studies.** Three hours. Research and discussion of selected African-American topics.

**AMS 505:506 Directed Study.** One to three hours each semester. Prerequisite: Sponsorship by a faculty member.

**AMS 530 Special Topics.** One to three hours. Selected American topics in American studies offered by AMS faculty members or Americans from related departments. Recent example: Women in America.

**AMS 531 Studies in Popular Culture.** Three hours. Research and discussion of selected topics in American popular culture: literature, music, network broadcasting, advertising, film, and drama.

**AMS 532 Studies in the Arts.** Three hours. Research and discussion of selected topics in literature, film, painting, photography, and architecture, and the role of the artist in 19th- and 20th-century America.

**AMS 533 Studies in American Thought.** Three hours. Research and discussion of selected topics in American intellectual history: the law, nature and the city, religion and the state, liberalism and conservatism, Utopianism, and science and society.

**AMS 534 Studies in the South.** Three hours. Research and discussion of selected topics in Southern culture: ethnicity, regional consciousness, women in the South, and change and continuity.

**AMS 535 Studies in Ethnicity, Class, and Gender.** Three hours. Research and discussion of selected topics in ethnicity, class, and gender in America.

**AMS 536 Studies in Social Experience.** Three hours. Research and discussion of selected topics in the American social experience.

**AMS 537 Studies in the West.** Three hours. Research and discussion of selected topics in the American West as period, place, experience, and imagination: discovery and exploration; physical and cultural transformation; and value, ethic, and ideal.

**AMS 538 Studies in African-American Culture.** Three hours. Research and discussion of selected topics in African-American culture.

**AMS 550 Women in America.** Three hours. A lecture/discussion course on the role of women in American culture which concentrates on the major social and cultural contributions of women from all backgrounds and walks of life. Key questions involve the historic role of women in America and how their status reflects the structure of society as a whole. Most of the readings focus on the twentieth century and the relationships between individual women and the cultural networks in which they participate and help create.

**AMS 585 American Experience, 1620–1865.** Four hours. An exploration of the formative years of the American cultural experience, from early European encounters with the New World to the attainment of continental nationhood. The course will draw upon insights from many disciplines and will include several kinds of cultural evidence (for example: literature, art, and photography; religious, political, and social thought and behavior; and economic, technological, and geographical development) as well as consideration of recent major synthetic works of cultural scholarship. Topics covered include the growth of colonial societies; the Revolutionary movement and the political foundations of the American Republic; the Market Revolution and the rise of middle-class culture; the antebellum South and the emerging West; and the origins and evolution of American cultural diversity. Offered fall semester.

**AMS 586 American Experience, 1865–1960.** Four hours. An exploration of the development of the American cultural experience since 1865, focusing on the major material forces and intellectual currents that helped shape American attitudes, assumptions, institutions, behavior, and values. The course will draw upon insights from many disciplines and will include several kinds of cultural evidence (for example: literature, art, and photography; religious, political, and social thought and behavior; and economic, technological, and geographical development) as well as consideration of recent major synthetic works of cultural scholarship. Topics addressed and
readings assigned are chosen to enlarge awareness of the transformation of America to a diverse, metropolitan, industrial society. These will include the relationship between nature and the city; the industrial revolution and changes in the workplace; immigration; changing class and gender relationships; the rise of leisure; and the development and triumph of modern corporate/consumer culture. Offered spring semester.

AMS 587 Methodology and Scholarly Writing. Three hours.
A team-taught course that considers American studies as an area for research, teaching, and writing. Introduction to bibliography, research tools, the use of unpublished manuscripts, methodological problems of American studies, and the academic/scholarly journal marketplace.

Required of all American studies graduate teaching assistants assigned to AMS 150. Includes administrative techniques and test construction.

AMS 589 Approaches to Teaching American Studies. Three hours.
Prerequisite: Permission of the department.
A study of basic approaches to interdisciplinary teaching in American culture at the college level, along with supervised teaching experience.

AMS 591 American Period Seminar. Three hours.
In-depth study of a particular period or era in American historical experience. Recent examples include the Ragtime Era, the Jazz Age, the Great Depression, the Season of 1954–55, the ’60s, contemporary America, the Postwar Period, the Romantic Revolutionaries (1905–14), the American Avant Garde (1893–1920), World War II: the Good War, the South and ‘30s Expression, the Civil Rights movement, the ’50s, America between the Wars, the Colonial Period, the Aspirin Age, and Post Modern America.

AMS 592 American Topics Seminar. Three hours.
Study of special topics within the American cultural experience. Recent examples include American literary realism, women in America, the Civil Rights movement, the picture press, music and ethnicity, the politics of culture, regionalism in American culture, the changing American family, homelessness in America, American autobiography, American monuments, contemporary American folklore, Southern popular culture, Southern iconoclasts, politics and culture, historical memory, America by design, the other in America, women in America, and race in America.

AMS 593 American Studies Colloquium, 1620–1865. One hour.
Corequisite: AMS 585.
Discussion of methodological and theoretical issues in American studies.

Corequisite: AMS 586.
Discussion of methodological and theoretical issues in American studies.

AMS 597 Topics in American Cultural Analysis. One hour.
Coordinating course required of M.A. candidates in their final semester.

AMS 598 Research Not Related to Thesis. One to three hours. Pass/fail.


DEPARTMENT OF ANTHROPOLOGY (ANT)
Professor Vernon J. Knight, Chairperson  Office: 19 ten Hoor Hall

The Department of Anthropology of The University of Alabama offers programs leading to the master of arts degree and the doctor of philosophy degree. These programs seek to furnish a balanced view of anthropological inquiry by means of intensive training in the literature, methods, techniques, and skills required for research in anthropology. The M.A. builds on the inherent strengths of medium-sized departments — the ability to provide necessary background through small lecture courses and specialized training through the tutorial format of seminars and individually directed research projects. In short, the M.A. program provides students with a scholarly comprehension of the discipline, practical experiences in anthropological research situations, and the initial competency required of a professional anthropologist. Additionally, an inter-institutional program leading to the master’s degree is offered in cooperation with the Department
of Anthropology of The University of Alabama at Birmingham. See specific details at the UA departmental Web site: http://www.as.ua.edu/ant.

The Ph.D. curriculum builds on the strengths of the master’s degree program by concentrating on two emphases: 1) the archaeology of complex societies, pertaining to the emergence and spread of early civilizations in the Americas, and 2) medical anthropology, the study of the influence of social relations and culture on psychological and biological adaption. The doctoral program is designed to prepare graduates with the skills needed to move easily into either academic or non-academic positions.

Admission Requirements

Students seeking M.A. degrees in anthropology at The University of Alabama must satisfy departmental entrance and examination requirements. An acceptable score on the Graduate Record Examination general test is required for admission. Students seeking Ph.D. degrees must have already completed an M.A. in anthropology, either at Alabama or elsewhere, before undertaking doctoral work. Students are required to have taken graduate-level coursework in at least three of the four subdisciplines in anthropology before being admitted to the Ph.D. program.

General Degree Requirements

For the M.A. degree, each student must complete a minimum of 30 credit hours in courses numbered 500 or above. Without special prior approval of the student's adviser, the student's committee, and the director of graduate studies, neither ANT 598 Individual Investigations nor ANT 599 Thesis Research will count toward the 30 hours.

All M.A. graduate students must successfully complete a core program consisting of one graduate course in at least three of the four fields of anthropology: ANT 536 Social Anthropology, ANT 501 Anthropological Linguistics, ANT 570 Principles of Physical Anthropology, and ANT 525 Survey of the History of Archaeology. In addition, the seminar course ANT 510 Research Methodology is required.

Additional requirements include a comprehensive examination to be taken following the second semester in residence, and reading knowledge of a foreign language or demonstration of a research skill such as statistical analysis. Thesis and nonthesis options are available and the specific requirements for these options are published on the department's Web site: www.as.ua.edu/ant. The M.A. degree will be conferred by The University of Alabama.

For the Ph.D. program each student must complete 48 credit hours in courses numbered 500 or above. No more than 24 hours can be transferred from an M.A. program to the Ph.D. program. A graduate core course in the remaining fourth subdiscipline is required of all doctoral candidates. A reading facility in one foreign language appropriate to the research topic must be demonstrated. Knowledge of quantitative research skills must also be demonstrated by the successful completion of three hours beyond any coursework already completed for the M.A. degree. Additional requirements include two core courses for the archaeology and medical tracks (for specific course requirements see the department's Web site at http://www.as.ua.edu/ant/grad.htm) and a preliminary examination, which must be passed before undertaking dissertation research. Six to 12 months of ethnographic or archaeological field work is expected, followed by analysis and the writing of the dissertation. The dissertation itself will then be presented and defended before the student’s committee and other interested faculty.

Course Descriptions

Prerequisites: Twelve hours in anthropology and graduate standing, or permission of the instructor.

600-level courses are under development and can found at the Department of Anthropology's Web site at http://www.as.ua.edu/ant.
ANT 501 Anthropological Linguistics. Three hours.
The scientific study of natural language; phonology and grammar, lexicon, and meaning; and the role of linguistics in anthropological research. Offered once a year. Maxwell, J. Nuckolls.

ANT 504 Analysis of Kinship Systems. Three hours.
Techniques, methods, and theories bearing on the analysis of kinship semantics. First-hand experience with the analysis of a particular kinship system. Offered according to demand. Maxwell.

ANT 505 Cognitive Anthropology. Three hours.
The cultural and linguistic basis of cognitive organization, local systems of folk classification, and the collection and analysis of data of shared cultural and social information. Offered according to demand. Dressler, Maxwell, C. Nuckolls.

ANT 507 Sexual Stratification in Society. Three hours.
An examination of the various roles women play in society, including their relationships to the family, the economy, political organizations, and the religious system. The analysis juxtaposes women and men at all times. Offered according to demand. Singer.

ANT 508 Ancient Civilizations of Mesoamerica. Three hours.
A survey of the origin and development of Mesoamerican civilizations. Offered according to demand. Diehl, Krause, LeCount.

ANT 509 Ancient Maya Civilizations. Three hours.
Ancient Maya civilizations in Mexico and Central America from the earliest inhabitants until the Spanish Conquest. Diehl, Jacobi, LeCount.

ANT 510 Research Methodology. Three hours.
Prepares students in the scientific method and research skills used in anthropology. Instruction emphasizes grant writing, study design, interview and observation techniques, and the collection, management, and analysis of data using a statistical software package. Oths.

ANT 511 Culture, Health, and Healing. Three hours.
Provides the student with an overview of health, illness, and healing as they vary between and within cultural systems. Dressler, Jacobi, Oths.

ANT 512 Peoples of Europe. Three hours.
A survey of the standards, customs, and beliefs that typify European cultures. Offered according to demand. Galbraith, Murphy.

ANT 513 Peoples of Latin America. Three hours.
A survey of the standards, customs, and beliefs that typify Latin American cultures. Offered according to demand. Diehl, Dressler, Murphy, J. Nuckolls, Oths.

ANT 514 Peoples of Africa. Three hours.
A survey of the standards, customs, and beliefs that typify African cultures. Offered according to demand. Krause, Singer.

ANT 515 Peoples of East Asia. Three hours.
A survey of the standards, customs, and beliefs that typify East Asian cultures. Offered according to demand. Maxwell.

ANT 516 Peoples of Southeast Asia. Three hours.
A survey of the standards, customs, and beliefs that typify Southeast Asian cultures. Offered according to demand. Maxwell.

ANT 517 Peoples of the Pacific. Three hours.
A survey of the standards, customs, and beliefs that typify the cultures of Oceania. Offered according to demand.

ANT 518 Development in Non-Western Cultures. Three hours.
A theoretical and descriptive study of social change and development in non-Western societies. Major emphasis will be on the effect of change on indigenous institutions. Offered according to demand. Singer.

ANT 519 Myth, Ritual, and Magic. Three hours.
A survey of the anthropological literature on religion, including such topics as myth, ritual, magic, witchcraft, totemism, shamanism, and trance states. Offered according to demand. Murphy, C. Nuckolls.
ANT 520 Background of Anthropological Thought. Three hours. An intensive review of the work of several early figures in the development of social theory (e.g., Marx, Freud, Durkheim, and Weber), emphasizing their relevance for modern anthropology. Offered according to demand. Dressler, Krause, Murphy.

ANT 521 Ethnography. Three hours. Planning, preparing, and executing ethnographic field work. Problems of health, logistics, data recording, obtaining support, and ethics. Observation and interviewing exercises. Offered according to demand. Maxwell.

ANT 522 Topics in Cultural Anthropology: Political Anthropology. Three hours. An examination of the structure and organization of the political process and the sources of political power in nonindustrial societies. Offered according to demand. Singer.

ANT 523 Topics in Cultural Anthropology: Legal Anthropology. Three hours. An examination of legal theory and legal processes from an anthropological perspective. Offered according to demand. Singer.


ANT 525 Survey of the History of Archaeology. Three hours. A critical examination of archaeology's history as a science, with emphasis on intellectual trends, changes in method and theory, and recent developments. Offered once a year. Brown, Diehl, Knight, Krause.

ANT 526 The Archaeology of Eastern North America. Three hours. An examination of the origin and development of pre-Columbian and early historic cultures of eastern North America. Offered according to demand. Brown, Knight, Krause.

ANT 527 The Archaeology of Western North America. Three hours. An examination of the origin and development of pre-Columbian and early historic cultures of western North America. Offered according to demand. Krause.

ANT 528 Analytical Archaeology. Three hours. Contemporary issues in concept formation, theory construction, methods, and techniques. Offered according to demand. Brown, Krause, Knight.

ANT 529 The Archaeology of Europe. Three hours. An examination of the origin and development of prehistoric and early historic European cultures. Offered according to demand. Krause.

ANT 530 The Archaeology of Africa. Three hours. An examination of the origin and development of prehistoric and early historic cultures of sub-Saharan Africa. Offered according to demand. Krause.

ANT 535 Sociolinguistics. Three hours. Interaction of the characteristics of language varieties, their speakers, and their functions in social communities. The analysis of linguistic codes and encoded information. Offered according to demand. Maxwell, J. Nuckolls.

ANT 536 Social Anthropology. Three hours. Social organization and structure, social life and institutions, especially in nonliterate societies; and kinship, descent groups, marriage, residence, and local group composition. Offered every third semester. Dressler, Krause, Murphy, C. Nuckolls, Oths.

ANT 537 Topics in Social Anthropology: The Analysis of Kinship. Three hours. Contemporary issues in the study of kinship, emphasizing semantics, typology, lexicon, the psychological reality of kin terms, the extensional hypothesis, and formal accounts. Offered according to demand. Maxwell.

ANT 538 Topics in Social Anthropology: Social Structure. Three hours. An examination of contemporary issues in the study of descent groups, marriage, residence, and local group composition in nonindustrial societies. Offered according to demand. Dressler, Krause, Maxwell, Murphy, C. Nuckolls.

ANT 543 Advanced Field Investigations in Archaeology. Three to twelve hours. Directed field study in the excavation and analysis of archaeological deposits. Each student must design and conduct a research project, then adequately report the results. Off campus. Brown, Diehl, Knight, Krause.

ANT 550 Problems in Anthropology. Three to six hours. Devoted to issues not covered in other courses. Offered according to demand.
ANT 560 Anthropology and Natural History Museums. Three hours.
Examines the historical connections between anthropology and natural history museums in the U.S. Explores the present operation of such museums and develops exhibits based on collection studies. Brown.

ANT 570 Principles of Physical Anthropology. Three hours.
A lecture course designed to refine the student’s knowledge of research on nonhuman primates, fossil hominids, population genetics, and human variation and adaptation. Offered once a year. Bindon, Jacobi.

ANT 571 Fossil Man and Human Evolution. Three hours.
A survey of the discoveries, methods, and theories that provide the background for modern research in macroevolution. Jacobi.

ANT 572 Seminar in Human Evolution. Three hours.
A combined lecture and seminar course that explores various theories of hominid phylogeny, the theorists responsible, and the considerations that influenced their thoughts. Jacobi.

ANT 573 Human Osteology. Four hours. Two hours’ lecture, two hours’ laboratory.
A detailed introduction to human osteology, emphasizing the identification of fragmentary remains and the criteria for determination of age, sex, and race. Offered according to demand. Jacobi.

ANT 575 Human Adaptability. Three hours.
An introduction to the biological bases of human adaptability. Offered according to demand. Bindon, Jacobi.

ANT 576 Nutritional Anthropology. Three hours.
An introduction to anthropological inquiries in nutrition — including food habits, food systems, and dietary variability — from a cross-cultural perspective. Offered every fourth semester. Bindon.

ANTH 600 Medical Anthropology.
Seminar addressing health care systems and theories cross-culturally, including historical changes and examination of a wide variety of simpler and more complex systems. (Taylor, Wheatley)

ANTH 601 Forensic Approaches to Osteology.
Applied human osteology, emphasizing ability to identify age, sex, and population type of skeletal material. Effects of disease and behavior on bones. (Wheatley)

ANTH 602 Classics in Anthropology.
Close reading of major classics in anthropological literature; to include one each from the four main subfields of anthropology.

ANTH 603 As Others See Us.
Joint American studies/international studies seminar that surveys international perceptions of U.S. culture. (Hesse)

ANTH 605 Advanced cultural Anthropology.
Critical review of theoretical approaches in cultural anthropology. (Taylor, McKenna)

ANTH 606 World Ethnography.
Kinship, economy, social control, religion, and ritual for peoples in North America, South America, Africa, or Asia. Focus on one area. (McKenna, Taylor)

ANTH 607 Social Structure.
Theoretical works in political anthropology, economic anthropology, or kinship. Emphasis varies according to the instructor. (McKenna)

ANTH 609 Advanced Archaeological Anthropology.
Principal theoretical approaches in 19th- and 20th-century archaeology; historical, processual, and postprocessual. (Hesse)
ANTH 610 Advanced Physical Anthropology.
Human evolution, primatology, race, human genetics. Tasks performed by physical anthropologists. (Wheatley)

ANTH 611 Field Archaeology. One to six hours.
Archaeological field and laboratory techniques, including excavation, surveying, and artifact analysis and description; general problems of archaeological interpretation. (Bergstresser, Hesse)

ANTH 614 Geoarchaeology.
Survey of geological methods as applied to archaeological questions. Practicum in geoarchaeological laboratory and analytic methods using samples from archaeological sites in Alabama and the Middle East. (Brande)

ANTH 615 Ethnographic Field Methods. Three to six hours.
Classroom instruction and practical experience in techniques of ethnographic fieldwork, including participant observation, household surveys, structured and unstructured interviewing, and genealogies.

ANTH 621 Field School in Industrial Anthropology.
Students will be introduced to field excavation techniques, field reconnaissance, and much of the technology used in this subfield of historical anthropology. Field measurements will be taken using a total station surveying instrument and GPS unit. Drawings and a large area map of the survey area will be produced using civil engineering software (PacSoft), CAD (AutoDesk Mini CAD), and GIS (ArcView). (Bergstresser)

ANTH 630 Animal Bone Archaeology. Three to six hours.
Introduction to methods and theories of zooarchaeological research. Practical experience in processing, identification, and interpretation of animal bone remains from archaeological sites. (Hesse)

ANTH 635 Ethnomedicine and Ethnopsychiatry.
Approaches and contributions of anthropology to the study of health, sickness, and healing. Physical environment and human adaptations as key determinants of health systems; culturally defined concepts of sickness, health, and healing; healing as social, as well as physiological, activity. Topics may include life stages, medical knowledge among different human groups, impact of culture contact on medical systems, ecological balance and population control, cultural definitions and treatment of abnormal behavior, healers, health and supernatural, social roles of the sick, and illness and social control. (Taylor)

ANTH 642 Archaeology of the American Industrial Revolution.
Techniques for interpreting and documenting the archaeological and other material remains of the American industrial revolution with a particular emphasis on the blast furnaces, mines, and other sites in the mineral region of central Alabama. (Bergstresser)

ANTH 650 Nationalism, Ethnicity, and Violence.
Social and cultural analysis of ethnicity and nationalist ideologies particularly where these have led to violent confrontations within modern nation-states. Considers primordialist versus constructionist theories of difference; the varying weight to be attributed to political, historical, and cultural factors in the study of nationalism; and the politics of culture versus the culture of politics. (Taylor)

ANTH 653 Primatology.
Biology, behavior, and distribution of living nonhuman primates with emphasis on field studies of old-world monkeys and apes. (Wheatley)

ANTH 655 Archaeology of Alabama.

ANTH 664 Political Anthropology.
The comparative analysis of political structures and process throughout the world, focusing especially on non-Western forms; a survey of anthropological attempts to understand the complex interplay of culture and power in human societies. (McKenna)

ANTH 675 Human Adaptability.
Introduction to the study of how humans adapt to their physical, biological, and social environment. Reviews ecological, demographic, nutritional, physiological, and health-related concepts and considers applications to case studies. (Wheatley)
ANTH 680 Anthropology of Slavery and Servitude.
Slavery as a social and cultural phenomenon in context of a broader investigation of relations of domination and exploitation in human social life. (McKenna)

ANTH 691 Special Problems in Cultural Anthropology. Two to six hours.
Supervised study of specified topic area; defined problem explored in depth. Topics determined by student and instructor interest in cultural anthropology.

ANTH 692 Special Problems in Archaeology. Two to six hours.
Supervised study of specified topic area; defined problem explored in depth. Topics determined by student and instructor interest in archaeology.

ANTH 693 Special Problems in Linguistics. Two to six hours.
Supervised study of specified topic area; defined problem explored in depth. Topics determined by student and instructor interest in linguistics.

ANTH 694 Special Problems in Physical Anthropology. Two to six hours.
Supervised study of specified topic area; defined problem explored in depth. Topics determined by student and instructor interest in physical anthropology.

ANTH 699 Thesis Research. One to three hours.
Independent development of research project. Admission to candidacy.

DEPARTMENT OF ART (ART)
Associate Professor William Dooley, Chairperson
Office: 103 Garland Hall

The Department of Art offers programs leading to the master of arts (studio), the master of arts (art history), and the master of fine arts (studio). The major studio areas in the department are ceramics, painting, photography, printmaking, and sculpture. (The content of individual courses, may be diverse and vary from traditional designations.) Concentrations within art history are offered in Medieval, Renaissance, Baroque and Rococo, 19th-century, 20th-century, and Asian art.

Credits earned at accredited institutions may be transferred. Such transfers will be determined after completion at this university of at least 12 semester hours, or one term in residence, and upon review by the student’s faculty committee. Graduate courses in both art history and art studio are normally taught only in the fall and spring semesters.

Admission Requirements
Applicants to all graduate programs must satisfy admission policies established by the Graduate School of The University of Alabama, listed earlier in this catalog. (The Graduate School does not require the MAT or GRE for admission to the graduate program in studio art; the GRE general test is required for admission to the graduate program in art history.) All application materials should be sent to the dean of the Graduate School at the time of application. Each studio applicant must submit a comprehensive portfolio of work directly to the art department. The portfolio should include a minimum of 20 works of art in the proposed major (chosen from the areas listed above). Slides and reproductions of artwork are preferred. It is recommended that a prospective graduate student hold a degree in art, having maintained at least a “B” average in art. Additional courses may be required of the applicant, which would make acceptance into the program conditional. All studio art students enter the M.A.-level graduate program. Residency is required of all studio art students.

Prospective graduate students in art history should hold the B.A. degree with a major in art history. The M.A. degree in art history is offered jointly by The University of Alabama and The University of Alabama at Birmingham. Application for admission may be made through the graduate school at either university. An applicant should have completed 24 semester hours in undergraduate art history courses and courses in related subjects, having maintained a “B” average. With fewer hours in preparatory courses, an applicant may be offered conditional acceptance into the program.
Degree Requirements

Master of Arts Degree in Studio Art

All new studio art students enter the M.A. program. The M.A. degree in studio art requires completion of a minimum of 30 semester hours of graduate work, including at least 6 hours in art history, 15–18 hours in a major studio field, 6–9 hours in a minor, or selected studio areas. Candidacy for the degree is determined by a review at the completion of 18–24 semester hours. A thesis exhibition and an oral review are required for successful completion of the program. Normally, at least three terms (non-summer/Interim) are required to complete the program. The degree program must be completed within six years.

Master of Fine Arts Degree in Studio Art

Admission to the master of fine arts program is by recommendation of a faculty review committee, which meets at the time of the candidate’s M.A. thesis exhibition. This committee reviews the student’s progress upon the completion of 24–30 graduate hours taken within the M.A. studio program. Hours must conform to the requirements of the M.A. program, representing completed coursework in studio and art history. The committee will recommend that the candidate continue within the M.F.A. program or finalize studies at the University with a completed M.A. degree.

The M.F.A. degree requires the completion of a minimum of 60 semester hours of graduate work, including at least 9 hours in art history, 24–39 hours in a major studio area, and 12–27 hours in other studio areas. The degree must be completed within six years of enrollment in the M.A. studio program. A graduate student may select a minor studio concentration of study or choose a variety of graduate-level classes offered within the art department or approved graduate-level elective courses. Admission to candidacy for the M.F.A. degree is determined by faculty review at the end of 45–57 semester hours of approved graduate credit. To successfully pass the candidacy review, the student must demonstrate a personal direction in his or her work of sufficient quality for an M.F.A. thesis exhibition.

A thesis exhibition is presented at the end of the candidate’s final term. During the exhibition, an oral examination is conducted by the student’s faculty committee. At that time, the candidate defends the exhibition and written artist’s statement.

Review procedure. A graduate review committee is established by each graduate student. The committee must consist of no fewer than four faculty members and can have an unlimited number of approved graduate faculty. Required appointees to this committee include the department chairperson (director of graduate studies), a faculty member from the major area of study, and a graduate faculty member in art history (selected by the student). The chairperson of the committee is the student’s major professor.

Master of Arts Degree in Art History

The M.A. in art history requires completion of 24 semester hours in art history, of which 6 hours may be taken in a related field. Courses are grouped into six general areas: Medieval, Renaissance, Baroque and Rococo, 19th-century, 20th-century, and Asian art. Students must take courses in three of the six areas, as well as ARH 550 Literature of Art. Students registered on the University of Alabama campus must take at least 6 hours of coursework at The University of Alabama and The University of Alabama at Birmingham.

Further requirements include (a) a reading knowledge of French, German, or another approved language, tested by examination; (b) a general written examination in art history prepared and read by the joint faculty; and (c) a written thesis (3–6 hours).

The M.A. degree must be completed within a six-year period to avoid loss of graduate credit for completed coursework.
Course Descriptions

Art, Studio (ART)

ART 502 Studio Art. Three hours.
Prerequisites: Twelve undergraduate hours in the specific studio field requested, review of portfolio, and permission of the department chairperson.
This course is open only to graduate students who are not enrolled in a graduate program in the Department of Art.

The prerequisite for the following 500-level courses is graduate standing in art in the specific studio field (as determined by a review of the faculty committee and the permission of the department chairperson and instructor). Courses are offered for 2–6 hours each semester, except for ART 506 and ART 508, which are offered for 3 hours each semester.

ART 506 Independent Studies. Three hours (each semester).
Students may make proposals for projects not taught in the regular curriculum. These must be approved by a faculty sponsor and the chairperson of the department.

ART 508 Special Projects. Three hours.

ART 510 Graduate Seminar. Three hours.
A critical examination of contemporary issues, philosophies, criteria, and ideas in art.

ART 602 Studio Art. Three hours.
Prerequisite: Six hours of ART 502. Open only to graduate students who are not enrolled in a graduate program in the Department of Art.

The studio courses listed below carry 2–6 hours of credit each semester; credit for more than 3 hours, however, requires permission of a faculty sponsor and the department chairperson. 500-level courses are repeatable in preparation for the M.A. degree. 600-level courses are repeatable in preparation for the M.F.A. degree.

ART 512/ART 612 Ceramics.
The ceramics program has a fully equipped facility with a complete inventory of clay and glaze materials. Facilities include equipment for clay mixing and preparation; workstations for forming and throwing; gas, wood fire, raku, and electric kilns; and materials for experimental kiln construction. Personal instruction is given in all forming techniques, glaze calculations, and firings. Students are encouraged to experiment with the medium and explore new processes. Emphasis is placed on the student’s development of concepts and forms.

ART 516/ART 616 Painting.
The primary goal of the painting program is to enhance the student’s ability in conceiving of a strong personal vision. The program defines painting as a complex and vital art form that exists in a state of constant flux, a tradition that is both mired in history and capable of regularly redefining itself. It equally embraces students who define painting as a practice that goes far beyond the brush, and those who employ more traditional methodologies.

ART 518/ART 618 Photography.
Photography is viewed as a means of personal expression and exploration, emphasizing development of the student’s vision. Instruction is individually tailored and, although the facilities are designed for black and white printing, the exploration of alternative applications is encouraged. Graduate students are expected to increase their knowledge of the history of photography and contemporary art, and participate in teaching undergraduates. Facilities include a film developing area, two darkrooms, and a critique space. Computers are accessed through the digital media area.
ART 520/ART 620 Printmaking.
Graduate printmaking is conducted in a workshop situation, including group critiques and technical demonstrations. The program philosophy embraces a broad spectrum of activities relating to the idea of the multiple and the history of printed material. Students are expected to master traditional techniques and encouraged to work in an interdisciplinary manner, exploring the boundaries of the media area. The facility comprises equipment for intaglio and relief printing, stone and plate lithography, screen printing, and photo-based/digital printmaking.

ART 522/ART 622 Sculpture.
The sculpture program allows students to work with an extensive range of media and processes while emphasizing conceptual development and refined technical ability. Sculpture encompasses traditional media, methods, and processes as well as technologies that can be adapted to sculptural activities, idioms, and forms. Facilities include a full woodshop, metal fabrication shop, foundry, critique/installation room, and graduate studio space.

Art History (ARH)
A maximum of 6 semester hours of 400-level courses may be taken for graduate credit in the art history master’s degree program. The remainder of the coursework for the M.A. must be taken at the 500 level. In addition, 6 hours of courses must be taken at The University of Alabama at Birmingham. Any 400-level course may be taken for graduate credit at either institution. See The University of Alabama at Birmingham’s graduate catalog for that institution’s course listings.

The following 400-level courses are taught at The University of Alabama.

ARH 455 Topics in Asian Art. Three hours.
Selected topics in the art of Asia.

ARH 461 Topics in Medieval Art. Three hours.
The content of this course changes from semester to semester. Topics include early Christian art and Medieval art.

ARH 465 The Proto-Renaissance in Italy. Three hours.
Painting, sculpture, and architecture in Italy from 1200 to 1400.

ARH 467 Topics in Renaissance Art. Three hours.
Selected artists, monuments, and patrons of the Renaissance period.

ARH 470 Topics in Baroque Art. Three hours.
Selected problems in the visual discourse of the 17th century.

ARH 475 Topics in 19th-Century Art. Three hours.
Art and architecture in late 18th- and early 19th-century Europe and America.

ARH 481 Topics in 20th-Century Painting and Sculpture. Three hours.
Selected problems in modern and contemporary art.

ARH 483 Topics in American Architecture. Three hours.
Selected topics in American architecture.

ARH 491 Special Projects. Three hours.
This course number may be used for special projects determined by the instructor, or for independent research projects proposed by students. In the latter case, the project must be approved by a sponsoring faculty member and the chairperson of the department. The course may be taken for 3 hours a semester and for a maximum of 6 hours’ credit.

Courses at the 500 level are taught at The University of Alabama and The University of Alabama at Birmingham and may be taken at either institution. The following courses (except for ARH 598 and ARH 599) are seminars; the content of each seminar will vary with the instructor. A student may take any seminar twice for credit. Two-thirds of the coursework for the M.A. must be taken at the 500 level.
ARH 550 Literature of Art. Three hours.
Principles and methodology of the discipline as described in the writing of its founders and chief makers; bibliographical research method and mastery. Required of all art history M.A. students.

ARH 555 Asian Seminar. Three hours.
ARH 565 Renaissance Seminar. Three hours.
ARH 570 Baroque and Rococo Seminar. Three hours.
ARH 575 19th-Century Seminar. Three hours.
ARH 580 20th-Century Seminar. Three hours.
ARH 598 Independent Study. Three hours.
ARH 599 Thesis Research. One to three hours.

DEPARTMENT OF BIOLOGICAL SCIENCES (BSC)
Professor Martha J. Powell, Chairperson
Office: 319 Biology Bldg.

The department offers programs leading to the master of science, master of science in marine science (biological sciences), and doctor of philosophy degrees. The graduate program is designed to make available to students a broad basic training in the biological sciences, with a specialization in the field of the research problem. Research problems are available in the following fields: aquatic entomology, biochemistry, coastal oceanography, comparative animal physiology, developmental genetics, developmental toxicology, estuarine processes, ichthyology, immunology, limnology, marine and freshwater biology, microbial ecology, microbial genetics, microbial physiology, molecular and cellular biology, plant and animal ecology, plant and animal physiological ecology, plant taxonomy, stream ecology, systematics, virology, and wetlands ecology.

The J. Nicholene Bishop Biological Station (480 acres in Hale County), the University of Alabama Arboretum (60 acres in Tuscaloosa County), the Dauphin Island Sea Lab (Dauphin Island), the Point Aux Pins Marsh Lab, and extensive plant and animal collections are available to students for study and research.

Admission Requirements

Before entering graduate study in the biological sciences, the student is expected to have a substantial knowledge of chemistry, mathematics, and physics, and to have completed basic courses in the biological sciences with high standards of scholarship. In general, a curriculum equivalent to that required of undergraduate majors in the Department of Biological Sciences is expected. Students admitted without this background may be required to make up course deficiencies without receiving graduate credit.

Two types of admission to the graduate program in the biological sciences are possible: regular admission and conditional admission. In general, to be considered for regular admission, a student must have an overall scholastic average of 3.0 (based on a 4.0 system), including a 3.0 grade point average for the last 60 hours attempted and a 3.0 average in all biological sciences courses attempted. In addition, the applicant must have received a combined score of at least 1200 on the verbal and quantitative portions on the general test of the Graduate Record Examination.

Consideration for conditional admission requires an overall scholastic average of 2.5 (based on a 4.0 system), including a 3.0 average for the last 60 hours attempted and a 3.0 average in all biological sciences courses attempted. Also required is a combined score of at least 1000 on the verbal and quantitative portions on the general test of the Graduate Record Examination. Each student admitted conditionally to the biological sciences graduate program must maintain a 3.0 average for his or her first 12 hours in the Department of Biological Sciences at The University of Alabama. All hours taken in the semester in which the student reaches 12 hours will be considered, even if by so doing the total exceeds 12 hours. If this requirement is not met, the student will be automatically dismissed without appeal following the semester in which these 12 hours are earned, except in those cases that are obviously beyond the student’s control.
Degree Requirements

Students should refer to the Graduate Student Handbook of the Department of Biological Sciences for additional information.

**Master of science.** Two plans, I and II, are available for the M.S. degree. A student pursuing an M.S. degree under either plan is expected to submit a formal research proposal by his or her second semester in residence, and to take final written and oral examinations before the degree is granted. Plan I requires 24 hours of coursework and a formal thesis; Plan II requires 30 hours of coursework and a written research report approved by the student’s graduate committee. A “B” average must be maintained in all coursework.

**Doctor of philosophy.** A minimum of 48 semester hours of graduate course credit is required for the Ph.D. degree. A “B” average must be maintained in all coursework. Students are also required to take at least 24 hours in BSC 699 Dissertation Research. All requirements for the Ph.D. must be completed within a period of seven years following admission to the doctoral program. There is no general requirement for a foreign language, although individual graduate committees may require a language. A formal dissertation is required, in addition to preliminary written and oral examinations and a final oral examination.

Additional information on the various degree programs is available on request from The University of Alabama, Department of Biological Sciences, Box 870344, Tuscaloosa, AL 35487-0344; or visit our Web site: www.as.ua.edu/biology.

Course Descriptions

**Biological Sciences (BSC)**

*Prerequisite: Graduate standing.*

**Courses at the 500 level are not open to students who have received credit for the same courses at the 400 level.**

**BSC 500 Vertebrate Functional Morphology.** Four hours. Three lectures and one three-hour laboratory period.

Prerequisites: BSC 114:115, BSC 116:117, BSC 300, or permission of the instructor. Morphology of animals, primarily vertebrates, with emphasis on functional aspects of anatomy. Laboratory deals mainly with comparative anatomy of the vertebrates. Offered fall semester.

**BSC 503:504 Introduction to Biological Sciences Instruction.** Two hours.

Prerequisites: Strong background in biological sciences, formal application, and interview.

Students in the M.S. program who are not teaching assistants may receive up to 2 hours’ credit. Students in the Ph.D. program who are not teaching assistants may receive up to 4 hours’ credit provided they teach two different laboratories. Offered fall and spring semesters.

**BSC 506 Introduction to Research in Biological Sciences.** One hour.

Corequisite: Student must be in the first year of the graduate program. Surveys research programs in biological sciences. Offered fall and spring semesters.

**BSC 507 Research Techniques in Biology.** One to six hours.

Individualized instruction and the application of research techniques to specific problems for graduate students in the department. Offered fall and spring semesters.

**BSC 512 Limnology.** Three hours. May be taken separately or with BSC 513. A study of freshwater environments and organisms living in lakes, ponds, and streams. Offered fall semester. A. Ward.

**BSC 513 Limnology Laboratory.** Two hours. One laboratory period.

An optional laboratory accompanying BSC 512. Offered fall semester. A. Ward.

**BSC 514 Dendrology.** Three hours. One lecture and one four-hour laboratory period.

Identification, classification, characteristics, and distribution of the principal forest trees of the United States. Two weekend field trips are required. Offered alternate fall semesters. Haynes.
BSC 515 Ecology of Aquatic Plants and Wetland Ecosystems. Three hours. Three lectures.
Prerequisites: BSC 114:115 and BSC 116:117, or permission of the instructor.
Physiology and ecology of submerged, floating, and emergent aquatic plants and attached microflora of the littoral and wetland regions of aquatic ecosystems. Offered alternate spring semesters.

BSC 516 Aquatic Vascular Plants. Four hours. Two lectures and one four-hour laboratory period.
Prerequisite: BSC 434 or BSC 534.
Identification, classification, characteristics, and distribution of aquatic plant species. One weekend field trip is required. Offered alternate fall semesters. Haynes.

BSC 517 Environmental Modeling. Three hours. Two lectures and one discussion period.
Prerequisites: BSC 114:115, BSC 116:117, CH 101, CH 102, and MATH 125 (or equivalent).
An integrated survey of quantitative principles and computer-based solution techniques important for understanding environmental systems and for environmental problem solving. Offered alternate fall semesters. Roden.

BSC 520 Principles of Systematic Zoology. Three hours. Three lectures.
Prerequisites: BSC 373 or permission of the instructor.
An introduction to the principles, methods, and applications of systematic zoology and the zoological classifications. Offered alternate fall semesters. Harris, Lydeard.

BSC 521. Geomicrobiology. Three hours.
Prerequisites: One year of chemistry (CH 101:102); either physical science (GEO 101:102), ecology (BSC 385), microbiology (MBY 310), or permission of the instructor.
This interdisciplinary course examines the interrelationships between microorganisms and earth processes and environments. Topics will focus on microorganismal involvement in mineral precipitation and dissolution and processes that control distribution of elements at and below the surface of the earth, as well as geochemical and mineralogical factors that exert important controls on microbial evolution and the structure of microbial communities. A. Ward, E. Roden.

BSC 522 Climate Dynamics. Three hours.
Prerequisites: PH 101:102, MATH 125, GY 101:102.
This course will provide students with a quantitative introduction to the earth’s climate on global and regional scales, including interaction between atmosphere, ocean, and biosphere. Offered alternate fall semesters. M. Ward.

BSC 523 Freshwater Ecosystems. Three hours.
Prerequisites: CH 101:102, CH 231:232 recommended, MATH 125, BSC 412/512 or equivalent. This course addresses the integration of physical and chemical components of drainage basins with biological metabolism, growth and reproduction along functional gradients of river, wetland, reservoir, and lake ecosystems. Offered alternate spring semesters.

BSC 524 Human Physiology. Three hours. Three lectures.
Prerequisite: BSC 300. May be taken with BSC 525 or separately.
Examines the cardiovascular, digestive, endocrine, muscular, neural, renal, reproductive and respiratory systems. Offered spring semesters. Secor.

BSC 525 Human Physiology Laboratory. One hour. One four-hour laboratory period.
Prerequisite: BSC 424.
Corequisite: BSC 524.
Centers on principles of physiology and instrumentation for physiology. Offered alternate fall semesters. Bauman.

BSC 528 Biology of Fishes. Three hours. Two lectures and one laboratory period.
Prerequisite: BSC 373 or permission of the instructor.
A survey of the structure, function, ecology, and classification of fishes. Offered alternate spring semesters. Harris.

BSC 531 Pathogenic Microbiology. Three hours. Three lectures.
Prerequisite: BSC 311 or permission of the instructor.
A study of microorganisms related to health and disease. Offered spring semester. Winters.
BSC 532 Pathogenic Microbiology Laboratory. Three hours. One lecture and two laboratory periods.
Prerequisite: BSC 313 or permission of the instructor.
Prerequisite or corequisite: BSC 531 or permission of the instructor.
Practical experience in the isolation, characterization, and identification of pathogenic microorganisms. Offered alternate spring semesters. LeBlanc.

BSC 534 Plant Taxonomy. Four hours. Two lectures and one four-hour laboratory period.
Characteristics and distribution of the major families of vascular plants, and practice in the collection and identification of flowering plants. One weekend field trip is required. Offered alternate spring semesters. Haynes.

BSC 535 Immunology. Four hours. Three lectures.
Prerequisite: BSC 310 or permission of the instructor.
Thorough exploration of various aspects of modern immunology at the molecular and cellular levels. Offered fall semester. LeBlanc.

BSC 536 Immunology Laboratory. Three hours. One lecture and two laboratory periods.
Prerequisite: BSC 435, BSC 535, or permission of the instructor.
Practical experience in modern immunological techniques. Offered alternate spring semesters. LeBlanc.

BSC 539 Molecular Biology Laboratory. Three hours. One lecture and one four-hour laboratory period.
Prerequisites: CH 337 and either BSC 450 or BSC 550, or permission of the instructor.
A survey of the common analytical techniques used in molecular biology. Topics include protein purification and characterization, enzymology, DNA isolation and restriction endonuclease mapping, and gene cloning. Offered spring semester. Heath.

BSC 541 Developmental Biology. Three hours. Three lectures.
Prerequisites: BSC 300 and BSC 315, or permission of the instructor.
The course provides basic information about events in developing animal systems, emphasizing cellular, molecular, and genetic research approaches to the study of development. Offered spring semester. O'Donnell, Johnson.

BSC 544 General Virology. Three hours. Three lectures.
Prerequisites: BSC 300 or BSC 311, and BSC 450 or BSC 550; or permission of the instructor.
The molecular biology of bacterial, animal, and plant virus replication, including the biophysical, biochemical, and biological properties of virus particles. Offered spring semester. Winters.

Prerequisite: CH 332 or permission of the instructor.

BSC 551 Molecular Biology. Three hours. Three lectures.
Prerequisite or corequisite: BSC 550 or permission of the instructor.
A one-semester survey of the synthesis, processing, and degradation of DNA, RNA, and protein and the regulation of these processes. Offered spring semester. Churchill, Johnson, O'Donnell.

BSC 555 Laboratory Animal Science. Two hours. One lecture and one laboratory period.
Prerequisite: Permission of the instructor.
A study of the husbandry and use of animals in research, including handling, housing, breeding, nutrition, diseases and parasites, basic techniques of anesthesia and surgery, and administration of drugs and medication. Offered fall and spring semesters. Neville.

BSC 556 Microbial Ecology. Three hours. Three lectures.
Prerequisite: BSC 311 or permission of the instructor.
A study of microorganisms in the environment, with emphasis on their roles in energy transformations, biogeochemical cycles, and biotic interactions. Offered alternate fall semesters. Suberkropp, Olson.
BSC 557 Microbial Ecology Laboratory. Two hours. One four-hour laboratory period. Prerequisite: BSC 311 or permission of the instructor. Corequisite: BSC 556. A laboratory course that provides training in techniques for examination of the abundance, diversity, and activity of microorganisms in natural water, soil, and sediment environments. Offered alternate fall semesters. Roden, Olson.

BSC 558 Teratology. Two hours. Two lectures. Prerequisites: BSC 315 or permission of the instructor; BSC 460 or BSC 560 is recommended. A survey of the causes, detection, and prevention of birth defects, emphasizing developmental origins and mechanisms of abnormal development. Offered irregularly.

BSC 560 Human Developmental Biology. Three hours. Three lectures. Prerequisites: BSC 300 and either BSC 400 or BSC 500 are recommended. Development of the human embryo and fetus, including molecular, physiological, and structural aspects of morphogenesis and functional development. Offered irregularly.

BSC 564 Phycology. Four hours. Two lectures and one four-hour laboratory period. Freshwater and marine algae and their structure, development, taxonomy, and distribution. Offered irregularly.

BSC 565 Principles of Toxicology. Three hours. Three lectures. Prerequisite: BSC 300. A study of the adverse effects of chemicals on living organisms and of methods for predicting the likelihood of these effects. Includes descriptive, mechanistic, and regulatory aspects. Offered irregularly.

BSC 566 Environmental Toxicology. Three hours. Three lectures. Prerequisites: CH 331 or equivalent, and BSC 300. An introduction to the toxicology of environmental pollutants and natural toxic substances. Includes biological, chemical, and regulatory aspects and risk assessment. Offered irregularly.

BSC 572 Mycology. Three hours. Two lectures and two laboratory periods. Prerequisite: BSC 310, BSC 371, or permission of the instructor. An introduction to the fungi and their biology, including aspects of their structure and function, taxonomy, genetics, and ecology. Offered alternate fall semesters. Suberkropp.

BSC 575 General Entomology. Four hours. Two lectures and one four-hour laboratory period. Prerequisite: BSC 376 or permission of the instructor. A survey of the structure, function, classification, and habits of insects. Offered irregularly.

BSC 576 Aquatic Insects. Four hours. Two lectures and one four-hour laboratory period. Prerequisite: BSC 475, BSC 575, or permission of the instructor. A survey of aquatic insects, with emphasis on their identification, life histories, and ecology. Offered alternate spring semesters. M. Ward.

BSC 580 Plant Ecology. Three hours. Three lectures. A study of the relationships of plants to their environments and of their functions in the ecosystem. Offered irregularly.

BSC 581 Plant Ecology Laboratory. One hour. One four-hour laboratory every other week. Prerequisite or corequisite: BSC 580. Offered irregularly.


BSC 584 Aquatic Biology Seminar. One hour. Review and discussion of current topics in aquatic biology. Offered fall semester.

BSC 587 Biogeography. Three hours. Three lectures. Prerequisite: BSC 385 or permission of the instructor. Examination of the ecological and historical factors influencing the geographic distribution of plants and animals. Offered alternate fall semesters.
BSC 589 Forest Ecology (same as GY 589). Four hours. Three lectures. Prerequisites: BSC 116:117 or equivalent, GY 101, and GY 102; or permission of the instructor.

BSC 590 Stream Ecology. Four hours. Two lectures and one laboratory period. Prerequisite: BSC 385. A thorough study of the structural (physical and biological) and functional (energy flow, nutrient cycling, community structure) attributes characteristic of stream and river ecosystems. Offered alternate spring semesters. M. Ward.

BSC 592 Aquatic Biogeochemistry. Three hours. Three lectures. Prerequisite: GEO 470, GEO 570, or permission of the instructor. An analysis of major and trace elemental cycles in aquatic environments, emphasizing the interaction of biological, chemical, and physical processes in a quantitative framework. Offered alternate spring semesters. Roden.

BSC 594 Signal Transduction in Neurobiology. Three hours. Prerequisites: Undergraduate-level genetics and cell biology or developmental biology. Seminar on current topics related to signal transduction, as it pertains to the molecular basis of neurobiology and development. Offered alternate fall semesters. Caldwell.

BSC 595 Advanced Cell Biology. Three hours. Three lectures. Prerequisite: BSC 300 or permission of the instructor. Presents the structures, functions, and relationships of cellular organelles and the cytoskeleton. Offered fall semester. Smith-Somerville.

BSC 596 Bioremediation. Three hours. Three lectures. Prerequisite: BSC 450 or BSC 550, and CH 331; or permission of the instructor. Study of the biological degradation of toxic chemicals in the environment. Offered irregularly. Churchill.

BSC 598 Research Not Related to Thesis. One to fifteen hours. Pass/fail. Offered fall and spring semesters.

BSC 599 Thesis Research. One to fifteen hours. Pass/fail. Offered fall and spring semesters.

BSC 602 Advanced Molecular Research Seminar. One hour. Pass/fail. Student presentations of research background and current results. Students may enroll each semester. Offered fall and spring semesters. O'Donnell.

BSC 603 Current Topics in Molecular Biology. One hour. Pass/fail. Student presentations of current research literature. Offered fall and spring semesters. Johnson.


BSC 606 Advanced Ecology and Systematics Seminar. One hour. Pass/fail. Students attend and participate in a one-hour weekly seminar and present a 45-minute seminar during the semester. The seminar presented should be a synthesis of research on a particular topic in ecology or systematics, requires a practice session, and includes written evaluations by the faculty.

BSC 607 Advanced Research Techniques in Biology. One to six hours. Individualized instruction and the application of research techniques to specific problems at an advanced level for graduate students in the department. Offered fall and spring semesters.

BSC 612 Aquatic Secondary Production. Three hours. Three lectures. A study of the population and production dynamics of aquatic animals, including theory, methods, and interpretation of the role of animals in ecosystem bioenergetics. Offered alternate spring semesters. Benke.

BSC 613 Aquatic Ecosystem Ecology. Two hours. Seminar/discussion. Prerequisite: BSC 412, BSC 512, or permission of the instructor. Analysis of the structure of and functional interactions and fluxes among physical, chemical, and biological components of aquatic ecosystems. Functional commonalities are sought among diverse ecosystems (lakes, rivers, reservoirs, shallow waters, land-water interfaces). Offered irregularly.
BSC 631 Molecular Genetics of Lower Eukaryotes. Three hours.
Prerequisites: BSC 300, BSC 315.
Survey of lower eukaryotic model systems using current and historical literature with an emphasis on the usefulness of these organisms to address particular biological questions. Offered alternate fall semesters. Johnson, Smith-Somerville.

BSC 632 Higher Eukaryotic Genetic Model Systems. Three hours.
Critical analysis of higher eukaryotic genetic model systems used in modern molecular research. Offered alternate spring semesters. Oppenheimer.

BSC 633 Critique of Research in Molecular Biology. Three hours.
Prerequisites: Any two graduate courses in molecular and cellular biology.
Critical analysis of current research in molecular biology. Narrow topics from rapidly moving fields will be selected for detailed reading and class discussion. Offered alternate fall semesters. Stephenson, Johnson.

BSC 634 Practical Molecular Biology. Three hours.
Prerequisites: Undergraduate-level biochemistry and genetics courses.
This course presents the theoretical basis for commonly used molecular biology procedures that are in general use in all fields of biology. Offered spring semester. Churchill, O'Donnell.

BSC 635 Developmental Genetics. Three hours. Two lectures and one discussion period.
Prerequisite: BSC 441, BSC 541, or equivalent.
A course in the genetic and molecular mechanisms of development for graduate students. Offered alternate fall semesters. Stephenson.

BSC 651 Population Ecology. Three hours.
Prerequisites: BSC 385 or equivalent and MATH 125 or equivalent.
Theory and practice of population ecology (plants and animals); sampling, population processes, regulation, interspecific interactions, age structure analysis, and applications in resource management. Offered alternate fall semesters. Benke.

BSC 652 Community Ecology. Three hours.
Prerequisites: BSC 385 or equivalent; MATH 125 or equivalent; CHS 525; ST 550 or equivalent.
Thorough investigation of theory and empirical studies of ecological communities (plant, animal, microbial), including methods, community structure, diversity, succession, links to ecosystem function, resource management. Offered alternate spring semesters. Arrington.

BSC 656 Microscopical Techniques. Four hours.
Prerequisite: Permission of the instructor.
An introduction to the methods and applications of electron microscopy in biological research, including techniques for preparation of biological specimens, operation of the transmission and scanning electron microscopes, and photography. Offered irregularly. Smith-Somerville.

BSC 660 Protein Structure and Function. Three hours. Three lectures.
Prerequisite: BSC 439, BSC 539, CH 462, or CH 562.

BSC 685 Advanced Ecology. Four hours.
An accelerated survey of the general principles of ecology, covering evolution, autecology, energetics, nutrient cycling, population dynamics, competition, predation, and community analysis. Offered irregularly.

BSC 695 Special Topics in Biological Sciences. One to four hours.
Courses with this number may address any biological topic not covered by existing courses. The credit hours and format are arranged as appropriate to each topic. The specific course title is added at the time the course is taught. Offered irregularly.

BSC 696 Resident Study at an Approved Biological Station. Two to six hours.
Prerequisite: Written approval from the department must be received in advance.
Credit for the course is determined by the extent of the coursework. Offered fall and spring semesters.
The University of Alabama

BSC 698 Research Not Related to Dissertation. One to fifteen hours. Pass/fail. Offered fall and spring semesters.

BSC 699 Dissertation Research. Three to fifteen hours. Pass/fail. Offered fall and spring semesters.

DEPARTMENT OF CHEMISTRY (CH)
Professor Joseph Thrasher, Chairperson
Office: 119 Lloyd Hall

The Department of Chemistry offers programs in the four traditional areas of chemistry (analytical, inorganic, organic, and physical) as well as biochemistry leading to the master of science in chemistry (Plan I or Plan II, as outlined in the “Academic Policies” section of this catalog) and the doctor of philosophy in chemistry. The completion of a master’s degree is optional for students enrolled in the Ph.D. program.

Admission Requirements
In addition to meeting the general requirements of the Graduate School, entering graduate students should have completed, with an average grade of “B” or better, undergraduate coursework equivalent to a major in chemistry. Applicants may qualify for regular or conditional admission. To be considered for regular admission, an applicant must have an acceptable score on the general test of the Graduate Record Examination. A score of at least 50 on the Miller Analogies Test may be substituted for the GRE score.

An applicant whose credentials do not meet the requirements for regular admission may be considered for conditional admission if the applicant has a grade point average of 2.5 overall and an acceptable score on the appropriate admission examination for conditional admission. An applicant may be considered for conditional admission if he or she meets either the 3.0 GPA requirement for regular admission or the entrance examination requirement for regular admission. A student admitted conditionally must remove any undergraduate deficiencies during the first year of graduate study and must remove the condition by earning an average of “B” or better in the first 12 hours of graduate-level work.

Diagnostic examinations covering the traditional areas of chemistry are required of all entering graduate students (regularly admitted M.S. degree holders may be exempted). These examinations are given a few days prior to registration for the first semester so that the results may be used by the departmental graduate committee in planning the student’s coursework for the first year.

Degree Requirements
The requirements for the master of science in chemistry are the same as the Graduate School’s general requirements (p. 96–98). The Ph.D. degree requirements also follow the general policy outlined for the Graduate School (p. 100–105). The comprehensive examination usually consists of a number of written cumulative examinations plus the oral defense of an original research proposal. In addition, acceptable literature and research seminars must be presented to the chemistry faculty and graduate students. The Ph.D. student’s research performance is evaluated by his or her research adviser with concurrences of the student’s dissertation committee. Normally, the student is expected to be an author or coauthor of at least one publication in a refereed scientific journal prior to the awarding of the degree.

Financial Assistance
Financial assistance for graduate students in chemistry is available through fellowships, graduate teaching assistantships, and graduate research assistantships.
Course Descriptions

Analytical Chemistry

CH 521 **Introduction to Graduate Analytical Chemistry.** Three hours. Generally, this course is for entering students whose undergraduate training in analytical chemistry is insufficient.

CH 524 **Advanced Analytical Chemistry I: Spectroscopic Methods of Analysis.** Three hours. Prerequisite: CH 521 or equivalent. Incorporates both theoretical and a practical component. The separations theory will be developed and applied to gas chromatography and high pressure liquid chromatography/planar chromatography. Hyphenated techniques are emphasized. Students must master a GC/MS tutorial and carry out a project on analysis of an unknown.

CH 525 **Advanced Analytical Chemistry II: Chromatography.** Three hours. Prerequisite: CH 521 or equivalent. Provides graduate students with knowledge of the fundamental aspects of various modern methods of spectroscopic analysis. Reference to analytical applications and experimental methods is made, where relevant.

CH 526 **Chemometrics.** Three hours. Prerequisite: CH 521 or equivalent or permission of the instructor. Chemometrics involves the application of statistical and mathematical methods to chemistry. Areas of emphasis will be data and error analysis, calibration, experimental design, signal processing and transform procedures, and data description and enhancement.

CH 552 **Research Techniques in Analytical Chemistry.** One to six hours.

CH 521:622 **Current Trends in Analytical Chemistry.** Three hours.

CH 626 **Surface Analytical Techniques.** Three hours. Prerequisite: CH 521 or equivalent. Introduces the student to the instrumentation and techniques used to study surfaces and interfaces. Spectroscopic, microscopic, desorption, and vacuum techniques are covered.

CH 627 **Mass Spectrometry.** Three hours. Prerequisite: CH 521 or equivalent or permission of the instructor. Deals with all areas of mass spectrometry (MS), including single and multiple stage MS and chromatography/MS. The emphasis is on fundamental principles and instrumentation, as well as applications and data interpretation.

CH 652:653 **Advanced Research Techniques in Analytical Chemistry.** One to six hours.

Biochemistry

CH 554 **Research Techniques in Biochemistry.** One to six hours.

CH 561 **Biochemistry I.** Three hours. Prerequisites: CH 232 or CH 336, and CH 237. First-semester course in basic biochemistry. Structure and properties of biological molecules, including proteins, DNA, RNA, carbohydrates, lipids, and enzyme cofactors and prosthetic groups. Introduction to intermediary metabolism and glycolysis. Offered fall semester.

CH 562 **Biochemistry II.** Three hours. Prerequisite: CH 561 or permission of the instructor. Continuation of basic one-year course in biochemistry. Intermediary metabolism, TCA cycle, oxidative phosphorylation, and catabolism of biomolecules. Biosynthesis of amino acids, nucleotides, carbohydrates, and lipids. DNA and RNA replication, with introduction to recombinant technology. Protein biosynthesis and membrane transport. Offered spring semester.

CH 563 **Biochemistry Laboratory.** Three hours. Prerequisite or corequisite: CH 561. One lecture and one six-hour laboratory. Biochemical techniques within the structure of a semester-long research project. Topics include protein purification and chromatography, spectroscopy, electrophoresis, kinetics, and DNA manipulation.
CH 564 Advanced Biophysical Chemistry. Three hours.
Prerequisites: CH 341 and CH 561, or permission of the instructor.
The study of physical techniques applied to the development and experimental verification
of biochemical hypotheses. Examples include forms of spectroscopy, treatment of multiple
equilibria, and enzyme kinetics. Examples of applications are drawn from such areas as
oxygen transport, oxidative phosphorylation, and photosynthesis.

CH 565 Advanced Bio-Inorganic Chemistry. Three hours.
Prerequisite: CH 401, CH 561, or permission of the instructor.
Study of current knowledge on the roles of metal ions in biological systems, including
structural and catalytic functions. Topics include bio-coordination chemistry, spectroscopic
and magnetic methods, and kinetics.

CH 566 Advanced Bio-Organic Chemistry. Three hours.
Prerequisite: CH 232, CH 561, or permission of the instructor.
Application of organic chemical concepts to biochemical systems. Topics include enzyme
mechanisms at the molecular level, the chemistry of biomolecules including nucleic
acids, peptides, and saccharides, and the development of chemical methods for the
manipulation of biochemical systems.

CH 654:655 Advanced Research Techniques in Biochemistry. One to six hours.

Inorganic Chemistry

CH 501 Introduction to Graduate Inorganic Chemistry. Three hours. Three
lectures.
Generally, this course is for entering graduate students whose undergraduate training
in inorganic chemistry is insufficient.

CH 556 Research Techniques in Inorganic Chemistry. One to six hours.

CH 601 Advanced Inorganic Chemistry I: Structural Methods in Inorganic
Chemistry. Three hours.

CH 602 Chemistry of Coordination Compounds. Three hours. Three lectures.

CH 603 Chemistry of the Solid State. Three hours. Three lectures.

CH 604 Chemistry of the Main Group Elements. Three hours. Three lectures.

CH 605 Special Topics in Inorganic Chemistry. Three hours. Three lectures.

CH 606 X-Ray Crystallography. Three hours. Three lectures.

CH 609 Organometallic Chemistry. Three hours.
Prerequisite: CH 402 or CH 601.

CH 611 Inclusion and Molecular Recognition. Three hours. Three lectures.
Prerequisite: CH 601.

CH 656:657 Advanced Research Techniques in Inorganic Chemistry. One to six
hours.

Organic Chemistry

CH 530 Introduction to Graduate Organic Chemistry. Three hours. Three lectures.
Generally, this course is for entering graduate students whose undergraduate training
in organic chemistry is insufficient.

CH 531 Advanced Organic Chemistry I: Physical Organic. Three hours.
Theory and mechanism of organic transformations, detailed evaluation of organic structure,
molecular dynamics, molecular orbital interactions, molecular symmetry, stereochemistry
of reactions, and energetics of reaction paths.

CH 532 Advanced Organic Chemistry II: Advanced Synthesis. Three hours.
Fundamentals of organic transformations and advanced synthetic methodology with
application to the synthesis of complex organic structures.

CH 558 Research Techniques in Organic Chemistry. One to six hours.

CH 566 Advanced Bio-Organic Chemistry. Three hours.
Prerequisite: CH 231, CH 561, or permission of the instructor.
Application of organic chemical concepts to biochemical systems; enzymatic mechanisms;
chemistry and biochemistry of nucleic acids, peptides, and saccharides.
CH 609 Organometallic Chemistry. Three hours.
Structure, bonding, and reactivity of organotransition metallic compounds, mechanisms
of transformations and fundamental reaction types, applications to catalysis and organic
synthesis.
CH 635 Selected Topics in Organic Chemistry. Three hours.
CH 637 Spectroscopic Techniques in Organic Chemistry. Three hours.
Fundamentals of spectroscopic techniques for structure determination of organic
molecules. Theory and application of IR, NMR, and MS in organic chemistry.
CH 658:659 Advanced Research Techniques in Organic Chemistry. One to six
hours.

Physical Chemistry
CH 540 Introduction to Graduate Physical Chemistry. Three hours. Three lectures.
Generally, this course is for entering graduate students whose undergraduate training
in physical chemistry is insufficient.
CH 541 Advanced Physical Chemistry I: Kinetics and Statistical Thermodynamics.
Three hours. Three lectures.
Prerequisite: CH 540 or equivalent.
CH 549 Advanced Physical Chemistry II: Atomic and Molecular Structure. Three
hours.
Prerequisites: CH 336, CH 338, CH 342, and CH 348.
CH 570 Research Techniques in Physical Chemistry. One to six hours.
CH 643 Quantum Mechanics. Three hours.
Prerequisite: CH 541 or CH 549.
CH 645 Selected Topics in Physical Chemistry. Three hours.
CH 660 Advanced Research Techniques in Physical Chemistry. One to six hours.

Miscellaneous
CH 585:586 Chemistry Seminars. Two hours.
CH 599 Thesis in Chemistry. Credit to be arranged.
CH 699 Dissertation. Credit to be arranged. Three-hour minimum.

DEPARTMENT OF COMMUNICATIVE DISORDERS (CD)
Professor Karen F. Steckol, Chairperson
Office: 7 Rowand-Johnson Hall

The Department of Communicative Disorders offers a graduate program leading to
the master of science degree in speech-language pathology. The program is accredited
by the American Speech-Language-Hearing Association.
The program combines coursework, observation, and practicums to familiarize students
with communicative disorders and to develop their skills in assessment and rehabilitation.
Most students with undergraduate degrees in communicative disorders will complete
the degree requirements in five semesters of full-time study. Students who complete
the master’s degree will also have met the academic and practicum requirements for
the Certificate of Clinical Competence from the American Speech-Language-Hearing
Association and for a license from the state of Alabama. These credentials enable gradu-
ates to be employed in clinical settings as well as in the public schools of Alabama and
many other states, depending upon their certification requirements.
Practicum sites include UA’s Speech and Hearing Center, public schools, DCH Regional
Medical Center, Capstone Medical Center, West Alabama Rehabilitation Center, Bryce
Hospital, RISE Program, VA Medical Centers in Tuscaloosa and Birmingham, and other sites
in the Birmingham area. Certified and/or licensed professionals supervise at all sites.

Admission Requirements
Applicants must submit scores on the Graduate Record Examination general test or
the Miller Analogies Test. After admission to a program, each student’s effectiveness
will be given a broad-based evaluation by faculty and supervisors. Decisions on clinical
placement, completion of the program, or termination of the student from the program will be based on factors such as course grades, demonstrated clinical competence, and personality factors. See the “Academic Policies” portion of this catalog for more information.

Degree Requirements

The requirements for the master of science degree follow the general policies outlined in the Graduate School portion of this catalog under “Degree Requirements.”

Course Descriptions

Students may not receive credit at both the 400 and 500 levels for courses of equivalent content. Graduate students enrolled in 500-level courses that are also offered at the 400 level will be expected to perform extra work of an appropriate nature. Graduate credit will not be granted at the 400 level.

CD 501 Introduction to Research Methods. Three hours.

CD 509 Language Development. Three hours.
Lecture and discussion of current issues in developmental psycholinguistics. Pragmatic, semantic, phonologic, and syntactic analyses of child language are conducted.

CD 510 Language Intervention. Three hours.
Presentation and discussion of theories and methods of language intervention of various language-impaired populations. Projects in linguistic analysis of impaired language are required.

CD 511 Speech and Hearing Science. Three hours.
Prerequisite: CD 275 or equivalent.
A survey of the study of speech production, acoustics, and perception, incorporating use of instrumentation in the speech and hearing science laboratory.

CD 515 Professional Issues Seminar. Three hours.
Study of professional issues confronting communicative disorders specialists in audiology and speech-language pathology, including national and state issues, licensing, ethics, and current issues.

CD 517 Advanced Clinical Practicum, Speech. One to three hours.
Individual assignments in selected areas of the field of speech and language therapy. Clinical practice and scholarly investigation, with regular staff consultation. Offered fall, spring, and summer semesters.

CD 529 Diagnostic Procedures. Three hours.
Advanced study of theory and practice of differential diagnosis of persons with speech and language disorders.

CD 530 Internship. Three to six hours.
Intensive clinical experience in one or a variety of settings. Offered fall, spring, and summer semesters.

CD 542 Public School Internship, Speech-Language Pathology. Three, six, or nine hours.
Prerequisite: CD 377 or equivalent.
Organization, management, and implementation of public school speech, language, and hearing programs. Supervised clinical practice in the public schools. Offered fall and spring semesters.

CD 543 Basic Audiology. Three hours.
An introduction to clinical audiology, measurement of hearing, and initial overview of auditory anatomy and pathology.

CD 544 Aural Rehabilitation. Three hours.
Study of the rehabilitation of people with hearing losses. Special emphasis is placed on philosophical considerations of aural rehabilitation, referral for additional services, guidance and counseling, and communication improvement.
CD 550 Independent Study. One to three hours.
A student may make an intensive study of a topic of interest. Offered fall, spring, and summer semesters.

CD 551 Phonological and Articulation Disorders. Three hours.
Advanced study of normal phonological-articulatory development, and systems of diagnosis and treatment of disorders of articulation.

CD 552 Orofacial and Resonance Disorders. Three hours.
Advanced study of embryology of the head and face, associated problems and concomitant anomalies, surgical and prosthetic management, speech and language problems, and principles of speech and language therapy.

CD 553 Neurogenics I. Three hours.
Advanced study of the nature, assessment, and treatment of language and cognitive disorders associated with stroke, acquired brain injury, and dementia. Brain mechanisms underlying language and cognition in the neurolinguistic literature are investigated.

CD 554 Fluency Disorders. Three hours.
Advanced study of the theories of the onset of stuttering, known maintaining factors, and methods of remediation.

CD 555 Voice Disorders. Three hours.
Advanced study of the physiological, acoustical, and psychological factors underlying voice disorders, including laryngectomy, and methods of remediation.

CD 556 Neurogenic Disorders II. Three hours.
Advanced study of the structures of the nervous system, emphasizing sensory-motor functions. Includes also the nature, assessment, and treatment of motor speech disorders (dysarthria), swallowing disorders (dysphagia), and the tracheostomized.

CD 598 Research Not Related to Thesis. One to six hours.
Planning, executing, and evaluating research. For students following Plan II. Offered fall, spring, and summer semesters.

CD 599 Thesis Research. One to six hours.
All aspects of the thesis, from selecting a problem to writing the results and conclusions. Offered fall, spring, and summer semesters.

DEPARTMENT OF CRIMINAL JUSTICE (CJ)
Professor Celia Lo, Chairperson
Office: 432-C Farrah Hall

Mission Statement. The mission of the Department of Criminal Justice is to develop and disseminate knowledge about crime, criminal justice, deviance, and social organization through research, teaching, and service to the community. Grounded in the social sciences, and governed by the College of Arts and Sciences of The University of Alabama, the department respects liberal values, encourages open-mindedness, and pursues in its programs both demographic and curricular diversity.

Concerning students at the master’s level, the department’s mission is development of research skills and the expansion of conceptual and practical knowledge critical to fulfillment of leadership roles in criminal justice or in the social services. Master’s degree students planning to proceed to Ph.D. programs can expect from the department thorough training in the theories, methodologies, and empirical findings that promote understanding of deviance, crime, criminal justice, and social organization.

Admission Requirements
Admission into the master of science program is limited. An applicant should hold a bachelor’s degree from an accredited college or university. An undergraduate major in the social sciences is desirable, but students with superior undergraduate records in other fields are encouraged to apply. It is the policy of the criminal justice faculty to admit those students who demonstrate potential for successfully completing the master’s degree program. Primary consideration is given to the applicant’s scholastic record and test scores. Admission decisions for the master of science program are made in April.
Degree Requirements

Requirements for the degree consist of 24 hours of coursework, 6 hours of thesis research, and successful completion and defense of a thesis; or, 24 hours of coursework and successful completion of a 6-semester-hour policy and practice research project. Students must also pass written comprehensive examinations. Up to 6 hours of approved coursework may be transferred from other universities, and coursework may be taken in other departments when it is consistent with the student’s degree plan. The department does not accept 400-level courses toward degree requirements for the master of science in criminal justice.

The section below outlines the requirements for the degree. In addition to the required courses, at least 9 semester hours of elective courses with a CJ designation must be taken. CJ 599 or CJ 598 should be taken after all other requirements have been completed.

Core Course Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CJ 581 Application of Statistics in Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>CJ 584 Seminar in Criminological Theory</td>
<td>3</td>
</tr>
<tr>
<td>CJ 586 Research in the Criminal Justice Process</td>
<td>3</td>
</tr>
</tbody>
</table>

Comprehensive Exams

<table>
<thead>
<tr>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>CJ 599 Thesis Research in Criminal Justice or</td>
</tr>
<tr>
<td>CJ 598 Criminal Justice Policy and Practice</td>
</tr>
<tr>
<td>Electives</td>
</tr>
</tbody>
</table>

Additional Requirements

Students can generally complete degree requirements in 18–24 months.

Course Descriptions

**CJ 510 Seminar in Community Corrections.** Three hours. Development, organization, operation, and evaluation of community corrections systems as intermediate sanctions and alternatives to incarceration.

**CJ 520 Seminar in Current Law Enforcement Problems.** Three hours. Analysis of selected areas of law enforcement. Emphasis is on currently developing trends.


**CJ 540 Seminar in Juvenile Delinquency.** Three hours. The nature and extent of delinquency; competing explanatory models and theories. Evaluation of control and treatment modalities.

**CJ 550 Seminar in the Judicial Process and Social Policy.** Three hours. Examination of the American legal system from a political science and socio-legal perspective. Seminar covers the “rights revolution,” the process of dispute settlement, judicial decision making, public opinion and the courts, and the United States Supreme Court.

**CJ 570 Seminar in Correctional Policy.** Three hours. Examines the historical and contemporary policy trends in institutional and community corrections.

**CJ 581 Application of Statistics in Criminal Justice.** Three hours. An evaluation of specific statistical methods for quantitative and nonquantitative analyses, concentrating on proper applications and interpretations in criminal justice settings.

**CJ 584 Seminar in Criminological Theory.** Three hours. Examination of classical, neoclassical, positive, and social-defense theories of criminality and their interrelation with the broader problems of crime control. Offered spring semester.

**CJ 586 Research in the Criminal Justice Process.** Three hours. Prepares the student to develop and to implement basic research designs. Offered fall semester.
CJ 590 Special Topics in Criminal Justice. Three hours.
Offers an opportunity for faculty and students to explore in depth topics of contemporary interest that are not generally covered in the standard courses. Course content will vary from section to section.

CJ 591 Practicum in Research and Program Evaluation. Three to six hours.
Allows students to develop and implement an evaluation of an innovative or existing program in criminal justice, with faculty guidance.

CJ 592 Independent Study. Three hours.
Research under faculty supervision in any area of interest to the student. Content may not relate to thesis or policy and practice project.

CJ 597 Practicum in Supervised Teaching. One to three hours.
This course provides students with an opportunity to acquire pedological skills under the guidance of a member of the graduate faculty. The number of hours earned will be determined by the number of hours of lecture presented by the student and the degree to which the student is responsible for preparing class notes and determining final grades. (Graduate teaching assistants are not eligible to enroll in this course.) Course hours for the practicum do not apply toward the 30 hours required for the master of science degree in criminal justice.

CJ 598 Criminal Justice Policy and Practice. One to six hours. Pass/fail.
Provides credit for a major written project completed under the supervision of two faculty members.

Research may be directed by any member of the faculty who accepts responsibility for supervising the thesis.

ECONOMICS PROGRAM (ECAS)
Professor Billy P. Helms, Head
Office: 206 Alston Hall

The economics program offers curricula leading to the master of arts and doctor of philosophy in economics. The M.A. degree prepares students for positions of responsibility in both government service and the private sector. The Ph.D. degree prepares students for professional positions with research firms and government agencies, as well as for careers in college and university teaching.

Admission Requirements
See the “Academic Policies” portion of this catalog for general admission information.

Applicants seeking financial aid are encouraged to submit scores for the Graduate Record Examination general test. Entering graduate students are expected to have completed undergraduate coursework in economics, statistics, and mathematics.

Students must complete the following undergraduate courses or their equivalents:

EC 308 Intermediate Microeconomics
EC 309 Intermediate Macroeconomics
ST 250 Statistical Methods I
ST 251 Statistical Methods II
MATH 121 Introduction to Calculus or MATH 125 Analytic Geometry and Calculus

Any deficiencies should be made up by taking courses during the summer before entering the master’s program.

Degree Requirements for the M.A.
There are two tracks available for the M.A. degree in economics. Track I provides preparation for the Ph.D. in economics. Track II is designed for students who wish to pursue careers applying economic analysis.
Track I
The following are the requirements for the M.A. in economics to prepare for the Ph.D.:

Required courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC 570 Mathematical Economics</td>
<td>3</td>
</tr>
<tr>
<td>EC 571 Econometrics</td>
<td>3</td>
</tr>
<tr>
<td>EC 610 Microeconomic Theory</td>
<td>3</td>
</tr>
<tr>
<td>EC 611 Macroeconomic Theory</td>
<td>3</td>
</tr>
<tr>
<td>EC 616 Monetary Economics</td>
<td>3</td>
</tr>
<tr>
<td>EC 660 Game Theory</td>
<td>3</td>
</tr>
<tr>
<td>EC 671 Seminar in Econometrics</td>
<td>3</td>
</tr>
<tr>
<td>ST 554 Mathematical Statistics</td>
<td>3</td>
</tr>
</tbody>
</table>

Total hours of required courses: 24

Elective courses

Any two graduate-level economics courses at the 500 or 600 level. These can be selected from the following areas: applied microeconomic theory, monetary economics, or public economics. A student may also write an M.A. thesis as an alternative to the two elective courses.

Minimum total hours for Track I: 30

Track II
The following are the requirements for the M.A. in applied economics:

Required courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC 508 Microeconomic Theory</td>
<td>3</td>
</tr>
<tr>
<td>(EC 610 Seminar in Microeconomic Theory)</td>
<td>3</td>
</tr>
<tr>
<td>EC 509 Macroeconomic Theory and Policy</td>
<td>3</td>
</tr>
<tr>
<td>(EC 611 Seminar in Macroeconomic Theory)</td>
<td>3</td>
</tr>
<tr>
<td>EC 570 Mathematical Economics</td>
<td>3</td>
</tr>
<tr>
<td>EC 413 Economic Forecasting and Analysis</td>
<td>3</td>
</tr>
<tr>
<td>EC 471 Econometrics</td>
<td>3</td>
</tr>
</tbody>
</table>

Total hours of required courses: 15

Elective courses

Courses chosen from the following: EC 516, EC 530, EC 531, EC 550, EC 581, FI 504 (or FI 510), FI 524 (or FI 512), and FI 514. Other courses may be substituted with the permission of the graduate program committee. A student may also write an M.A. thesis in lieu of 6 hours of elective coursework.

Minimum total hours for Track II: 30

Degree Requirements for the Ph.D. in Economics*

The general requirements for the Ph.D. degree in economics are those set forth for the doctorate in the general statement for the Graduate School, and the following courses:

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*For course descriptions see p. 237–239.
# Coursework

## Core Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC 550</td>
<td>Survey of Development of Economic Thought</td>
<td>3</td>
</tr>
<tr>
<td>EC 570</td>
<td>Mathematical Economics</td>
<td>3</td>
</tr>
<tr>
<td>EC 571</td>
<td>Econometrics</td>
<td>3</td>
</tr>
<tr>
<td>EC 610</td>
<td>Microeconomic Theory</td>
<td>3</td>
</tr>
<tr>
<td>EC 611</td>
<td>Macroeconomic Theory</td>
<td>3</td>
</tr>
<tr>
<td>EC 616</td>
<td>Monetary Economics</td>
<td>3</td>
</tr>
<tr>
<td>EC 660</td>
<td>Game Theory</td>
<td>3</td>
</tr>
<tr>
<td>ST 554</td>
<td>Seminar in Econometrics</td>
<td>3</td>
</tr>
</tbody>
</table>

Total hours for common core .................................. 27

## Specialty Fields

Students are required to take two courses in each of two specialty fields: Applied Microeconomics and Applied Macroeconomics.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>FI 510</td>
<td>Financial Management</td>
<td>3</td>
</tr>
<tr>
<td>FI 601</td>
<td>Finance Theory I</td>
<td>3</td>
</tr>
<tr>
<td>Finance Electives</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

Total hours for specialty fields .................................. 12

## Minor Field in Finance

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>FI 510</td>
<td>Financial Management</td>
<td>3</td>
</tr>
<tr>
<td>FI 601</td>
<td>Finance Theory I</td>
<td>3</td>
</tr>
<tr>
<td>Finance Electives</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

Total hours in the minor .................................................. 12

In addition, each student is required to take two research seminars at the 600 level. .................................................................. 6

Minimum total hours .......................................................... 57

## Dissertation

A dissertation must be prepared by the student and accepted by the student’s dissertation committee.

## DEPARTMENT OF ENGLISH (EN)

Professor Harold Weber, Director of Graduate Studies  
Office: 113 Morgan Hall

The department offers programs leading to the master of arts, the master of arts in teaching English to speakers of other languages, the master of fine arts in creative writing, and the doctor of philosophy.

## Requirements for the M.A. Degree in English

### Admission Requirements

Applicants for graduate work in English are required to take the verbal, quantitative, and analytical portions of the Graduate Record Examination general test; the advanced (literature) portion is recommended but not required. Each applicant should submit a sample of his or her critical writing (normally an essay of 10–20 pages written for an upper-level English course or an excerpt from a senior thesis). Unconditional admission to the M.A. degree program in English is dependent upon the student's having completed the requirements for an undergraduate major in English with a grade point average of at least 3.0 and having satisfied the general requirements for admission to the Graduate School. Conditional admission may be allowed under the stipulations outlined in the general admission policy of the Graduate School. Application materials should be received by February 21 to ensure full consideration for admission for the following fall term.
Degree Requirements

With the exception of students admitted into the master’s program to pursue a concentration in Renaissance studies (requirements for that program follow), all candidates for the master’s degree are required to take the following: 3 hours in bibliography and research (EN 537 Introduction to Graduate Studies, which is normally offered every fall and which students are encouraged to take in their first semester, for maximum benefit); 3 hours of critical theory (EN 535 Literary Criticism, EN 536 Advanced Modern Criticism, or EN 635 Seminar in Literary Criticism); 3 hours of writing workshop (EN 538 Research and Critical Prose Workshop, which is offered every spring, and which students take in their fourth semester); 3 hours of teaching practicums (students with teaching assistantships take the summer practicum, EN 533, and EN 534, for a combined three hours of pass/fail credit); and 3 hours of coursework in each of the following four areas of English/American literature: medieval–16th century, 17th–18th centuries, 19th century, and 20th century. All master’s students must take at least three courses at the 600 level. Students not writing the thesis (Plan II) will take 6 credits of electives to acquire the 30 credits for completion. Students writing a thesis (Plan I) will take 6 thesis hours.

Plan I (thesis plan) students must complete at least 24 semester hours of coursework in English before writing the thesis, which must be a historical, critical, or otherwise analytical treatise. Thesis-plan students must take 6 semester hours of thesis research (EN 599) in addition to their 24 hours of coursework for a total of 30 hours. At least three of these courses must be at the 600 level. (See the general requirements for a master’s thesis listed under “Academic Policies” in this catalog. For additional information regarding the master’s thesis in English, contact the director of graduate studies in the English department.)

Plan II (nonthesis plan) students must take at least 30 semester hours of coursework in English. At least three of these courses must be at the 600 level. See the course requirements for all master’s students cited above.

Degree requirements for the M.A. in English with a concentration in Renaissance studies. Students admitted as candidates for the master of arts in English with a concentration in Renaissance studies are required to take the following: 3 hours in bibliography and research (EN 537 Introduction to Graduate Studies); 3 hours of critical theory (EN 535 Literary Criticism, EN 536 Advanced Modern Criticism, or EN 635 Seminar in Literary Criticism); 3 hours in medieval literature; 3 hours of Shakespeare (EN 566); 3 hours of non-Shakespearean Renaissance literature (either EN 565 Renaissance Drama or EN 563 Studies in 16th-Century English Literature); 3 hours in interdisciplinary coursework subject to the approval of the Strode committee; 3 hours of a Renaissance seminar; 3 hours in the Shakespeare in Performance Practicum (a course offered every other spring, in years when there is not a Strode seminar); and 3 hours of writing workshop (EN 538 Research and Critical Prose Workshop, which is offered every spring, and which students take in their fourth semester). Each student pursuing this concentration must also take 3 courses at the 600 level. A student not writing a thesis (Plan II) will take 3 hours of electives to acquire the 30 hours for completion. A student writing a thesis (Plan I) will take 6 thesis hours (EN 599) and in consultation with the director of the Strode Program, drop 3 hours of coursework from his or her Renaissance concentration. Each student pursuing this concentration will also take the general departmental master’s comprehensive examination.

Master’s comprehensive oral exam. The master’s comprehensive exam is an oral examination and defense of the paper generated in EN 538. The professor in whose class the paper originated, or the specialist adviser chosen by the student, will work with the student to construct a list of reading material relevant to the paper’s subject matter. This list will contain approximately 20–25 items; it may include articles as well as books, primary as well as secondary texts, works used in the essay as well as works that supplement the essay. This list should be designed to place the paper’s focus in the broader context of English literary studies. The student will then be responsible for these works in a one-hour oral defense of the paper staged before a faculty committee of no fewer than three members. Failure of the defense and exam for the second time will normally result in the student’s dismissal from the program. If the second defense
is successful, the student will be awarded a master of arts in English but will not be allowed to work toward the doctoral degree in this program.

**Foreign language requirement.** A reading knowledge of one foreign language is required. The foreign language requirement may be satisfied by one of the following: (a) the certification through the appropriate department of a "B" average or the equivalent of two years of undergraduate- or graduate-level study in a single foreign language, completed within five years of admission to the master's program; or (b) passing the foreign language reading examination prepared by the Department of Modern Languages and Classics. Students who are not native speakers of English may use their native language to fulfill this requirement.

**Requirements for the M.A. in Teaching English to Speakers of Other Languages (M.A.–TESOL) Degree**

**Admission Requirements**

A candidate for admission to the M.A.–TESOL degree program must satisfy the minimum conditions for regular admission to the Graduate School (including a grade point average of 3.0 overall and an acceptable score on the general test of the Graduate Record Examination). Each applicant must also submit a sample of his or her academic writing. In addition, those who are not native speakers of English must score at least 600 on the TOEFL examination; and must submit an audiotape demonstrating their speaking proficiency in English. Scores on the Test of Spoken English (TSE) and Test of Written English (TWE) are also desirable as part of the application. Students may be required to take appropriate courses in speaking and writing at the English Language Institute. Application materials should be received by February 21 to ensure full consideration for admission for the following fall term.

**Degree Requirements**

Students will be required to complete 30 semester hours for the degree: 24 hours of required courses and 6 hours of department-approved electives or of thesis research.

Students will be required to pass a comprehensive examination at the end of their coursework; the examination is normally given twice a year, in February and June. The examination will cover all the major areas of study.

An optional thesis may be written under the guidance of the TESOL faculty. Please see the Graduate School's general requirements for the master's thesis, outlined under "Academic Policies" earlier in this catalog.

To earn the degree, native speakers of English must demonstrate proficiency in a second language; students whose native language is not English must demonstrate satisfactory proficiency in spoken and written English.

**Requirements for the M.F.A. Degree in Creative Writing**

The program leading to the master of fine arts (M.F.A.) degree in creative writing is a studio/academic course of study. Imaginative writers enroll in writing workshops, forms courses, and literature classes, gaining exposure to a broad range of writing models and experimenting with a variety of strategies and forms. Guided development of each writer's talents culminates in a complete, carefully conceived final project (the thesis), typically a book-length manuscript. Most writers focus their studies on either poetry or fiction, with minor studies in one or more additional genres. Coursework is offered in hypertext, nonfiction, screenwriting, and autobiography, as well as poetry and fiction. Writers may, however, choose to balance the study and practice of two or more genres throughout the degree program, bearing in mind that at least one complete project must be submitted as a thesis. The program can be completed in three intensive years; a fourth year of study, in which work on the final project is the central activity, is often elected. All admitted M.F.A. students receive support in the form of graduate teaching assistantships or fellowships. Support is available for up to four years, subject to satisfactory performance.
Admission Requirements

Applicants to the M.F.A. program in creative writing must submit either the general portion of the Graduate Record Examination or the Miller Analogies Test in support of their applications for admission. They must apply to the Graduate School for admission to the Department of English, and must submit portfolios of their writing and three letters of recommendation directly to the following address: Director, Program in Creative Writing, Department of English, Box 870244, University of Alabama, Tuscaloosa, AL 35487-0244.

Portfolios should include 30 pages of prose, or 10–20 pages of poetry, or a substantial sampling of work in several forms. Writing that incorporates hypertextual linking may also be submitted as — or as a part of — the portfolio.

Degree Requirements

Candidates for the M.F.A. degree are required to spend a minimum of two semesters in residence and to complete 48 hours of graduate-level coursework, divided as follows (half of all coursework must be at the 600 level):

• 15 hours in graduate-level writing workshops, at least 3 hours of which must be in a second genre (workshops include EN 501 Fiction Writing, EN 503 Poetry Writing, EN 509 Writing for Film, EN 510 Writing Professional Nonfiction, EN 511 Writing: Special Topics, EN 601 Fiction Workshop, EN 603 Poetry Workshop, and EN 605 Writing Workshop: Special Topics)
• 9 hours in EN 608 Forms (Sample topics: Prosody, The Long Poem, Characterization Across Genre, Short Short Fiction and the Prose Poem, Autobiography, The Visual Book)
• 3 hours in EN 609: Writers at Work: Form, Theory, Practice. (Sample topics for this one-hour course: Profession of Authorship, Teaching Creative Writing, Writing Internship, Publishing: A Brief History, Poetry and Dance, Episodic Form: Don Quixote)
• 12 hours in literature, criticism, or linguistics courses in the Department of English at the 500 or 600 level
• 3 hours in any elective course at the 500 or 600 level (in English, a foreign language or literature, the program in book arts, women’s studies, American studies, or other departments)
• 6 hours in EN 699 (thesis preparation)

Workshops may be repeated for credit.

The M.F.A. thesis — and its oral defense — are required of all degree candidates. This final project is typically a substantial and carefully conceived book-length manuscript. Projects that are not print-based may also be submitted. Thesis projects are prepared under direction of a thesis adviser, usually a member of the resident creative writing faculty. Candidates for the M.F.A. are examined on their final projects by a committee of five faculty members (including the thesis adviser): four total from the Department of English and one graduate faculty member from outside the department. Two semesters in advance of their anticipated graduation, students apply to the director of creative writing for approval of thesis project and director. Students form their examination committees and meet all Graduate School deadlines for filing required paperwork. Thesis defenses must be scheduled for dates at least two weeks prior to the Graduate School deadline for thesis submission.

Students in the program in creative writing give a presentation of a significant portion of their own written work produced while in residence. In this 45-minute public reading/performance, the student demonstrates the wide array of his or her work before an audience of peers, faculty, and the general public and fulfills the comprehensive exam requirement.

Requirements for the Ph.D. Degree in English

In addition to the Graduate School’s general requirements for the Ph.D. degree, the Department of English has the following specific requirements:

Admission. Applicants for admission to the Ph.D. program in English are required
to take the general test of the Graduate Record Examination; the advanced (literature) portion is recommended but not required. Each applicant must submit a sample of his or her critical writing (normally an essay of some 20 pages written for a course, or a portion of a master’s thesis) and must normally have a grade point average of 3.5 or better for his or her master’s courses or equivalent graduate work. Application materials should be received by February 21 to ensure full consideration for admission for the following fall term.

Courses. There is a minimum requirement of 30 hours beyond the master’s degree (earned here or elsewhere), of which no more than 15 hours can be at the 500 level. To meet University requirements, doctoral students must have 48 credit hours. This means that 18 credit hours earned at the master’s level must be formally transferred and applied to the requirements for the doctoral degree. Only credit earned during the six-year period preceding admission to the doctoral program may be considered for transfer. If a student’s master’s degree is more than six years old at admission, therefore, that student may have to complete up to 18 additional hours of coursework. (See the “Transfer of Credit” section for doctoral degrees under “Academic Policies” in this catalog.) Doctoral students whose work at the master’s level does not meet the course distribution requirements of the department’s M.A. program (see “Requirements for the M.A. Degree in English”) may be required to complete those distribution requirements with courses taken toward the Ph.D. in addition to their regular coursework. Twenty-four hours of dissertation research are also required.

Foreign languages. The foreign language requirement may be satisfied by one of the following options:

- **A reading knowledge of two foreign languages:** This reading knowledge can be demonstrated by either of the following: (a) the certification of at least a "B" average or the equivalent in two years of study of a single foreign language completed, as either an undergraduate or graduate student, within five years of admission to the Ph.D. program; or (b) passing the foreign language reading examination prepared by the Department of Modern Languages and Classics. The language used to satisfy the M.A. language requirement — whether gained here or at another school — can satisfy one of the languages required for the Ph.D. program. Students who are not native speakers of English may use their native language as one of the two required languages.

- **Advanced proficiency in one foreign language:** Advanced proficiency can be demonstrated by (a) an undergraduate major in the language completed within five years of admission to the Ph.D. program; (b) the certification of at least a "B" in two advanced literature courses (400-level or higher) taught in the foreign language. Students who are not native speakers of English may use their native language to fulfill this requirement.

To be formally admitted to candidacy for the Ph.D. degree, all students must receive a pass in EN 637, Workshop in Academic Writing, which will normally be taken in the final year of coursework.

Preliminary examination. After finishing coursework, the student must be formally admitted to candidacy for the degree. To meet this requirement, each student must pass a written preliminary examination, and engage with his or her dissertation committee in a one-hour conference concerning the dissertation prospectus. The written preliminary examination will be given at a date agreed upon by the student and his or her examination committee in consultation with the director of graduate studies. The oral conference concerning the dissertation prospectus can be scheduled after the student passes the written examination, when the student and dissertation director agree that the prospectus is ready (date to be arranged by the student in consultation with the graduate studies director and the dissertation committee). The examination and conference will be governed by the following guidelines:

A. Written preliminary examination (see specific procedures for applied linguistics and rhetoric and composition): The written preliminary examination will be of two to four
hours in duration in the field or genre of the dissertation. The examination committee will consist of three faculty members from the English department chosen by the student for their expertise in the field. The precise nature of the examination — its length, the type and number of the questions to be asked and answered — will be negotiated between the student and the committee. The fields and genres from which students normally choose the examination specialty include the following:

**Fields**: Old and Middle English, Renaissance (including Shakespeare), 17th century, Restoration/18th century, 19th-century British, modern British, early American, late American; applied linguistics, rhetoric and composition

**Genres**: drama, fiction, poetry, intellectual prose, literary theory (e.g., deconstruction, new criticism, new historicism, psychoanalytical criticism)

At the beginning of the semester prior to the semester in which the written preliminary examination is to be taken, the student — working with his or her committee — will formulate a reading list of 30–40 works from which questions will be drawn.

The purpose of the written preliminary examination is to demonstrate competence in the student’s area of specialization.

Students who fail the written preliminary examination may take it a second time. Students who fail the examination a second time will not be allowed to continue doctoral work.

**B. Dissertation prospectus conference**: The conference concerning the dissertation prospectus will be a one-hour discussion between the student and his or her dissertation committee. Generally, that committee will be composed of the dissertation director, plus three other graduate faculty members from the department and one graduate faculty member from outside the department.

The conference will focus on both the soundness of the prospectus and the student’s readiness to undertake the research and writing of the dissertation. The purpose of the conference is to help the student begin the writing of the dissertation, to identify areas of potential difficulty, and to prepare the student for the project that lies ahead.

Once the written preliminary examination has been passed and the dissertation prospectus conference completed, the student and his or her dissertation committee must complete an application to candidacy and submit it to the Graduate School. The graduate studies director will notify the Graduate School that the written preliminary examination has been passed and the dissertation prospectus conference completed.

Once the prospectus conference is completed, then the student may proceed to the dissertation. The dissertation defense consists of an oral defense of the dissertation before four English department graduate faculty members (including the director) and an external graduate faculty member. Normally, the members of this committee are those faculty members who formed the dissertation prospectus conference committee. They will be appointed by the director of graduate studies in consultation with the student, who will have a clear understanding with the faculty members involved of whether they will be able to read the dissertation and conduct the final oral examination during summer months or during sabbatical leave if necessary. Faculty members have the prerogative to serve on a committee when they are not teaching; it is the student’s responsibility to schedule investigation, writing, and examination in time periods acceptable to members of the committee. All five members of the dissertation committee must have time to read and analyze the dissertation before the oral examination on the dissertation; final approval of the dissertation must be received at least six weeks before graduation.

**Composition, rhetoric, and English studies (CRES)**. The department offers two options for specialization in composition, rhetoric, and English studies:

- **Full specialization**: 12 hours of approved coursework, the written (“genre”) and oral sections of the preliminary examination as described below, and the dissertation.
- **Concentration**: 12 hours of approved coursework and the written (“genre”) section of the preliminary examination as described below. A letter certifying the CRES concentration is available for doctoral students who complete this option.
Normally, 9 of the 12 hours required for either CRES option will consist of EN 532, EN 533:534 (3 hours), and either seminar EN 638 or EN 639. The remaining 3 hours may be selected from EN 512, an additional seminar (EN 638 or EN 639), or other graduate courses in linguistics, literacy theory, research methodology, or history of rhetoric approved by the field adviser in consultation with the rest of the faculty in composition studies. Candidates for either option will normally be expected to teach at least two different freshman composition classes and one sophomore literature survey.

**The CRES preliminary examination.** A doctoral student wishing to write a dissertation in CRES must pass both the written and oral components of the preliminary examination. CRES candidates who have taught any 200-level classes in English literature at The University of Alabama are not required to take the written preliminary examination required of students in other specialities (see “A. Written preliminary examination” above).

The written preliminary examination for candidates in CRES will be four hours in duration and will require candidates to respond to two of four topics prepared according to the guidelines available in the office of the CRES director.

If the candidate passes the written preliminary examination, the CRES faculty will conduct an oral examination of the candidate at the first convenient opportunity for both the candidate and the faculty. For the oral examination, the candidate will be responsible for material from all four topics — the two not covered on the written examinations as well as the two that were. Note: Candidates intending to write a dissertation in composition studies must pass the oral examination.

**CRES dissertation and prospectus defense.** CRES students who have passed the preliminary examination are free to form a dissertation committee consisting of a director from the CRES faculty, three other faculty members of the English department, and a faculty member from outside the department. The candidate’s dissertation prospectus must be approved by his or her dissertation committee and then defended in an oral examination conducted by this same committee.

**Ph.D. in English with a concentration in applied linguistics (discourse, culture, and English language studies).** The applied linguistics Ph.D. concentration is shaped by departmental location, faculty expertise, and access to other resources within The University of Alabama. The location in an English department provides opportunities for research on second language writing through involvement in the teaching of freshman composition, while the M.A.-TESOL program, with its collaboration with the English Language Institute on campus, provides opportunities for research in an intensive language program context. Other programs in the Department of English (the literature Ph.D., the Strode Program in Renaissance Studies, the rhetoric and composition program, and the M.F.A. program) expand possibilities for graduate study into stylistics, rhetoric and composition, and literacy issues. Faculty expertise includes spoken language prosody, cross-cultural communication, issues in language teaching methodology, world English, pragmatics and discourse analysis, issues of language and identity, language policy, sociolinguistics, and dialectology. In terms of the wider University, a collaboration in applied linguistics with colleagues in the Department of Modern Languages and Classics offers further possibilities for study. Linguists in other departments also offer courses that can form part of an individualized plan of study (anthropology, education, communicative disorders, communication studies).

Because this is a small program, the admissions process is very selective. Applicants are encouraged to consider carefully the program offerings and apply only if they see a good fit between their interests and faculty expertise in the program. The statement of purpose is especially important in evaluating applicants for admission.

**A. Admission.** The typical student seeking admission into this program would have a master’s degree in English, linguistics, applied linguistics, or TESOL. See the graduate catalog at http://graduate.ua.edu for Graduate School requirements. The application includes a data sheet, statement of purpose, two copies of all transcripts (including UA), three letters of recommendation, proof of immunization, and an application fee. See departmental requirements for GPA and entrance examination score. Whereas
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the Graduate School requires a TOEFL score of at least 550 for applicants whose first language is not English, the applied linguistics Ph.D. concentration requires a higher score (see below).

B. Departmental requirements. The English Ph.D. requires a GRE general test score of at least 1000 total, a sample of critical writing (20 pages), and a GPA of 3.5 or better on M.A.-level courses.

C. Applied linguistics Ph.D. concentration requirements. A TOEFL score of at least 600, and a TSE score or an audiotape with samples of informal and formal speech by applicant.

D. Coursework. A minimum of 48 hours of coursework (including up to 18 hours from master’s studies) will be required, distributed as follows: 9 hours of required courses, 12 hours of distribution requirements in (applied) linguistics, and 9 hours of electives.

9 hours of required courses
EN 637 Workshop in Academic Writing: Under ideal circumstances, the student will take EN 637 twice, once for each qualifying paper. Possible substitutions are EN 538 Research and Critical Prose Workshop or EN 630 Directed Study with the qualifying paper adviser. See the description of the qualifying papers below.
EN 533 and EN 534: Teaching College English practica (3 hours): Normally, students on assistantships would complete this requirement, but, in some instances, applied linguistics Ph.D. students, depending on their degree of support and their particular interests, would be able to substitute another course for this requirement. Note: EN 533 begins with a required one-week training session immediately prior to the start of the fall semester.

12 hours of courses meeting (applied) linguistics distribution requirements
At least one course (3 hours) in each of the following:
1. A basic linguistics course
2. A more specialized linguistics course relevant to the student’s particular interests (e.g., sociolinguistics/dialectology, discourse analysis, psycholinguistics)
3. An applied linguistics course relevant to the student’s particular interests (e.g., second-language teaching/learning, stylistics, language policy and planning)
4. A course in research methodologies in applied linguistics

9 hours of electives
Depending on the student’s area of research interest, he or she may take the remaining dissertation units in the Department of English, or , with appropriate approval, in other programs/departments, including modern languages and classics, anthropology, women’s studies, communication studies, and education. Suggested electives in the Department of English: teaching academic writing skills to second language learners; structure of English; second language development; dialectology/sociolinguistics; spoken discourse analysis; teaching language through literature; research methodologies in applied linguistics; introduction to stylistics; a case study of one’s own language learning; pedagogical grammar; multicultural literacies; history of the English language; cross-cultural communication; computers and writing; approaches to teaching composition; seminar in composition theories; special topics in composition, advanced modern criticism, and courses in literature and critical theory.

Other requirements
Of the 30 hours of coursework taken at The University of Alabama, no more than 15 hours can be at the 500 level.
Foreign language requirement: see current graduate catalog
Dissertation research: 24 hours minimum required
Total hour/credit requirements
18 hours of transfer credit from the M.A. degree program, 30 hours of coursework at The University of Alabama, and 24 hours of dissertation research at The University of Alabama = 72 hours.

E. The Ph.D. examination. After finishing coursework, the student must be formally admitted to candidacy for the degree. To meet this requirement, the student must 1) complete two qualifying papers, with oral exams, as described below; and 2) engage with his or her dissertation committee in a one-hour conference concerning the dissertation prospectus, as described below. It is the student’s responsibility to become familiar with the research interests of the faculty and to choose faculty advisers (and committees) for the two qualifying papers as soon as possible in the program. The components of the exams will be governed by the following guidelines:

• Qualifying papers and oral examinations: The student will complete two qualifying papers with oral examinations demonstrating a breadth of preparation within the field. One of these qualifying papers will then form the basis for the dissertation prospectus. In the usual circumstance, qualifying papers will be developed from course papers written during the first three semesters of the program. Each should be approximately 30 pages in length, with a bibliography of at least 25 references, and an abstract of 50–100 words. Ideally, each qualifying paper should be completed during EN 637 (see guidelines for EN 538/EN 637), but because of scheduling considerations, a qualifying paper may also be done during EN 538 or as a 600-level directed study (EN 630) with the adviser for the paper. The first qualifying paper should be completed during the fourth semester of the program. A linguistics faculty member will serve as adviser for the first qualifying paper, and chair a committee of three faculty who will conduct a one-hour oral examination of the student on the area covered by the paper toward the end of the student’s fourth semester. All members of the committee should receive a copy of the paper at least one week before the date of the oral exam. (See the Department of English’s description of the protocols for the M.A. Oral Exams in relation to EN 538, which matches the process for the qualifying papers and oral exams.) The second qualifying paper should be completed during the fifth semester of the program. The same procedure applies for the oral examination on the area of the second paper. It is recommended that two different faculty members serve as advisers for the two qualifying papers, so that the student has an opportunity to work closely with as many faculty as possible. After completing coursework and two qualifying papers with oral exams, the student may register for dissertation research (24 hours required).

• Dissertation prospectus conference: During the sixth semester of the program, the student will develop one of his or her qualifying papers into a dissertation prospectus, and engage in the dissertation prospectus conference. The development of the dissertation prospectus will be supervised by the linguistics faculty member serving as chair of the student’s dissertation committee, which also will include three other graduate faculty members from within the department and one graduate faculty member from outside the department. A good dissertation prospectus contains a clear statement of the working thesis, hypothesis, problem, or question, with a clear indication of its importance to the field; a synthesis of prior research and relevant literature; a description and rationale for research methodology; proposed organization by chapter; and a working bibliography, including both works that the student has read and intends to read. Committee members should receive copies of the prospectus at least two weeks before the dissertation prospectus conference. The conference concerning the dissertation prospectus will be a one-hour discussion between the student and the dissertation committee, focusing on both the soundness of the prospectus and the student’s readiness to undertake the research and writing of the dissertation. The purpose of the conference is to help the student begin the writing of the dissertation, to identify areas of potential difficulty, and to prepare the student for the project that lies ahead. (See the Department of English’s description of the dissertation prospectus defense and the detailed instructions to the student.)
The student is advanced to candidacy after completing both of the qualifying papers (with oral defense) and the dissertation prospectus conference. Note: The student should get the Application for Candidacy from the graduate director's assistant before the dissertation prospectus conference so that it can be completed and signed in quadruplicate by the committee immediately after the conference. After it is signed, the student should take it to the College of Arts and Sciences dean's office in 105 Clark Hall for the dean's signature. That office will send the application to the Graduate School for the final signature after the dissertation has been completed and defended.

F. The dissertation and defense. After advancement to candidacy, the student may proceed with the dissertation. The dissertation defense consists of an oral defense of the dissertation before four English department graduate faculty members, two of whom should be linguists in the department (including the director) and an external graduate faculty member. Normally, the members of the committee are those faculty members who formed the committee at the student's dissertation prospectus conference. (See the graduate catalog for more details of the appropriate arrangements.) When the dissertation has been successfully defended and all departmental and Graduate School requirements have been satisfied, then the student will be awarded the doctoral degree. In the formation of all committees, the graduate studies director has the responsibility for coordinating formation of committees with candidates and faculty members.

Teaching experience. All candidates for the Ph.D. degree are required to have college or university teaching experience in English composition or literature. Teaching assistants in all programs must enroll in EN 533:534 Teaching College English during their first year of service. Completion of the summer practicum, EN 533:534, will result in a combined 3 hours of pass/fail credit.

Admission into the doctoral program with a B.A. degree. Those who wish to apply for admission directly into the doctoral program after completing a B.A. in English must have shown superior aptitude for English at the undergraduate level and satisfy the Graduate School's normal requirements for admission.

The Ph.D. will consist of 48 hours of coursework. Twenty-four of those hours are required. The first 24 hours must be satisfied by coursework specified below in section A. While completing those 24 hours, the student will be given an oral examination (in EN 538), passage of which determines whether the student continues in the program.

A. The first 24 hours: 3 hours in bibliography and research (EN 537 Introduction to Graduate Studies, which is normally offered every fall and which students are encouraged to take in the first semester, for maximum benefit); 3 hours of critical theory (EN 535 Literary Criticism, EN 536 Advanced Modern Criticism, or EN 635 Seminar in Literary Criticism); 3 hours of writing workshop (EN 538 Research and Critical Prose Workshop, which is offered every spring and which students take in their fourth semester); 3 hours of teaching practicums (students with teaching assistantships take the summer practicum, EN 533, and EN 534, for a combined 3 hours of pass/fail credit); and 3 hours of coursework in each of the following areas of English/American literature: medieval–16th century, 17th–18th century, 19th century, 20th century.

The comprehensive oral exam. The comprehensive exam is an oral examination and defense of the paper generated in EN 538. The professor in whose class the paper originated, or the specialist adviser chosen by the student, will work with the student to construct a list of reading material relevant to the paper's subject matter. This list will contain approximately 20–25 items; it may include articles as well as books, primary as well as secondary texts, works used in the essay as well as works that supplement the essay. This list should be designed to place the paper's focus in the broader context of literary studies. The student will then be responsible for these works in a one-hour oral defense of the paper. Failure of the defense and exam for the second time will normally result in the student's dismissal from the program. If the second defense is successful, the student will be awarded a master of arts in English and will not be allowed to work toward the doctoral degree in this program.
B. The second 24 hours: These hours will consist of elective courses, except for EN 637 Workshop in Academic Writing. To be formally admitted to candidacy for the Ph.D. degree, all students must receive a pass in this course, which will normally be taken in the final year of coursework.

C. Other requirements: Of the 48 hours taken, 24 must be at the 600 level.

The foreign language requirements, written and oral preliminary examination requirements, dissertation and dissertation research hour requirements are the same as those for students who enter the program with master’s degrees.

Graduate Credit for 500-Level Courses
Graduate students enrolled in 500-level courses that are also offered at the 400 level are expected to perform extra work of an appropriate nature. Graduate credit will not be granted at the 400 level.

Time Limit for All Degrees
All requirements for the M.A., M.A.–TESOL, and M.F.A. degrees must be completed within six years. The Ph.D. degree must be completed within seven years, beginning with the first semester in which the student registers for courses in the program of study.

Course Descriptions
EN 500 Special Topics. Three hours. Offered every year.
EN 501 Fiction Writing. Three hours.
Enrollment limited to M.F.A. students; other graduate students admitted on the basis of portfolios (see creative writing director during advising period). Focus will be a discussion of original student writing; other reading and writing may be assigned. Offered spring semester.

EN 503 Poetry Writing. Three hours.
Enrollment limited to M.F.A. students; other graduate students admitted on the basis of portfolios (see creative writing director during advising period). Focus will be a discussion of original student writing; other reading and writing may be assigned. Offered fall semester.

EN 509 Writing for Film. Three hours.
An introduction to the craft of writing for film and television.

EN 510 Nonfiction Writing. Three hours.
Focus will be a discussion of original student writing; other reading and writing may be assigned. An introduction to the variety of nonfiction forms including memoir, reportage, the essay, travel writing, reviewing, and the interview.

EN 511 Writing: Special Topics. Three hours.
Enrollment limited to M.F.A. students; other graduate students admitted on the basis of portfolios (see creative writing director during advising). Focus will be a discussion of original student writing; other reading and writing may be assigned. Sample topics: hypertext; the prose poem.

EN 512 Computers and Writing. Three hours.
A survey of how computers can be used to help students improve their writing and to help teachers improve their writing instruction.

EN 520 The Development of English Grammar. Three hours.
A coherent examination of the changing methods and theories for describing the English language.

EN 523 History of the English Language. Three hours.
An introduction to the external history of the English language along with the study of the accompanying internal changes in structure.

EN 524 The Structure of English. Three hours.
An intensive investigation of the structures in the English language, including phonology, morphology, syntax, and semantics.
EN 525 Dialectology. Three hours.
The study of the experience of the English language in America, with particular emphasis
on its development and dialects.

EN 528 Directed Readings Abroad. One to three hours.
Designed for graduate students who wish to take an independent studies course during
international summer programs. Reading list and requirements will be negotiated be-
tween student and faculty member. No more than three credits can be counted towards
a degree program.

EN 529 Directed Readings. One to three hours. By arrangement.

EN 530 Feminist Theory (same as WS 530). Three hours.

EN 532 Approaches to Teaching Composition. Three hours.
A study of the basic philosophies and approaches to teaching expository writing in
secondary and higher education, along with examination of the traditional grammar and
print conventions used in such instruction.

EN 533:534 Teaching College English. Three hours.
Required of all graduate assistants teaching EN 101 and EN 102 for the first time. EN
533 Issues and Methods is offered fall semester; EN 534 Writing about Literature is
offered spring semester. Please note: EN 533 begins with a required two-week training
session immediately prior to the start of the fall semester.

EN 535 Literary Criticism. Three hours.
A study of selected major critics and critical trends from the classical period into the
20th century.

EN 536 Advanced Modern Criticism. Three hours.
A study of 20th-century literary criticism, with attention both to selected major critics and
to contemporary critical trends and movements.

EN 537 Introduction to Graduate Studies. Three hours.
A study of selected bibliographical resources and of some of the important method
approaches employed in literary study, including an introduction to critical approaches,
 scholarly writing, and issues in the profession.

EN 538 Research and Critical Prose Workshop. Three hours.
A writing workshop normally taken after 18 hours, this course is designed to encour-
age the student to draft and revise a substantial critical paper with the benefit of peer
critiques.

EN 539 Approaches to Teaching the Sophomore EN Survey. One hour, pass/fail.
A teaching practicum required of first-time teachers of sophomore surveys of
literature.

EN 540 Early American Literature. Three hours.
A survey of the major literary figures prominent in the development of literature in America
through the early National period.

EN 542 American Novel to 1900. Three hours.
Emphasis is on the development of the American novel through 1900, with particular atten-
tion given to Hawthorne, Melville, Cooper, Twain, Chopin, Crane, James, and others.

EN 543 American Novel, 1900 to 1945. Three hours.
Emphasis is on the development of the American novel from 1900 to 1945, with particular
emphasis on such writers as Hemingway, Fitzgerald, Faulkner, Steinbeck, Wolfe, Dreiser,
Cather, Norris, Wright, and others.

EN 544 American Novel since 1945. Three hours.
Emphasis is on the development of the American novel since 1945, with particular em-
phasis on such writers as Ellison, Kerouac, Bellow, Mailer, Didion, Morrison, O’Connor,
Pynchon, Percy, and others.

EN 547 American Poetry to 1900. Three hours.
A critical examination of the works of several major American poets before 1900, with
emphasis on the poetry of Bradstreet, Taylor, Poe, Whitman, and Dickinson.

EN 548 American Poetry, 1900 to 1945. Three hours.
An analysis of the sources, themes, and directions of Modernist American poetry,
1900–45, through the work of Pound, Eliot, Williams, Stein, Stevens, Frost, and
others.
EN 549 American Poetry since World War II. Three hours. A survey of major postwar poets, with an emphasis on contemporary poetry and poetics.

EN 553 Studies in American Fiction. Three hours. Advanced study of American fiction, focusing on a body of work or authors covered in depth using a variety of methodological or theoretical approaches. Topics announced each semester.

EN 554 Studies in American Poetry. Three hours. Advanced study of American poetry, focusing on a body of work or authors covered in depth using a variety of methodological or theoretical approaches. Topics announced each semester.

EN 561 Chaucer: The Canterbury Tales, Troilus and Criseyde. Three hours. Includes study of Chaucer’s language and the 14th-century milieu.


EN 564 Renaissance Women Writers. Three hours. A survey of women writers in English in the 16th and 17th centuries, including poetry, drama, fiction, and life-writing.

EN 565 Renaissance Drama. Three hours. An exploration of the plays of Shakespeare’s contemporaries (1580–1642).

EN 566 Shakespeare. Three hours. Topics vary, but the course normally considers a broader selection of Shakespeare’s works than is included in a typical undergraduate course.

EN 568 Studies in 17th-Century English Literature. Three hours. A close reading of the most important and interesting works of Donne, Herbert, Bacon, Browne, Jonson, Marvell, Herrick, and selected minor metaphysical and cavalier poets.

EN 570 Spenser/Milton. Three hours. At any given time, this course will focus either on Spenser (with emphasis on The Faerie Queene) or on Milton (with emphasis on Paradise Lost).

EN 571 Topics in Restoration and 18th-Century Literature. Three hours. Designed not only to introduce graduate students to the literature and history of 1600–1785, but to connect that period to the periods which preceded and followed it. Topics will vary from semester to semester.

EN 573 Problems in Enlightenment Literature. Three hours. Designed to introduce graduate students to new directions in scholarship on the literature of the European Enlightenment, or what is sometimes called “the Long 18th Century,” 1650–1850.

EN 582 Romantic Literature. Three hours. Advanced introduction to Romantic literature and to current developments in Romantic studies.


EN 591 Modern British Fiction. Three hours. An advanced survey of major British novels from the 1890s to the present. Included are works by Hardy, Conrad, Joyce, Lawrence, Woolf, Forster, and others.

EN 593 Modern British Poetry. Three hours. A study of major British poets from Hardy to Ted Hughes. The emphasis is on the poetry of Yeats, Auden, and Dylan Thomas.

EN 594 Contemporary British Writing. Three hours. Advanced introduction to trends and issues in British writing from 1945 to the present.

EN 595 Modern British Drama. Three hours. A survey of British plays from Black-ey’d Susan to contemporary productions.


EN 600 Special Topics Seminar in British Literature. Three hours.
A recent topic was Joyce and his contemporaries.

EN 601 Fiction Workshop. Three hours.
Enrollment limited to students with approved portfolios (approval secured upon admission to the M.F.A. program or during advising period — see creative writing director). Focus will be discussion of original student writing; other reading and writing may be assigned.

EN 603 Poetry Workshop. Three hours.
Enrollment limited to students with approved portfolios (approval secured upon admission to the M.F.A. program or during advising period — see creative writing director). Focus will be discussion of original student writing; other reading and writing may be assigned.

EN 608 Forms: Special Topics. Three hours.
Through readings of primary works and theory by writers in a particular genre or form, this course examines the traditional and contemporary practice of that genre’s aesthetics. Sample topics: nonfiction; hypertext; prose poem.

Short course in specialized topic of interest to creative writers. Sample topics: Teaching Creative Writing, Profession of Authorship, Writing Internship, Publishing: A Brief History, Poetry and Dance, Episodic Form.

EN 610 Methods in TESOL. Three hours.
A detailed account of language teaching approaches and methods according to their underlying theories of language and language learning.

EN 612 Topics in Applied Linguistics. Three hours.
Intensive study of theoretical issues in second language acquisition, including classroom applications; variable topics.

EN 613 Second Language Development. Three hours.
A study of psycholinguistic, sociolinguistic, neurolinguistic, and other approaches to understanding how people develop skill in a second language.

EN 617 Teaching Academic Language Skills to Non-Native English Speakers. Three hours.
A course focusing on the teaching of academic writing skills in the context of an American university.

EN 618 Teaching Language Skills through Literature. Three hours.
A course focusing on literary language as a vehicle for teaching language skills to non-native speakers.

EN 620 English Linguistics. Three hours.
An advanced introductory linguistics course that focuses on the English language and which has relevance for students in the TESOL, literature, rhetoric and composition, and M.F.A. programs.

EN 622 Old English. Three hours.
Study of the language and reading of representative prose and poetry.

EN 625 Seminar in English Linguistics. Three hours.
The application of specific linguistic techniques to a variety of problems in the description of the English language; the course has a different focus each time it is taught.

EN 627 Seminar in the History of the English Language. Three hours.
The close analysis of diachronic issues in the English language; a different set of issues is explored each semester the course is taught.

EN 630 Directed Readings. One to three hours. By arrangement.
EN 631 Classical Backgrounds of English Literature. Three hours.
An analytical study of selections from ancient Greek, Roman, and Hebrew literature, with special emphasis on its influence upon English and American authors.
EN 635 Seminar in Literary Criticism. Three hours.
Intensive study in the writings of one critic or exploration of a topic involving works by several critics. Recent topics have included feminist criticism and psychoanalytic criticism.

EN 637 Workshop in Academic Writing. Three hours.
A writing workshop normally taken in the student's final year of coursework. To pass this course, the doctoral student will be required to revise a paper and submit it for publication.

EN 638 Rhetoric and Composition. Three hours.
A study of major developments in rhetoric, linguistics, and cognitive psychology as they apply to composition theory.

EN 639 Seminar in Special Topics in Rhetoric and Composition. Three hours.
Topics to be proposed by faculty each semester. Typical topics include literacy theory, theoretical perspectives on basic writers, and computers and literacy.

EN 640 Special Topics Seminar in American Literature. Three hours.
Recent topics have included “American Madness: the Literary Figurations of Unreason”; and Thoreau, Dickinson, and related contemporary writings.

EN 641 Seminar in American Literature before 1850. Three hours.
Intensive literary and historical study of writing by one or more American authors. A recent topic was the making, recording, and remaking of history in 19th-century American literature.

EN 642 Seminar in American Literature, 1850–1900. Three hours.
Intensive literary and historical study of writing by one or more American authors. A recent topic was the mythologizing of Mark Twain.

EN 643 Seminar in 20th-Century American Literature. Three hours.
Intensive literary and historical study of writing by one or more American authors. Recent topics have included the American 1960s and Hemingway.

EN 644 Seminar in Southern Literature. Three hours.
An intensive look at a major aspect of Southern American drama, poetry, and/or prose. Recent topics have included a study of race and gender in writings of Southern women; Faulkner and his legacy; and Tennessee Williams.

EN 645 Seminar in African-American Literature. Three hours.
A critical exploration of African-American literature — culturally, historically, politically, and aesthetically — with efforts to define and contextualize the African-American experience.

EN 660 Seminar in Old English Literature. Three hours.
Prerequisite: EN 622 Old English.
Intensive study of Old English literature and culture. Recent topics have included Beowulf and contemporary criticism.

EN 661 Chaucer. Three hours.
The Canterbury Tales, Troilus and Criseyde, and selected minor poems. Includes advanced study of Chaucer's language and the 14th-century milieu.

EN 662 Middle English Literature Exclusive of Chaucer. Three hours.
A survey of the period with emphasis on types of literature, allegory, and satire. The opinions and attitudes of the Middle Ages are examined.

EN 665 Seminar in Renaissance Literature I. Three hours.
Recent topics have included Elizabethan drama and friendship in Renaissance literature.

EN 666 Seminar in Renaissance Literature II. Three hours.
Recent topics have included Jacobean and Caroline drama and Shakespearean tragedy.

EN 667 Shakespeare in Performance Practicum. Three hours.
Shakespeare wrote his plays to be performed, and this course investigates conditions and implications of performance on stage and in film, present and past.

EN 668 Seminar in Renaissance Literature III. Three hours.
Recent topics have included John Donne's poetry and mourning and the elegy.
EN 669 Strode Seminar in the Age of Shakespeare. Three hours. This seminar is based around part-time residence of distinguished faculty from other universities. Recent topics have included constructing gender and Milton and Shakespeare in literary history.

EN 673 Seminar in Restoration Literature. Three hours. An analytical study of a major aspect of the literature of Britain between 1660 and 1700. Emphasis varies; a recent topic was “The Romance of Conquest.”

EN 674 Seminar in 18th-Century British Literature. Three hours. Emphasis is on a major figure (Fielding, Pope, Swift) and/or groups of writers (The Age of Johnson) and/or form (the novel, biography, drama). Specific topics are announced prior to registration.

EN 683 Seminar in Romantic Literature. Three hours. Intensive study of English Romantic poetry and prose. Recent topics have included Wordsworth and Coleridge, and the Shelley circle.

EN 685 Seminar in Victorian Literature. Three hours. Intensive study of Victorian literature. Recent topics have included Browning and Hopkins, and “Anatomies of Pleasure and Pain.”

EN 690 Seminar in Modern British Literature. Three hours. A study of some major aspect or aspects of the literature from 1890 to 1945. Recent topics have included Modernism; Woolf, psychoanalysis, and feminism; and Dylan Thomas, D. H. Lawrence, and Ted Hughes.

EN 691 Seminar in Contemporary British Writing. Three hours. Investigation of issues in British writing from 1945 to the present. A recent topic was “Representing Africa.”

EN 699 Dissertation Research (M.F.A./Ph.D.). Variable credit. (Three-hour minimum enrollment required for Ph.D. students.)

DEPARTMENT OF GEOGRAPHY (GY)
Professor Gerald R. Webster, Chairperson Office: 202 Farrah Hall

The department offers a program leading to the master of science degree in geography. Study in geography prepares students to work in a broad range of positions related to foreign area analysis, land-use management, planning, urban and economic development, environmental analysis, and geographic techniques including computer cartography, geographic information systems, and remote sensing. These positions are found in federal, state, and local governments, as well as in private industry.

Among several close associations with other disciplines, the graduate program in geography has traditionally been closely related to regional and urban planning. The program has assisted various city and regional planning agencies throughout the state, providing expertise in computer graphics, land-use planning, and urban-industrial location analysis.

Admission Requirements
Applicants must submit an acceptable score on the Graduate Record Examination in support of the application. General admission requirements are outlined in the “Academic Policies” section of this catalog.

Degree Requirements
The graduate program in geography is designed to include a thesis or a nonthesis option. Under both options, the student has considerable latitude to design a program to fit particular needs. All entering students must specify one of the two options during the second semester of academic work. Both options have prerequisite courses, including two introductory courses in physical geography, an introductory course in human geography, a course in world regional geography, a course in map interpretation, and a basic statistics course.
All graduate geography students are required to pass a comprehensive examination for admission to candidacy (after having taken a minimum of 18 hours of graduate-level courses).

**M.S. in geography, thesis option.** This option requires 30 semester hours, including 3 hours of program requirements, 6 hours of thesis research, and 15 hours in core courses, plus successful defense of a thesis. With departmental approval, 6 hours may be taken in techniques or related disciplines. GY 500 is required.

**M.S. in applied geography, nonthesis option.** This option requires 39 semester hours, including 3 hours for a nonthesis project, 3 hours of program requirements, and 8 hours in geographic techniques. In addition, 25 hours in coursework are required with a minimum of 18 hours in core courses and up to 7 hours in technique courses or related disciplines with departmental approval. Up to 6 hours may be taken in experiential courses with departmental approval. GY 500 is required.

**Course Descriptions**

**GY 500 Research Traditions and Methodology in Geography.** Three hours.
An investigation of the historical development of geography, including its changing philosophies and prominent contributors. Students are also introduced to various approaches for conducting research in geography and must develop a written research proposal in an area of their interest.

**GY 502 Climatology.** Three hours.
Review of atmospheric processes as they relate to global and regional climate patterns in the boundary layers of the earth’s environment.

**GY 505 Directed Research: Physical Geography.** Variable credit.

**GY 506 Directed Research: Human Geography.** Variable credit.

**GY 508 Applied Climatology.** Three hours.
An examination of the interaction of climate and basic climatic elements with their environmental processes and particularly human activities.

**GY 510 Water Resources.** Three hours.
Examination of the resource characteristics of water, including its natural occurrence, uses, history of development, allocation law, management and planning, and quality.

**GY 517 Natural Hazards.** Three hours.
Examines the nature of extreme physical events including their locations, magnitude, frequencies, and impacts on society. Perception and behavioral patterns of people and communities in response to natural hazard threats are also considered, with particular reference to planning and management for the successful mitigation of hazards and provision of emergency services to deal with hazard impact.

**GY 520 Remote Sensing I.** Four hours.
Focuses on basic principles behind remote sensing physics, techniques, and technology and introduces new sensor systems and digital image processing. Major topics include electromagnetic radiation principles, airborne remote sensing, microwave remote sensing, and digital image processing.

**GY 530 Introduction to Geographic Information Systems.** Four hours.
Introduces the basic concepts of GIS, including definition and components of GIS, spatial data structures, data sources, data input, manipulation and analysis, applications of GIS, and managing GIS.

**GY 532 Special Research in Geography.** Two to four hours.

**GY 535 Remote Sensing II.** Four hours.
Focuses on the quantitative analysis of non-photographic remote sensor data, providing students with hands-on experience using a digital image processing software package. Topics include preprocessing, image enhancement, classification, digital change detection, and remote sensing and GIS.

**GY 536 Advanced Geographic Information Systems.** Four hours.
Focuses on the analytical use of spatial information as well as GIS applications. Topics include spatial aspects of geographic information, attribute data structure, error and uncertainty, spatial analysis theories, GIS modeling, and GIS design.
GY 538 Application Issues in GIS. Four hours.
Provides an in-depth discussion on various topics in the application and technical issues of geographic information systems.

GY 539 Natural Resource and Environmental Planning. Three hours.
An examination of human activities that directly affect the physical environment, and of environmental constraints imposed on human activities. Major topics include natural resource administration and policy, problems in environmental planning, and environmental impact assessment.

GY 540 Community Facilities Planning. Three hours.
A study of concepts and processes that underlie (a) the provision of public goods and services and (b) the spatial organization of publicly owned facilities. Topics range from theory to practical methods of conflict resolution.

GY 541 Planning Administration, Controls, and Techniques. Three hours.
The theory and use in community planning of zoning, eminent domain, taxing and police powers, enabling acts, charters, official maps, codes, nuisance ordinances, impact statements, etc.

GY 547 Environmental Modeling and Mapping. Four hours.
Focuses on the principles and applications of environmental modeling using geographic information technologies.

GY 550 Political Geography. Three hours.
Examines, at local, national, and international levels, the organization of political space and its impact on political processes and patterns of behavior and issue differentiation. Topics include the future of the state, the state's internal organization, spatial dynamics of fiscal federalism, electoral geography, and political geography in "new lands" such as Antarctica.

GY 551 Political Geography of the United States. Three hours.
Course focuses on the political geography of the United States with particular attention to the South.

GY 552 Environmental Decision Making. Three hours.
Designed to help students develop both the tools and the personal philosophy necessary to analyze and manage scarce resources. A review of current environmental topics is followed by a survey of different paradigms and techniques that contribute to environmental decision making.

GY 553 Environment and Society. Three hours.
Explores the linkages between the biophysical environmental and human social systems. Public-policy implications are viewed from a social science perspective.

GY 558 Urban Geography. Three hours.
A thorough examination of the literature in economics, political science, and sociology that is relevant to the geographical study of contemporary urban structure, power, and conflict.

GY 560 Environmental Management. Three hours.
Introduces students to the evolution of environmental policy and law, environmental analysis, and techniques in formulating and implementing environmental policy with emphasis on writing and speaking.

GY 561 Social Impact Assessment. Three hours.
Focuses on the theories, philosophies, and methodologies of assessing the social consequences of environmental change.

GY 565 Regional Planning and Analysis. Three hours.
Principles and processes of regional planning and the analytical methods appropriate for solving regional planning problems. Case studies and the role of the planner in the regional planning process are discussed.

GY 566 Regional and Urban Transportation Systems. Three hours.
Examines location and function of multimodel North American transportation system, the urban transport planning process, and the political and environmental contexts of transport systems, including impacts of continued reliance on the automobile.

GY 567 Topics in Global Environmental Change. Three hours.
Review and discussion of natural and human-induced changes in the physical environment with emphasis on deforestation, changing land use, and recent climate change.
GY 570 Special Studies in Geography. Three hours.
GY 571 Special Studies in Planning. Three hours.
GY 572 Soil Science. Four hours.
Introduction to the scientific study of soils. Covers soil physical properties, morphology, development, classification, environmental functions and uses, and resource degradation.
GY 573 Settlement History of the South. Three hours.
Explores topics and themes in the historical settlement of the U.S. South, with particular emphasis on the 18th and 19th centuries.
GY 574 Cartography Practicum. Three hours.
Individual work experience in cartography supervised by the faculty and staff of the University.
GY 575 Cartography Internship. Three hours.
Individual work experience in cartography, supervised by the staff of an off-campus agency.
GY 576 GIS Practicum. Three hours.
Individual work experience in GIS supervised by the faculty and staff of the University.
GY 577 GIS Internship. Three hours.
Individual work experience in GIS supervised by the staff of an off-campus agency.
GY 578 Planning Practicum. Three hours.
Individual work experience in planning supervised by the faculty and staff of the University.
GY 579 Planning Internship. Three hours.
Individual work experience in planning supervised by the staff of an off-campus planning agency.
GY 584 Environmental Science for Teachers. Three hours.
A review of the issues and themes in environmental science pertinent to environmental education at the K–12 levels.
GY 585 Geography for Teachers. Three hours.
Review and discussion of current topics and issues in geography education for K–12 teachers.
GY 586 Drainage Basin Dynamics. Three hours.
An examination of the physical operation of drainage basins (watersheds), focusing on surface water hydrology, erosion, and sedimentation.
GY 587 Biogeography. Three hours.
Examination of ecological and historical factors influencing the geographic distribution of plants and animals.
GY 589 Forest Ecology and Vegetation Analysis. Three hours.
A study of the relationship of trees to the environment, and the interrelationship of organisms that compose the forest community.
GY 590 Internship. Three hours.
Individual work experience with agency involved in geographical research, analysis, and reporting.
GY 598 Nonthesis Research. Three hours.
GY 599 Thesis Research. One to twelve hours.

DEPARTMENT OF GEOLOGICAL SCIENCES (GEO)
Professor Harold H. Stowell, Chairperson
Office: 202 Bevill Bldg.

Admission Requirements
Admission to the graduate program in geology is competitive. Applicants must satisfy the minimum admission requirements established by the Graduate School. An applicant to the M.S. program is normally required to have a bachelor's degree in geology or a related discipline (e.g., chemistry, mathematics, physics, or geological engineering) and to have completed at least one year each of college-level calculus, chemistry, and physics. Applicants with degrees in disciplines other than geology or with ancillary background deficiencies may be required to complete certain undergraduate requirements. An applicant
to the Ph.D. program is normally required to have a master’s degree; however, an applicant with exceptional credentials may be admitted directly into the Ph.D. program.

Degree Requirements

**Master of science.** The M.S. program requires a minimum of 24 credit hours of coursework, participation in the graduate seminar (two semesters), and a thesis. A maximum of 3 credit hours of nonthesis research may be applied toward the 24-hour total. A thesis committee should be established by the end of the first semester of residence and a thesis project must be proposed by the end of the second semester of residence. Each M.S. candidate must pass a combined oral thesis defense and final examination. Additional information is given in the Department of Geological Sciences Graduate Handbook.

**Doctor of philosophy.** The Ph.D. program requires a minimum of 48 hours of coursework beyond the baccalaureate degree (including a maximum of 24 credit hours of approved graduate-level coursework transferred from a master’s program and a maximum of 6 hours of nondissertation research), participation in the graduate seminar (four semesters), and a dissertation. A dissertation committee should be established by the end of the first semester of residence and a dissertation project should be established by the end of the third semester of residence. Each Ph.D. candidate must also pass a preliminary oral examination (part of the dissertation proposal), a written comprehensive examination (after completion of all coursework), and an oral dissertation defense. Additional information is given in the Department of Geological Sciences Graduate Handbook.

Course Descriptions

**GEO 501 Ice and Climate.** Three hours. Prerequisite: MATH 126 and PH 102, or permission of the instructor. Study of glaciers and ice sheets in the context of global climate and sea level. Role of glaciers in paleoclimate studies. Study of the cryosphere with emphasis on ice dynamics and flow.

**GEO 506 Hydrogeology.** Three hours. Prerequisites: GEO 365 and GEO 367, or permission of the instructor. Not open to students who have earned credit for GEO 406. Introduction to groundwater hydrology, including the theory of groundwater flow, groundwater exploration, and groundwater contamination. Offered fall semester. Zheng.

**GEO 512 Sedimentary Petrology: Carbonates.** Four hours. Two lectures, one laboratory. Prerequisite: GEO 215 or permission of the instructor. Study of the depositional and diagenetic history of carbonate rocks.

**GEO 513 Sedimentary Petrology: Clastics.** Four hours. Two lectures, one laboratory. Prerequisite: GEO 215 or permission of the instructor. Study of the depositional and diagenetic history of clastic rocks.

**GEO 514 Advanced Igneous Petrology.** Three hours. Study of igneous processes, with emphasis on phase relations, geochemical evolution, and physicochemical conditions. Offered fall semester. Green.

**GEO 515 Metamorphic Petrology.** Three hours. Study of metamorphic processes, types, textures, and petrogenesis and the use of metamorphic rocks for understanding tectonism. Offered according to demand. Stowell.

**GEO 516 Volcanology.** Three hours. Rheologic properties of magmatic systems and application of these principles to the understanding of volcanic processes. Not open to students who have earned credit for GEO 416. Offered according to demand. Green.

**GEO 518 Geologic Data Analysis.** Three hours. Univariate and multivariate analyses of geological data. Topics include analysis of sequential data, map analysis, regression, factor analysis, and cluster analysis. Offered fall semester.
GEO 519 Geostatistical Modeling. Three hours. Geostatistical and mathematical modeling of geosystems. Offered spring semester.

GEO 521 Well-Log Analysis. Three hours. Two lectures, one laboratory. Prerequisites: GEO 314 and GEO 367. Analysis and interpretation of geophysical log data, including resistivity, porosity, gamma, and other newly developed logs. Geologic uses of log data are also discussed. Offered according to demand.

GEO 522 Sedimentary Basin Analysis. Three hours. Prerequisites: GEO 561 or GEO 565, and GEO 512 or GEO 513. Examination of the evolution and development of sedimentary basins. Emphasis is on sedimentary, tectonic, and geochemical processes and their influence in petroleum generation, accumulation, and preservation. Offered according to demand. Mancini.

GEO 525 Advanced Topics in Geology. Variable credit. Advanced topics in the following areas: economic geology, geochemistry, geohydrology, geophysics, geomorphology, mineralogy, paleontology, petrology, sedimentation, stratigraphy, structural geology, and tectonics. Offered according to demand.

GEO 530 Ore Deposits. Three hours. Introduction to sedimentary, hydrothermal, metasomatic, and magmatic ore deposits, including geologic setting and genesis. Offered according to demand.

GEO 534 Seminar in Tectonics. One hour. Prerequisite: Permission of the instructor. Discussion of current research in tectonics and related topics. May be repeated for credit. Offered fall and spring semesters.

GEO 535-536 Graduate Seminar in Geology. One hour. Oral presentations on current geological topics. Offered fall and spring semesters.

GEO 541 Applied Geophysics. Three hours. Prerequisite: MATH 126 and PH 102:104 or equivalent. The use of physical measurements to infer subsurface structure. Includes seismic reflection and refraction profiling, gravity and magnetic anomalies, electric and electromagnetic prospecting, and borehole geophysics. Offered fall semester.

GEO 542 Geodynamics. Three hours. Prerequisite: PH 102:104, MATH 126, GEO 314, GEO 365, or permission of the instructor. Introduction to the structure of the earth’s interior and theory of plate tectonics. Quantitative analysis of the physical processes governing the formation of major tectonic and magmatic features on the earth. Emphasis is on understanding geodynamic processes in orogenic belts, volcanic arcs, intraplate magmatism, sedimentary basins, and continental extensional provinces. Offered spring semester.

GEO 545 Multichannel Seismic Processing. Four hours. Prerequisites: MATH 126 and PH 102:104. Introduction to multichannel seismic data acquisition, processing, and interpretation. Includes the theory of wave propagation, time series analysis, and filtering. Problem-based lab using real-world data and examples.

GEO 555 Advanced Paleontology. Three hours. Prerequisite: GEO 355. Detailed examination of selected fossil groups. Offered according to demand. Stock.

GEO 557 Geologic History of the Vertebrates and Land Plants. Three hours. Prerequisite: GEO 102 or permission of the instructor. Not open to students who have earned credit for GEO 457. Geologic history of vertebrates, invertebrates, and plants as they invaded the land and evolved through time. Offered alternate years. Stock.

GEO 559 Paleoecology. Three hours. Prerequisite: GEO 355 or permission of the instructor. Examination of the relationships between fossil organisms and their depositional environments. Offered according to demand. Mancini, Stock.
GEO 560 Watershed Hydrology. Three hours. 
Prerequisite: GEO 363 or permission of the instructor. 
Analysis of hydrological processes in a watershed. Emphasis on applying hydrology concepts to evaluate runoff, erosion, fluvial processes, channel stability, ecological impact, and flood prediction in natural and altered watersheds. Not open to students who have earned credit for GEO 460. Offered alternate spring semesters or according to demand.

GEO 561 Sequence and Seismic Stratigraphy. Three hours. 
Prerequisite: GEO 367. 
A review of lithostratigraphic principles and an examination of the sequence stratigraphic paradigm. Students also study methods of using lateral and vertical changes in seismic facies to interpret the lithology and depositional history of subsurface stratigraphic units. Offered according to demand. Rodriguez.

GEO 562 Quaternary Environments. Three hours. 
Prerequisite: GEO 363 or permission of the instructor. 
Examination of quaternary glaciations and environmental changes. Emphasis on sedimentologic, geomorphic, and biogeographic evidence of changes in geological, hydrological, and biological processes in response to climatic variations. Not open to students who have earned credit for GEO 462. Offered alternate spring semesters or according to demand.

GEO 564 Structural Validation and Modeling. Three hours. 
Theory and techniques for validating and modeling maps and cross-sections. Includes balance and restoration of cross-sections, and derivation and use of predictive geometric and kinematic models. Practical problem solving is emphasized. Offered on demand. Groshong.

GEO 565 Comparative Structural Geology. Three hours. 
Analysis of the original literature on structural families and deformation-mechanism associations, emphasizing the low-temperature environment. Offered on demand. Groshong.

GEO 566 Clastic Depositional Environments: Processes and Facies. Three hours. 
Prerequisite: GEO 367. 
An examination of the relationships between sedimentary processes and facies. Emphasis is on use of lateral and vertical changes in sediment composition, texture, and structures to identify environments of deposition within the various clastic depositional systems. Offered according to demand. Rodriguez.

GEO 570 General Geochemistry. Three hours. 
Prerequisite: GEO 314 or permission of the instructor. 
Overview of the field of geochemistry (elementary chemical equilibria and thermodynamics, organic geochemistry, isotope geochemistry), with an emphasis on solving geologic problems. Offered in the fall semester. Donahoe.

GEO 571 Thermodynamics for Geologists. Three hours. 
Prerequisite: MATH 126 or permission of the instructor. 
Semi-derivational approach to understanding the thermodynamic relations most useful to geologists. Emphasis is on using the derived relations to solve common geologic problems. Offered alternate fall semesters. Donahoe.

GEO 575 Petrochemistry. Three hours. 
Prerequisite: Permission of the instructor. 
Principles and techniques in geochemical modeling of magmatic, hydrothermal, and metamorphic processes. Offered according to demand. Green, Stowell.

GEO 576 Analytical Geochemistry. Three hours. 
Theory, techniques, and applications of geochemical methods for the analysis of rocks, ores, and aqueous fluids. Offered according to demand. Stowell, Donahoe.

GEO 577 Microanalysis in Geology. Three hours. 
Prerequisites: GEO 314 and GEO 470. 
Application of microprobe, scanning electron microscopy, and other microanalytical techniques in geology. Offered according to demand.
GEO 582 Advanced Stratigraphy. Three hours.
Examines stratigraphic nomenclature, principles, and concepts. Lithostratigraphy, bio-
stratigraphy, allostratigraphy, chronostratigraphy, and geochronology are studied. Offered
according to demand. Mancini.

GEO 590 Seminar in Regional Geology. One hour.
Prerequisites: GEO 314, GEO 365, and GEO 367.
Literature and field study of the geology of selected areas. Offered according to
demand.

GEO 598 Research Not Related to Thesis. Variable credit. Offered according to
demand.

GEO 599 Thesis Research. Variable credit. Offered according to demand.

GEO 607 Introduction to Groundwater Modeling. Three hours.
Prerequisites: GEO 506, MATH 253, and CS 226; or permission of the instructor.
Introduction to the theory and application of groundwater modeling. Offered spring

GEO 608 Contaminant Hydrogeology and Modeling. Three hours.
Prerequisite: GEO 607 or permission of the instructor.
Introduction to concepts and models in contaminant hydrogeology. Offered fall semester.
Zheng.

GEO 610 Fluvial Geomorphology. Three hours.
Analysis of fluvial processes, channel morphology, and channel responses. Emphasis on
flow hydraulics, sediment transport, depositional mechanics, geomorphic effectiveness,
and channel form adjustment. Offered fall semester.

GEO 626 Advanced Topics in Geology. Variable credit.
Advanced topics in the following areas: economic geology, geochemistry, geohydrology,
geophysics, geomorphology, mineralogy, paleontology, petrology, sedimentation, stra-
tigraphy, structural geology, and tectonics. Offered according to demand.

GEO 634 Seminar in Tectonics. One hour.
Prerequisite: Permission of the instructor.
Discussion of current research in tectonics and related subjects. May be repeated for
credit. Offered fall and spring semesters.

GEO 635:636 Graduate Seminar in Geology. One hour.
Oral presentations on current geological topics. Offered fall and spring semesters.

GEO 650 Isotope Geology. Three hours.
Prerequisites: GEO 514 and GEO 515, or permission of the instructor.
Principles of stable and radiogenic isotope geochemistry, and applications to economic
geology, geochronology, petrology, tectonics, and hydrology/hydrogeology. Offered ac-
cording to demand. Stowell,

GEO 652 Isotope Hydrology. Three hours.
Prerequisite: GEO 570.
Study of the distribution, production, and usage of naturally occurring and anthropogeni-
cally introduced stable and radioactive isotopes in the earth’s surficial environment. Em-
phasis will be placed on the application of isotopes in solving hydrologic and geomorphic
problems. Offered according to demand.

GEO 663 Structural Geology Seminar. Three hours.
Prerequisite: GEO 564, GEO 565, or permission of the instructor.
Topics in quantitative structural geology. Offered according to demand. May be repeated
for credit. Groshong.

GEO 669 Carbonate Depositional Environments. Three hours.
Prerequisite: GEO 512 or permission of the instructor.
Study of modern and ancient carbonate depositional systems, with emphasis on facies
analysis and depositional modeling.

GEO 673 Aqueous Environmental Geochemistry. Three hours.
Prerequisite: GEO 570.
Advanced treatment of the topics of low-temperature aqueous geochemistry important
for understanding inorganic processes controlling the chemical quality of surface and
subsurface waters. Emphasis is on solving problems in environmental geochemistry.
Offered alternate spring semesters. Donahoe.
GEO 674 Organic Geochemistry. Three hours. 
Prerequisite: Permission of the instructor. 
Study of the distribution, fate, and geochemical interactions of both natural and anthropogenic organic compounds in the environment.

GEO 676 Chemical Diagenesis. Three hours. 
Study of chemical processes controlling diagenetic changes in carbonate and clastic rocks. Topics include dissolution/precipitation, porosity modification, secondary porosity, biologic diagenesis, pressure solution, mineral alteration, dolomitization, artificial diagenesis, and applications to oil exploration and production. Offered according to demand. Donahoe.

GEO 681 Paleozoic Biostratigraphy and Paleobiogeography. Three hours. 
Prerequisite: GEO 582 or permission of the instructor. 
Examination of the principles and techniques of biostratigraphy and paleobiogeography using examples from the Paleozoic Era. Offered according to demand. Stock.

GEO 698 Research Not Related to Dissertation. Variable credit. Offered on demand.


DEPARTMENT OF HISTORY (HY)
Professor Lawrence A. Clayton, Chairperson Office: 202 ten Hoor Hall

Admission Requirements

General requirements for all history degree programs. Admission decisions for all graduate history programs at The University of Alabama are made by the Graduate School based on a composite of subjective and quantitative information, including the applicant's statement of purpose and letters of recommendation, the academic standing of the programs in which the applicant has studied, evidence of appropriate college or graduate-level work in history courses, test scores, previous grades, and the recommendation of the Graduate Committee of the history department. Each application is considered in the context of other applications to the program, with due consideration given to the availability of space in the program, the need to maintain a pool of students of superior potential, and the need to encourage minority applications. Not every student whose credentials meet stated quantitative standards is admitted.

Quantitative requirements for unconditional admission to M.A. program. The applicant must have a grade point average, based on a 4.0 system, of 3.0 overall or 3.0 for the last 60 semester hours in a degree program, and a score of at least 1500 on the combined verbal, quantitative, and analytical portions of the Graduate Record Examination. Applicants who take the GRE after October 1, 2002, must score at least 1000 on the combined verbal and quantitative portions and at least 4 on the analytical writing section.

Quantitative requirements for conditional admission to M.A. program. An applicant whose credentials do not meet the requirements for regular admission may be considered for conditional admission if he or she has a quality point average of at least 2.5 overall and a score of 1400 on the GRE. For applicants who take the GRE after October 1, 2002, conditional admission will require a score of 930 on the combined verbal and quantitative portions and at least 4 on the analytical writing portion. Conditional admission is rare and requires a special recommendation by the Graduate Committee. Students admitted conditionally must maintain a 3.0 average for the first 12 semester hours attempted. Failure to do so will result in dismissal from the program.

Special requirements for admission to Ph.D. program. Students applying to the Ph.D. program are expected to have GRE scores substantially above the minimum acceptable for M.A. applicants, a GPA in previous graduate work of 3.5 or better, and strong recommendations. Normally a successful applicant must also be endorsed by a faculty member prepared to serve as chairperson of the student's dissertation committee.
General Degree Requirements

Course load. Resident students are expected to register for full loads each semester — at least 9 hours, except in the case of .50 FTE teaching assistants, who must take at least 6 hours. All courses must be numbered 500 or above, but HY 699 Dissertation Research does not count toward the course hour requirement for any graduate degree.

Historiography requirement. All incoming graduate students (M.A. or Ph.D.), unless specifically exempted by the Graduate Committee, must take at least two of the basic historiography courses (HY 601 Literature of American History, HY 603 Literature of European history, and HY 605 Literature of Latin American History) as part of their degree program. They are encouraged to take these courses as early as possible in their program.

Proseminar-seminar requirement. All M.A. students who choose Plan II (described under “Requirements for the M.A. Program” below) must take at least one proseminar-seminar sequence. Students entering the doctoral program who have not completed a proseminar-seminar sequence at the master’s level must also do so.

Language requirement. Unless specified to the contrary, all graduate degree programs in history require that each student demonstrate reading proficiency in one or more foreign languages. These languages should be selected from the standard research languages (Spanish, French, German, and Russian), but other languages relevant to the student’s program may be substituted with the recommendation of the student’s adviser and the permission of the Graduate Committee. The student must fulfill this requirement by passing the examination administered by the relevant language department at The University of Alabama. Completion of any of the various “language for reading proficiency” courses offered at The University of Alabama with a final grade of “B” or above also meets the language requirement.

Requirements for the M.A. Program

Plan I:

Coursework. Coursework totaling 24 credit hours in history and a thesis (an additional 6 credit hours of HY 599) are required, and the student must demonstrate reading proficiency in one foreign language before taking the final oral examination.

Thesis. The topic of the thesis will be selected by the student in consultation with his or her adviser. After the topic has been agreed upon, the student will prepare a prospectus describing the topic and the proposed plan of approach, including the principal sources to be used. Copies of the prospectus will be distributed to the student’s advisory committee, which shall consist of three members, all of whom must indicate their acceptance of the topic.

Oral exam. The Plan I oral exam is on the M.A. coursework and the thesis. The examination committee consists of the three professors who served as readers on the thesis, plus at least one additional history professor and the representative of an outside department — if possible, someone who is familiar with the thesis subject area. The M.A. thesis must be submitted to the student’s primary adviser no later than six weeks before the scheduled defense, and the revised thesis must be submitted to the remaining members of the student’s advisory committee at least three weeks before the scheduled defense. The examining committee files with the director of graduate studies a written opinion regarding the student’s suitability for further graduate work in history.

Plan II:

Coursework. Coursework totaling 30 credit hours in history is required, and the student must demonstrate proficiency in reading one foreign language before taking the final oral examination.

Oral exam. Plan II students must take an oral examination on their history courses and on a revised seminar paper, copies of which must be furnished to the members of the examining committee at least 10 days before the date of the oral examination. The examining committee consists of at least five history professors, including as many as possible with whom the student has taken courses. The examining committee files with the director of Graduate Studies a written opinion regarding the student’s suitability for further graduate work in history.
Special note on M.A. oral exams. In all of the M.A. oral examinations, two negative votes constitute failure of the examination. History graduate students may repeat failed oral examinations one time only, after an interval specified by the examining committee. The use of faculty from outside the department to serve on M.A. examination committees (except in cases where faculty from other disciplines are prescribed by the graduate regulations) must be approved well in advance by the Graduate Committee.

Requirements for the Ph.D. Program

History field requirements. The Ph.D. degree is offered in United States history, history of the South, modern British and European history, Latin American history, and military and naval history. The four general divisions are separated into the following fields:

1. United States history to 1877
2. United States history since 1877
3. History of the South
4. British and European history, 1485 to 1815
5. British and European history, 1815 to present
6. Latin American history to 1810
7. Latin American history since 1810
8. Military and naval history

The Ph.D. requires a total of 54 hours of graduate coursework. M.A. hours, including those accepted for transfer from other institutions, are included in this total. Ph.D. students will offer four fields of history, with at least two, but not more than three, related to the same geographic area (U.S., Europe, or Latin America). The student must earn at least 12 hours of graduate credit in each of the four fields.

Beyond the 48 hours of history distributed in fields, the student must earn 6 additional hours of graduate credit (a) in a field outside the history department; (b) in history, but in fields not presented for the Ph.D.; or (c) in history, but as additional hours in one or more of the fields presented for the Ph.D.

Language requirement. Each student is expected to demonstrate a reading knowledge of two foreign languages, with the exception of those whose major fields are in American history. Those working primarily in American history must demonstrate a knowledge of only one foreign language, although any adviser may require his or her student to continue to fulfill the two-language requirement if it seems necessary to the area of the student's research. For those who must satisfy the two-language requirement, a special skill pertinent to the candidate's doctoral dissertation may be substituted for one language on the recommendation of the student's adviser and with the permission of the Graduate Committee. The language and special skill requirements must be met before the scheduling of the comprehensive examinations.

Comprehensive examinations. The comprehensive examinations for admission to candidacy for the Ph.D. consist of a four-hour written examination in each of three fields of history offered by the candidate, each administered by a committee of two or more professors representing the respective field. An oral examination will be administered subsequently by a committee consisting of not less than five professors who administered the written examinations. The comprehensive examinations are to be completed in a two-week period, with the written exams given the first week and the oral exam given the following week. The exam schedule must allow at least five days between the last written exam and the date of the oral exam. The written and oral exams in each field are considered a unit, which the student will pass or fail as a whole. Two negative votes constitute failure. A minimum of six months must elapse before the student may repeat a failed examination, the time of which will be set by the examining committee. A student is permitted to repeat a failed examination one time only.

Dissertation. Dissertations are to be based upon research in history and make an original contribution to knowledge. Starting January 2, 2003, each doctoral student will select and obtain approval for a dissertation topic before scheduling his or her comprehensive examinations. Students will select dissertation topics in consultation with their
advisers. After the topic has been agreed upon, the student will prepare a prospectus describing the topic and the proposed plan of approach, including the principal sources to be pursued. Copies of the prospectus will be distributed to the three members of the student's advisory committee, all of whom must signify their acceptance of the topic.

The Graduate School requires each student admitted to candidacy for the Ph.D. to pursue completion of the dissertation without interruption by enrolling each semester in HY 699 for at least 3 credit hours. The student must register for a total of at least 24 hours of dissertation research.

Final oral examination. The candidate must pass an oral examination on the dissertation and the field of the dissertation in accordance with the rules of the Graduate School. The examination committee consists of the three professors who served as readers on the dissertation, plus at least one additional history professor and a representative of an outside department. Two negative votes constitute failure of the examination, which the student may repeat one time only, after an interval specified by the examining committee.

Using outside faculty on Ph.D. examinations. Except in cases where faculty from other disciplines are prescribed by the graduate regulations, the use of faculty from outside the department to serve on Ph.D. comprehensive or oral examinations must be approved well in advance by the Graduate Committee.

Scholastic Requirements

Any student who receives 6 hours of “C” grades or 3 hours of “D” or “F” grades in history courses shall be dismissed from the program, although the student dismissed may petition the Graduate Committee for reinstatement.

A student on probation or whose transcript carries a grade of “I” will ordinarily be ineligible for a teaching assistantship or other departmental financial support.

Transfer of Credit

The history department usually allows the transfer of 6 semester hours of credit toward the M.A. degree, although in exceptional cases up to 12 hours may be accepted. No more than one-half of Ph.D. coursework hours (not including HY 699) may be transferred from another institution.

Course Descriptions

HY 500 Special Studies in History. Three hours.

HY 501 Japanese Civilization to 1550. Three hours.
Survey of Japanese history from the beginning through the 16th century. Major emphasis is on the period after A.D. 400.

HY 502 Modern Japan since 1550. Three hours.
Major emphasis is on the end of the Tokugawa Period (1800–68) and the rise of modernized Japan in the Meiji Period (1868–1912) and the 20th century.

HY 503 Chinese Civilization to 1600. Three hours.
Survey of Chinese culture from the Shang Period through the Ming Period. Robel.

HY 504 Modern China since 1600. Three hours.
Survey of Chinese history in the Ch‘ing Dynasty and the 20th century. Major emphasis is on 19th- and 20th-century events. Robel.

HY 508 Colonial United States to 1763. Three hours.
Topical survey of major themes in U.S. colonial history, with particular emphasis on Anglo-American developments. Selesky.

HY 509 American Revolution and the Founding of the Nation, 1763–1815. Three hours.
The development of revolutionary sentiment in the North American colonies, the resulting revolution, and the subsequent efforts to establish the new nation.

HY 512 The Old South. Three hours.
The South from colonial times to the Civil War: growth of the plantation system, extension of the frontier, commerce and industry, cultural influences, and the institution of slavery. Rothman.
HY 513 From the Mexican War through the Civil War. Three hours.
Examines how Americans made war in the middle of the 19th century and how waging war affected the evolution of politics and society. Selesky.

HY 515 The New South. Three hours.
Modern history of the South, with topics such as Reconstruction and Bourbon Democracy, New South Creed, Populist Revolt, World War I, the 1920s, the Great Depression, and Southern politics. Dorr, Frederickson.

HY 516 U.S. from Reconstruction to World War I. Three hours.
Selected topics relating to the development of the U.S., especially domestic affairs and the growth of important institutions. Beito.

HY 517 U.S. from World War I through World War II. Three hours.
Covers the participation of the U.S. in two world wars and the events of the intervening years. Government, commerce, and industry receive attention and analysis.

HY 521 American Legal History (same as LAW 772). Three hours.
Critical history of American law and institutions, emphasizing the period since 1750. Freyer, Holt.

HY 522 History of American Labor Law (same as LAW 617). Three hours.
Problems in the legal history of U.S. labor movements, including slavery law, the law and the American worker, the labor conspiracy doctrine, the labor injunction, and the growth of federal labor legislation and case law. Holt.

HY 523 Constitutional History of the U.S. to 1877. Three hours.
Deals with evolution of U.S. constitutional law and the nature and process of judicial review, including 18th-century constitutional theory and Supreme Court decisions. Freyer.

HY 524 Constitutional History of the U.S. since 1877. Three hours.
Continuation of HY 523. Freyer.

HY 525 Rise of America to World Power. Three hours.

HY 526 U.S. as a World Power, 1898 to the Present. Three hours.

HY 529 American South and Southwest, 1513–1821. Three hours.
History of the Spanish advance into the present-day borders of the U.S., explaining how Spain fought and finally succumbed to the more dynamic and aggressive French and English. Clayton.

HY 530 U.S. Economic History since the Colonial Period. Three hours.
A survey of U.S. economic history from the colonial period to the present. Emphasis will be placed on the role of business, social, and voluntary organizations. Beito.

HY 534 U.S. Social History to 1865. Three hours.
Topical survey of major social forces in the U.S., emphasizing the colonial experience of Americans and its impact on future generations. Beito.

HY 535 U.S. Social History since 1865. Three hours.
Topical survey of major social forces, with particular emphasis on immigration, voluntary association, and suburbanization. Beito.

HY 541 History of the U.S.-Vietnam War. Three hours.
A survey of the historical background of the conflict in Indochina leading to U.S. involvement in that conflict. Jones, Robel.

HY 542 The Middle Ages. Three hours.
Foundations of the modern world in barbarian Europe: retreat into the countryside and private government, recovery of public institutions, money economy, and cultural vitality.

HY 543 Renaissance. Three hours.
Intellectual movements associated with the Renaissance, with readings in Machiavelli’s *Prince*, More’s *Utopia*, and other humanist writings; social and economic life, religion, politics, and statecraft. McClure.

HY 544 Reformation and Counter-Reformation. Three hours.
History of the separation of Catholic and Protestant churches from the ideal of the universal Christian church; late-Medieval religious practice. McClure.
HY 545 17th-Century Europe. Three hours.
Troubled times, dominated by wars, depressions, harvest failures, and epidemics, but also the times of Baroque art, classical literature, critical philosophy, and scientific revolution. Ultee.

HY 546 Age of Reason, 1715–89. Three hours.
The Enlightenment of Voltaire, Diderot, Rousseau, Franklin, Hume, Goethe, and Kant, whose writings exalted individual reason, tolerance, liberalism, science, and public service and set the stage for the French Revolution. Ultee.

HY 547 French Revolution and Napoleon. Three hours.
Causes, course, and effects of the revolution, from the storming of the Bastille to Napoleon’s seizure of power, conquests, and final defeat at Waterloo. Ultee.

HY 548 Europe, 1815–50. Three hours.
Europe in the first half of the 19th century: industrial expansion, changes in social structure, and the new ideologies of romanticism, nationalism, socialism, and liberalism.

HY 549 Europe, 1850–1914. Three hours.
Culture and history of Europe to World War I: major institutions, values, and ideas, as well as the social environment in which Europeans lived.

HY 550 Europe since 1914. Three hours.
Zenith and decline of the great imperial powers of Europe through World Wars I and II; tensions of the Cold War, the Common Market, and European unity.

HY 551 German History to 1740. Three hours.
A survey of the Germanies from the early migrations to the rise of Prussia under the Hohenzollern dynasty, with emphasis on the development of German particularism and distinctive characteristics.

HY 552 German History since 1740. Three hours.
A survey of German history from Frederick the Great to Adolph Hitler, with emphasis on the Austro-Prussian conflict, the Bismarckian Empire, and the two world wars.

HY 553 World War I. Three hours.
“The War to End All Wars,” from the European crises culminating at Sarajevo in 1914 to peacemaking at Versailles in 1919. Major emphasis is on the western and eastern fronts and on the war at sea. Beeler.

HY 554 World War II. Three hours.
The global conflict — or series of conflicts — from Manchukuo in 1931 to Tokyo Bay in 1945. Battles on land, at sea, and in the air; life on the home fronts and in enemy-occupied areas; and the war’s legacy to future generations. Selesky.

HY 555 Russia to 1894. Three hours.
Conventional political history of Russia from the ninth century to the 19th century, followed by the social and cultural history of the Russian revolutionary movement. Hagenloh.

HY 556 History of Russia since 1894. Three hours.
Crisis in Russian society and the coming of the revolution; emergence of Stalinism; and political developments since World War II, including the post–Cold War era. Hagenloh.

HY 557 Spanish Viceroyalties of America. Three hours.
The conquest and colonization of America by Spain, from the voyages of Columbus to the Wars of Independence in the early 19th century. Clayton.

HY 558 Modernization of South America. Three hours.
Survey of political, economic, and social trends in the major nations since 1930. Delpar.

HY 559 The Andean Nations. Three hours.
Examines the political, economic, social, and cultural history of the Andean nations since independence, with emphasis on Colombia, Peru, and Venezuela. Delpar, Clayton.

HY 560 Relations of the U.S. and Latin America. Three hours.
Chronological survey of diplomatic, economic, and cultural relations, with emphasis on the 20th century. Delpar.
HY 575 Caribbean Basin, 1492 to the Present. Three hours.
Traces the evolution of the nations of the Caribbean and Central America from the first European settlements in the 16th century to the present. Delpar.

HY 580 Survey of Military History. Three hours.
Introduction to the field of military history and to the writing of military history from ancient times to the present, with an emphasis on the 19th and 20th centuries. Selesky.

HY 583 Comparative Revolutions in the Modern World. Three hours.
Comparative study of revolutionary movements in the Western and non-Western worlds.

HY 590 England under the Tudors. Three hours.
Development of an early modern state: establishment of strong central monarchy, religious crises from the Reformation to the Puritan movement, and exuberance and excess of an expanding society. Mendle.

HY 591 England under the Stuarts. Three hours.
How Englishmen of the 17th century worked out the great questions of their day: Was liberty compatible with strong and effective government? Could English elites share their power without destroying it? Finally, what did God want for England? Mendle.

HY 593 Britain in the 18th Century. Three hours.
From the Hanoverian Succession in 1714 to victory at Waterloo in 1815: political development, agrarian and industrial revolutions, John Wesley, Samuel Johnson, and an apparently endless succession of wars. Beeler.

HY 594 Britain in the Victorian Age. Three hours.
Britain at her apogee: possessor of the empire on which the sun never set; world economic leader: nation of Peel and Palmerston, Gladstone and Disraeli, Dickens and Trollope, Tennyson and Browning, Turner and Constable, and Victoria and Albert. Beeler.

HY 595 Britain in the 20th Century. Three hours.
The course looks at Britain from the death of Queen Victoria to Mrs. Thatcher: the decline of the British Empire, the two World Wars, the rise of the welfare state, the Common Market, and economic resurgence.

HY 599 Thesis Research. One to six hours.
HY 600 Teaching History. One hour.

Group I — Historiography Courses
HY 601 Literature of American History. Four hours.
HY 603 Literature of European History. Four hours.
HY 605 Literature of Latin American History. Four hours.

Group II — Proseminars
HY 606 Proseminar in United States History to 1877. Four hours.
HY 607 Proseminar in United States History since 1877. Four hours.
HY 608 Proseminar in Southern History. Four hours.
HY 620 Proseminar in Latin American History. Four hours.
HY 631 Proseminar in Early Modern British and European History. Four hours.
HY 635 Proseminar in Recent British and European History. Four hours.
HY 639 Proseminar in Military and Naval History. Four hours.

Group III — Seminars
HY 651 Seminar in United States History to 1877. Four hours.
HY 657 Seminar in United States History since 1877. Four hours.
HY 658 Seminar in Southern History. Four hours.
HY 660 Seminar in State and Local History. Four hours.
HY 665 Special Studies Seminar. Four hours.
HY 670 Seminar in Latin American History. Four hours.
HY 682 Seminar in British and European History. Four hours.
HY 684 Seminar in Military and Naval History. Four hours.
Group IV — Directed Study

HY 697 Directed Readings. One to four hours.
Prerequisite: Written permission of the director of graduate studies.

HY 698 Directed Research Not Related to Dissertation. One to four hours.
Written permission of the director of graduate studies is required for admission.

HY 699 Dissertation Research. Three to twelve hours.
Not to be counted for required credit for advanced degrees.

MARINE SCIENCE PROGRAM (MS)
Professor W. W. Schroeder, Coordinator
Office: Dauphin Island Sea Lab

The graduate Marine Science Program (MSP) is a dual-campus program of the Department of Biological Sciences at The University of Alabama and University programs at the Dauphin Island Sea Lab (DISL), a facility of the Alabama Marine Environmental Sciences Consortium (MESC). Both sites provide unique facilities to support education and research in the field of marine science. The main campus facilities include a marine algae and marine invertebrate collection. At DISL, there is a diversely trained resident faculty available year-round to teach graduate-level courses that are part of the MSP curriculum, to serve as thesis advisers, to provide support space, and to employ resident students in funded extramural research projects. The library at DISL specializes in publications that focus on the marine environment.

In addition, DISL provides support for University programs by way of a research facility containing offices, laboratories, and support facilities for the resident graduate faculty; three lecture-room/teaching-laboratory buildings; and two dormitories, an efficiency apartment building, and a dining hall. Access to the bay and Gulf waters is available via scheduled use of the 65-foot steel-hull R/V A. E. Verrill and by a variety of outboard-motor-powered craft that can be towed to different sites for launching.

Courses offered at DISL carry the same credit toward graduate degrees as those taught on the University of Alabama campus by the Department of Biological Sciences.

Admission Requirements

Students seeking admission to the Marine Science Program must satisfy the general admission requirements of the Graduate School.

For further specific information, please contact Dr. William W. Schroeder, Coordinator of Graduate Studies, the University of Alabama Marine Science Program, 101 Bienville Boulevard, Dauphin Island, AL 36528; telephone (334) 861-7528; fax (334) 861-7540; e-mail wschroeder@disl.org.

Degree Requirements

1. Each candidate will be guided by a graduate committee consisting of at least three members appointed by the dean of the Graduate School. Usually, one member of the committee will be a qualified member of the faculty in residence on the Tuscaloosa campus.

2. Each student must complete a minimum of 8 hours of graduate credit on the Tuscaloosa campus. Normally, this occurs during the student’s first calendar year in the Graduate School.

3. No foreign language is required.

4. Each student will undergo a preliminary examination prepared by the student’s graduate committee and designed to be answered in about four hours a day over three consecutive days. The examination will be administered by the committee chairperson no later than the third semester of enrollment. Prior to the examination, it is expected that the student will discuss preparation and subject matter with committee members.

5. Each student will participate in an interdisciplinary effort (e.g., cruise or field exercise) at some time during residence at the Dauphin Island Sea Lab.
6. Each student, upon completion of the coursework and thesis, will present a faculty- and peer-review seminar on the thesis content. Additionally, the graduate committee will administer a final oral examination.

7. The master of science in marine science degree requires at least 24 hours of graduate credit. Both Plans I and II (see “Academic Policies” in this catalog) are acceptable.

Financial Support

The Marine Science Program cannot commit funds to prospective students. However, there are sources of funds — both within the University and at DISL. On campus, qualified students may compete for available departmental graduate teaching assistantships, when funds are available. Consideration is based on a combination of composite GRE scores and most recent degree GPA. Additional consideration may be given to students possessing special skills. At DISL, resident students may be supported by DISL fellowships or assistantships, faculty research grants or contracts, or extramural funding.

Courses in Marine Science (MS)

Most marine science courses are offered year-round at the Dauphin Island Sea Lab.

The following courses are also available at the 400 level; students enrolling at the 500 level must complete additional work and may be required to participate in or conduct a research project, to be presented both orally and visually and accompanied by a written professional report.

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>MS 511</td>
<td>Marsh Ecology</td>
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<td>MS 519</td>
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<td>MS 521</td>
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<tr>
<td>MS 597</td>
<td>Biological and Geochemical Processes</td>
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Course Descriptions

*Students may not receive credit at both the graduate and undergraduate levels for courses having the same name and number.*

**MS 501 Phytoplankton Ecology and Physiology.** Three hours.
Prerequisites: General biology and marine ecology.
Phytoplankton ecology, with emphasis on physiological adaptations promoting growth and distribution.

**MS 505 Marine Biogeochemical Cycles.** Three hours.
Prerequisite: Oceanography, marine biology, or marine ecology.
Marine elemental cycles, with emphasis on biological and geochemical processes that regulate them.

**MS 506 Marine Biology for Teachers.** Six hours.
Prerequisites: Graduate standing in the College of Education and permission of the instructor. Not open to graduate students in biology or to any student who has taken MS 306.
A survey of marine organisms and communities and physical and chemical factors that influence their lives. Also covered are materials and methods of marine science instruction.

**MS 511 Marsh Ecology.** Four hours.
Prerequisites: Graduate standing in a science and permission of the instructor.
A study of the floral and faunal elements of various marine marsh communities. Interaction of physical and biological factors is emphasized. The course is structured to provide actual field experience in addition to lecture material. Trips are scheduled to acquaint students with regional examples of marsh types.

**MS 519 Marine Ecology.** Four hours.
Prerequisites: Graduate standing in a science and permission of the instructor.
Bioenergetics, community structure, population dynamics, predation, competition, and speciation in marine ecosystems.
MS 521 Coastal Ornithology. Four hours.
Prerequisites: Graduate standing in a science and permission of the instructor.
Study of coastal and pelagic birds, with emphasis on ecology, taxonomy, and distribution.

MS 522 Field Marine Science. Two hours.
Prerequisite: Graduate standing.
A field research and habitat-exploration course.

MS 533 Coastal Zone Management. Two hours.
Review of ecological features and a set of physical management policies for coastal communities, and a description of relevant federal and state programs.

MS 538 Marine Zoogeography. Four hours.
Prerequisites: Graduate standing in a science and permission of the instructor.
A study of physical, chemical, and biological factors influencing the distribution of marine organisms. Emphasis is on the western North Atlantic ocean.

MS 541 Benthic Community Structure. Three hours.
Prerequisites: Graduate standing in a science and permission of the instructor.
A comprehensive examination of benthic faunal populations with respect to major taxa, community composition, diversity, and limiting environmental factors; emphasis is on local habitats.

MS 543 Plankton. Four hours.
For graduates and advanced undergraduates. A study of physical, chemical, and biological factors influencing the distribution of marine organisms. Emphasis is placed on the western North Atlantic ocean.

MS 548 Introduction to Oceanography. Four hours.
Prerequisites: General physics, general biology, MATH 125, and permission of the instructor.
A general introduction to the oceans, with emphasis on chemical, physical, and geological processes and the relationship of these processes to biological systems.

MS 552 Marine Vertebrate Zoology. Four hours.
Prerequisites: Graduate standing in a science and permission of the instructor.
Systematics, zoogeography, and ecology of marine fishes, reptiles, and mammals.

MS 553 Marine Botany. Four hours.
Prerequisites: Graduate standing in a science and permission of the instructor.
Reproduction, taxonomy, systematics, distribution, and ecology of the major plant groups in the marine environment.

MS 584 Marine Science Seminar. One hour.

MS 594 Oceanology of the Gulf of Mexico. Two hours.
Prerequisites: Graduate standing in a science and permission of the instructor.
Detailed descriptive study of the oceanology of the Gulf of Mexico and adjacent waters. The areas of study will include the coastal zone, continental shelf, and deep gulf.

MS 597 Special Topics in Marine Science. One to four hours.
May deal with any marine science topic not covered by existing courses. The credit hours and format are arranged as appropriate to each topic. The specific course title is added at the time each course is taught. Offered according to demand.

DEPARTMENT OF MATHEMATICS (MATH)
Professor Zhijian Wu, Chairperson  Office: 345 Gordon Palmer Hall

The department offers programs leading to the master of arts and the doctor of philosophy degrees. The department offers courses in the following areas: algebra, analysis, topology, differential equations, mathematical methods for engineering, numerical analysis, mathematical statistics, fluid dynamics, control theory, and optimization theory.

Admission Requirements
To be admitted for a graduate degree, students are expected to satisfy the general requirements of the Graduate School, as stated in the “Academic Policies” section of this catalog. In support of the application, each applicant must submit scores on the
general test of the Graduate Record Examination; the advanced portion is desirable but not required.

Degree Requirements

**Master of arts.** Each student’s program for the master’s degree must be approved by the department. A total of 30 graduate hours is required to obtain a master’s degree in mathematics.

Candidates for the master’s degree may choose either of two plans. One plan (Plan I) requires successful completion of 24 semester hours of coursework, plus a thesis. The other plan (Plan II) requires no thesis, but requires successful completion of 27 semester hours of coursework plus 3 hours of work devoted to a project supervised by a member of the graduate faculty in mathematics. At least 21 of the course hours must be taken in mathematics; courses in related areas, such as physics, finance, or computer science, may be taken with the approval of the graduate advisory committee. An oral examination is required for completion of the degree. Candidates for the master’s degree must complete three of the following four core courses: MATH 510 Numerical Linear Algebra, MATH 532 Graph Theory and Applications, MATH 580 Real Analysis I, and MATH 585 Introduction to Complex Calculus.

**Doctor of philosophy.** The student’s program for the Ph.D. degree in mathematics must be approved by the department. Ph.D. students in mathematics normally take three two-course sequences in mathematics/applied mathematics. A total of at least 48 hours of coursework is required. Dissertations for the Ph.D. degree in mathematics may be written in any one of several areas approved by the department. A total of at least 24 hours of dissertation research must be taken. Before officially becoming a Ph.D. candidate, the student must pass qualifying examinations in two areas within three years of becoming a full-time graduate student. One of the passes obtained should normally be in the area of the dissertation.

**Joint Ph.D. program in applied mathematics** is a program with the UA System campuses in Birmingham and Huntsville. Admission to the program is obtained by passing the joint program examination in linear algebra, numerical linear algebra, and real analysis. Each program of study requires a minimum of 54 semester hours of coursework approved by the student’s joint graduate study supervisory committee. Those hours must include a major area concentration consisting of at least six courses in addition to the courses needed to prepare for the joint program examination, and an application minor consisting of at least four related graduate courses in some area outside the department. Before officially becoming a Ph.D. candidate in this program, a student must pass the comprehensive qualifying examination that covers the entire program of study. Neither the joint program examination nor the comprehensive qualifying examination can be taken more than twice.

Course Descriptions

**MATH 500 Mathematical Methods of Physics I.** Three hours. Prerequisite: MATH 238. Vector calculus, tensors and matrices, functions of a complex variable, and special functions.

**MATH 501 Mathematical Methods of Physics II.** Three hours. Prerequisite: MATH 500. Special functions, Fourier series and integral transforms, Green’s functions, and group theory.

**MATH 502 History of Mathematics.** Three hours. Prerequisite: Permission of the department. Designed to increase awareness of the historical roots of the subject and its universal applications in a variety of settings, showing how mathematics has played a critical role in the evolution of cultures over both time and space.

**MATH 504 Topics in Modern Mathematics for Teachers.** Three hours. Prerequisite: Permission of the department. Diverse mathematical topics designed to enhance skills and broaden knowledge in mathematics for secondary mathematics teachers.
MATH 505 Geometry for Teachers. Three hours.
Prerequisite: MATH 125 or permission of the department.
A survey of the main features of Euclidean geometry, including the axiomatic structure of geometry and the historical development of the subject. Some elements of projective and non-Euclidean geometry are also discussed.

MATH 506 Curriculum in Secondary Mathematics. Three hours.
Prerequisite: Admission to Teacher Education Program in secondary mathematics or permission of the department.

MATH 507 Theory of Numbers. Three hours.
Prerequisite: Permission of the department.
Designed for graduate students not majoring in mathematics. Familiarity with the types of arguments to prove facts about divisibility of integers, prime numbers, and modular congruencies. Other topics, such as the Fermat theorem, Euler's theorem, and the law of quadratic reciprocity, will be discussed.

MATH 508 Topics in Algebra. Three hours.
Prerequisite: Permission of the department.
Content changes from semester to semester to meet the needs of students. Designed for graduate students not majoring in mathematics.

MATH 509 Discrete Mathematics for Computer Science. Three hours.
Prerequisite: Graduate standing.
develops students' abilities to think abstractly and logically by applying techniques of discrete mathematics to computer science problems.

MATH 510 Numerical Linear Algebra. Three hours.
Prerequisites: MATH 237 (or MATH 257) or equivalent.
Direct solution of linear algebraic systems, analysis of errors in numerical methods for solutions of linear systems, linear least-squares problems, orthogonal and unitary transformations, eigenvalues and eigenvectors, and singular value decomposition.

MATH 511 Numerical Analysis I. Three hours.
Prerequisites: MATH 237, MATH 238 or MATH 257, and CS 226; or equivalent.
Numerical methods for solving nonlinear equations; iterative methods for solving linear systems of equations; approximations and interpolations; numerical differentiation and integration; and numerical methods for solving initial-value problems for ordinary differential equations.

MATH 512 Numerical Analysis II. Three hours.
Prerequisite: MATH 411, MATH 511, or equivalent.
Continuation of MATH 511 with emphasis on numerical methods for solving partial differential equations. Also covers least-squares problems, Rayleigh-Ritz method, and numerical methods for boundary-value problems.

MATH 513 Finite-Element Methods. Three hours.
Prerequisites: MATH 343 and MATH 382.
Corequisite: MATH 510.
 Quadratic functional on finite dimensional vector spaces, variational formulation of boundary value problems, the Ritz-Galerkin method, the finite-element method, and direct and iterative methods for solving finite-element equations.

MATH 520 Linear Optimization. Three hours.
Prerequisite: MATH 237.
Topics include formulation of linear programs, simplex methods and duality, sensitivity analysis, transportation and networks, and various geometric concepts.

MATH 521 Optimization Theory II. Three hours.
Prerequisite: MATH 321 or MATH 520.
Corequisite: MATH 510 or permission of the instructor.
Emphasis on traditional constrained and unconstrained nonlinear programming methods, with an introduction to modern search algorithms.

MATH 523 Convex Analysis I. Three hours.
Prerequisites: MATH 257 and MATH 380, or permission of the department.
Introduction to convex analysis. Topics include basic concepts, topological properties, duality correspondences, and representation and inequalities of convex sets and functions.
MATH 528 Introduction to Optimal Control. Three hours.
Prerequisite: MATH 238.
Corequisite: MATH 510 or permission of the department.
Introduction to the theory and applications of deterministic systems and their controls. Major topics include calculus of variations, the Pontryagin maximum principle, dynamic programming, stability, controllability, and numerical aspects of control problems.

MATH 532 Graph Theory and Applications. Three hours.
Prerequisites: MATH 237 or MATH 257, and MATH 382 or permission of the instructor.
Survey of several of the main ideas of general graph theory with applications to network theory. Topics include oriented and nonoriented linear graphs, spanning trees, branchings and connectivity, accessibility, planar graphs, networks and flows, matchings, and applications.

MATH 537 Special Topics in Applied Mathematics I. Three hours.
Prerequisite: Permission of the department.

MATH 538 Special Topics in Applied Mathematics II. Three hours.
Prerequisite: Permission of the department.

MATH 541 Boundary Value Problems. Three hours.
Prerequisites: MATH 343 and MATH 382, or permission of the department.
Emphasis on boundary-value problems for classical partial differential equations of physical sciences and engineering. Other topics include boundary-value problems for ordinary differential equations and for systems of partial differential equations.

MATH 542 Integral Transforms and Asymptotics. Three hours.
Prerequisite: MATH 441, MATH 541, or permission of the department.
Introduction to complex variable methods, integral transforms, asymptotic expansions, WKB method, matched asymptotics, and boundary layers.

MATH 544 Singular Perturbations. Three hours.
Prerequisites: MATH 382 and MATH 441 (or MATH 541), or permission of the department.
Topics include regular perturbation methods for solving partial differential equations, matched asymptotic methods for differential equations, and the methods of strained coordinates and multiple scales, with applications to problems in combustion theory, fluid dynamics, and biology.

MATH 545 Theoretical Foundations of Fluid Dynamics I. Three hours.
Prerequisite: MATH 343, AEM 264 or equivalent, or permission of the department.

MATH 546 Theoretical Foundations of Fluid Dynamics II. Three hours.
Prerequisite: MATH 545 or equivalent, or permission of the department.
Introduction to asymptotic methods and other approximate methods applied to classical problems in boundary-layer theory, low Reynolds number flows, surface gravity waves, shallow-water theory, and hydrodynamic stability.

MATH 551 Mathematical Statistics with Applications I. Three hours.
Prerequisites: MATH 237 and MATH 355.
Introduction to mathematical statistics. Topics include bivariate and multivariate probability distributions; functions of random variables; sampling distributions and the central limit theorem; concepts and properties of point estimators; various methods of point estimation; interval estimation; tests of hypotheses; and Neyman-Pearson lemma with some applications. Credit for this course will not be counted toward an advanced degree in mathematics.

MATH 552 Mathematical Statistics with Applications II. Three hours.
Prerequisite: MATH 551.
Considers further applications of the Neyman-Pearson lemma, likelihood ratio tests, chi-square test for goodness of fit, estimation and test of hypothesis for linear statistical models, the analysis of variance, analysis of enumerative data, and some topics in nonparametric statistics. Credit for this course will not be counted toward an advanced degree in mathematics.
MATH 554 Mathematical Statistics I (equivalent to ST 554). Three hours.
Prerequisites: MATH 237 and MATH 382.
Distributions of random variables, moments of random variables, probability distributions, joint distributions, and change of variable techniques.
MATH 555 Mathematical Statistics II (equivalent to ST 555). Three hours.
Prerequisite: MATH 554.
Order statistics, asymptotic distributions, point estimation, interval estimation, and hypothesis testing.
MATH 556 Mathematical Statistics III (equivalent to ST 610). Three hours.
Prerequisite: MATH 555.
Generalized inverse matrices; distribution of quadratic forms; regression analysis when the model is of full rank; regression using dummy variables and analysis of variance models; and regression analysis when the model is not of full rank.
MATH 557 Stochastic Processes with Applications I. Three hours.
Prerequisite: MATH 554 or ST 554.
Introduction to the basic concepts and applications of stochastic processes. Markov chains, continuous-time Markov processes, Poisson and renewal processes, and Brownian motion. Applications of stochastic processes including queueing theory and probabilistic analysis of computational algorithms.
MATH 559 Stochastic Processes with Applications II. Three hours.
Prerequisite: MATH 355 or permission of the department.
Continuation of MATH 557. Advanced topics of stochastic processes including martingales, Brownian motion and diffusion processes, advanced queueing theory, stochastic simulation, and probabilistic search algorithms (simulated annealing).
MATH 560 Introduction to Differential Geometry. Three hours.
Prerequisites: MATH 380 or MATH 382, and permission of the department.
Introduction to basic classical notions in differential geometry: curvature, torsion, geodesic curves, geodesic parallelism, differential manifold, tangent space, vector field, Lie derivative, Lie algebra, Lie group, exponential map, and representation of a Lie group.
MATH 565 Introduction to General Topology. Three hours.
Prerequisite: MATH 380.
Basic notions in topology that can be used in other disciplines in mathematics. Topics include topological spaces, open sets, closed sets, basis for a topology, continuous functions, separation axioms, compactness, connectedness, product spaces, quotient spaces, and metric spaces.
MATH 566 Introduction to Algebraic Topology. Three hours.
Prerequisites: MATH 565 and a course in abstract algebra.
Homotopy, fundamental groups, covering spaces, covering maps, and basic homology theory, including the Eilenberg Steenrod axioms.
MATH 570 Principles of Modern Algebra I. Three hours.
Prerequisite: MATH 257.
A first course in abstract algebra. Topics include groups, permutations groups, Cayley’s theorem, finite Abelian groups, isomorphism theorems, rings, polynomial rings, ideals, integral domains, and unique factorization domains.
MATH 571 Principles of Modern Algebra II. Three hours.
Prerequisite: MATH 470 or equivalent.
The basic principles of Galois theory are introduced in this course. Topics covered are rings, polynomial rings, fields, algebraic extensions, normal extensions, and the fundamental theorem of Galois theory.
MATH 573 Abstract Algebra I. Three hours.
Prerequisite: MATH 470 or equivalent.
Fundamental aspects of group theory are covered. Topics include Sylow theorems, semi-direct products, free groups, composition series, nilpotent and solvable groups, and infinite groups.
MATH 574 Cryptography. Three hours.
Prerequisite: MATH 307, MATH 470/570, or permission of department.
Introduction to a rapidly growing area of cryptography, an application of algebra, especially number theory.
MATH 580 Real Analysis I. Three hours.
Prerequisites: MATH 380 and permission of the department.
Topics covered include measure theory, Lebesgue integration, convergence theorems, Fubini's theorem, and $L^p$ spaces.

MATH 583 Complex Analysis I. Three hours.
Prerequisites: MATH 380 and permission of the department.
The basic principles of complex variable theory are discussed. Topics include Cauchy-Riemann equations, Cauchy's integral formula, Goursat’s theorem, the theory of residues, the maximum principle, and Schwarz’s lemma.

MATH 585 Introduction to Complex Calculus. Three hours.
Prerequisite: MATH 227.
Some basic notions in complex analysis. Topics include analytic functions, complex integration, infinite series, contour integration, and conformal mappings.

MATH 588 Theory of Differential Equations I. Three hours.
Prerequisites: MATH 238 and MATH 380.
Topics covered include existence and uniqueness of solutions, Picard theorem, homogeneous linear equations, Floquet theory, properties of autonomous systems, Poincare-Bendixson theory, stability, and bifurcations.

MATH 589 Theory of Differential Equations II. Three hours.
Prerequisite: MATH 588.
Typical topics covered include principal Lyapunov stability and instability theorems; invariance theory; perturbation of linear systems including stable and unstable manifolds; periodic solutions of systems; Hopf bifurcations; and degree theory.

MATH 591 Teaching College-Level Mathematics. Three hours.
Prerequisite: Permission of the instructor or the department.
Provides a basic foundation for teaching college-level mathematics; to be taken by graduate students being considered to teach undergraduate-level mathematics courses.

MATH 592 Introduction to Graduate Mathematics. Three hours.
Prerequisite: MATH 237, MATH 257, or permission of the department.
Should prepare beginning graduate students for graduate-level mathematics. Dependent on students' backgrounds, analysis and linear algebra topics will be covered. Proofs and examples will form major course components.

MATH 598 Research Not Related to Thesis. Three to nine hours.
MATH 599 Thesis Research. Three to six hours.

MATH 610 Iterative Methods for Linear Systems. Three hours.
Prerequisite: MATH 523 or permission of the department.
Describes some of the best iterative techniques for solving large sparse linear systems.

MATH 623 Convex Analysis II. Three hours.
Prerequisite: MATH 523 or permission of the department.
Second course in convex analysis. Topics include differential theory, constrained extremum problems, and saddle functions and minimax theory for convex functions.

MATH 625 Optimization by Vector Space Methods. Three hours.
Prerequisite: MATH 580 or permission of the department.
Involves applications of geometric principles of linear vector space theory to complex infinite-dimensional optimization problems. Topics include linear spaces, Hilbert spaces, least-square estimation, dual spaces, linear operators and adjoints, optimization of functionals, global and local theory of optimization, and interactive methods of optimization.

MATH 639 Seminar: Topics in Applied Mathematics. One to three hours.

MATH 640 Waves in Fluids. Three hours.
Prerequisites: MATH 545 (or AEM 500) and MATH 542, or permission of the department.
Analysis of various wave motions and development of fundamental ideas of general application to waves in fluids. Sound waves, water waves, and internal waves.

MATH 642 Viscous Flows. Three hours.
Prerequisites: MATH 545 (or AEM 500) and MATH 541, or permission of the department.
Review of equations of fluid motion, tensors, and the Navier-Stokes equation. The role of viscosity in creeping flows and boundary layers.

**MATH 644 Hydrodynamic Stability.** Three hours.
Prerequisite: MATH 545 or AEM 500.
Fundamental ideas, methods, results, and applications of hydrodynamic stability. Introduction to some current research topics.

**MATH 659 Seminar: Probability Models.** One to three hours.

**MATH 661 Algebraic Topology I.** Three hours.
Prerequisite: MATH 566 or equivalent.
In-depth study of homotopy and homology. The theory of cohomology is also introduced as are characteristic classes.

**MATH 663 General Topology I.** Three hours.
Prerequisite: MATH 565 or permission of the department.
Typical topics covered in this course include countable and uncountable sets; axiom of choice; well-ordered sets; connectedness and compactness; countability and separation axioms; Tychonoff’s theorem; fundamental group; and covering spaces.

**MATH 664 General Topology II.** Three hours.
Prerequisite: MATH 663.
Topics of interest to the instructor will be introduced.

**MATH 665 Topological Structures I.** Three hours.
Prerequisite: Permission of the department.
Topics covered in previous courses include selected works of Pontryagin.

**MATH 669 Seminar: Topics in Topology.** One to three hours.

**MATH 674 Abstract Algebra II.** Three hours.
Prerequisite: MATH 573 or equivalent.
Fundamental aspects of ring theory are covered. Topics include Artinian rings, Wedderburn’s theorem, idempotents, polynomial rings, matrix rings, Noetherian rings, free and projective modules, and invariant basis number.

**MATH 677 Topics in Algebra I.** Three hours.
Prerequisite: Permission of the department.
Content decided by instructor. Recent topics covered include linear groups, representation theory, commutative algebra and algebraic geometry, algebraic K-theory, and theory of polycyclic groups.

**MATH 679 Seminar: Topics in Algebra.** One to three hours.

**MATH 681 Real Analysis II.** Three hours.
Prerequisite: MATH 580.
Topics covered include basic theory of $L^p$ spaces, convolutions, Hahn decomposition, the Radon-Nikodym theorem, Riesz representation theorem, and introduction to Banach spaces.

**MATH 684 Complex Analysis II.** Three hours.
Prerequisite: MATH 583 or permission of the department.
Typical topics covered include analytic functions, the Riemann mapping theorem, harmonic and subharmonic functions, the Dirichlet problem, Bloch’s theorem, Schottley’s theorem, and Picard’s theorems.

**MATH 686 Functional Analysis I.** Three hours.
Prerequisites: MATH 681 and a course in complex analysis.
Topics covered in recent courses include Hilbert spaces, Riesz theorem, orthonormal bases, Banach spaces, Hahn-Banach theorem, open-mapping theorem, bounded operators, and locally convex spaces.

**MATH 687 Functional Analysis II.** Three hours.
Prerequisite: MATH 686.
Topics covered in recent courses include spectral theory, Banach algebras, C* algebras, nest algebras, Sobolev spaces, linear p.d.e.’s, interpolation theory, and approximation theory.

**MATH 688 Seminar: Topics in Analysis.** One to three hours.

**MATH 689 Seminar: Topics in Functional Analysis.** One to three hours.

**MATH 698 Research Not Related to Dissertation.** Three to nine hours.

**MATH 699 Dissertation Research.** Three to twelve hours.
Admission Requirements

General requirements for admission to the Graduate School are set forth in the “Academic Policies” section of this catalog. All applicants to graduate degree programs in the Department of Modern Languages and Classics must submit a writing sample in support of the application. All applicants are considered for financial support in the form of a Graduate Teaching Assistantship. Applicants who wish to be considered for additional financial support in the form of enhanced assistantships or fellowships are encouraged to take the Graduate Record Examination general test or Miller Analogies Test.

For students with deficiencies in undergraduate preparation, admission may be contingent upon completion of designated undergraduate requirements. (In particular, all three tracks of the master of arts program in German, as described below, presuppose completion of an undergraduate survey of German literature or a survey of German culture/civilization that includes a substantial literary component. Students lacking this requirement who are nevertheless admitted to the German master of arts program must make up this course concurrent with their other coursework.)

Qualified students who are holders of an appropriate undergraduate degree may be admitted directly to the doctoral program in Romance languages. However, in such circumstances completion of all requirements for the appropriate master of arts program, including comprehensive testing and subsequent awarding of the master of arts degree, will be a prerequisite for completion of the doctoral degree.

Qualified students can seek dual admission to the School of Law and to any master of arts program offered in the Department of Modern Languages and Classics. If admitted to both, the student will be exempted from at least 6 hours of coursework for the juris doctor degree.

Degree Requirements

The Department of Modern Languages and Classics offers degree programs leading to the master of arts in German, the master of arts in Romance languages, and the doctor of philosophy in Romance languages. All three degree programs incorporate a variety of options (see below). An M.B.A./M.A. dual degree program combining a master’s in business administration with a master’s in German or Romance languages (either French or Spanish option) is also offered (see below). Some of the degree programs described below are now undergoing revision and modification. For current information, consult the departmental Graduate Student Handbook or contact the departmental graduate director.

Master of arts in German. Three concentrations are available:

German literature. Plan I (24 hours of coursework and a thesis) or Plan II (30 hours of coursework, no thesis). In addition to German literature courses, students must take GN 510 History of the German Language and 3 hours of Middle High German. With the approval of the German graduate adviser, 6 hours of graduate work in a related field may be applied to the degree.

Germanic philology. Plan I (24 hours of coursework and a thesis) or Plan II (30 hours of coursework, no thesis). In addition to philology courses, students must take 6 hours of German literature. With the approval of the German graduate adviser, 9 hours of graduate work in a related field may be applied to the degree. EN 622 Old English may count as a German course for candidates in this concentration. The concentration and courses in Germanic philology are offered subject to availability of qualified faculty.

German studies. Plan II only (30 hours of coursework, no thesis). Students must take 15 hours of German literature/culture and philology courses, 3 hours in German history, and one 3-hour interdisciplinary seminar. With the approval of the German graduate adviser, 9 hours of graduate work in a related field may be applied to the degree.
Regardless of concentration, all graduate teaching assistants must enroll in the teaching practicum, currently offered under GN 551/GN 552. Upon completing coursework for any of the three concentrations in German, a student must pass a comprehensive examination based on the coursework and on a pre-established reading list. For information regarding the examination, please contact the graduate director.

A student who chooses to write a thesis will defend it orally.

**Master of arts in Romance languages.** A single degree program incorporates a variety of options and tracks:

There are three options: the French Option, the Spanish Option, and the Romance languages Option (which combines languages). All three options have thesis and nonthesis tracks. The French and Spanish options also allow for an applied linguistics track (thesis or nonthesis). Regardless of the option or track, all new graduate teaching assistants must enroll for the Practicum in Applied Linguistics (either FR 512 or SP 502).

**Nonthesis tracks of the master of arts in Romance languages (Plan II).** A description of the typical configuration for the various nonthesis tracks of the master of arts in Romance language follows. Included in all nonthesis tracks of the master of arts in Romance languages is a core of five courses in the five areas listed below (approximately 50 percent of the major). Twenty-one hours of the coursework must be language specific.

1. Teaching Practicum/Topics in Linguistics
2. Proseminar: Research Methodology/Critical Theory
3. Topics in Culture and Civilization
4. Graduate Seminar
5. Special Topics/Directed Readings

All nonthesis tracks require success on comprehensive exams before granting of the degree.

- **French Option, standard version without thesis (Plan II).** Curriculum requirements: 33 hours of coursework, including at least one course in each of the following six fields:

  1. Medieval and Renaissance
  2. Early modern (seventeenth and eighteenth centuries)
  3. Nineteenth century
  4. Twentieth and twenty-first centuries
  5. Francophone and French studies
  6. French linguistics

Appropriate courses taken in these fields will simultaneously fulfill the Romance languages core requirements listed above. The French program online course descriptions will usually list which Romance languages core requirements are fulfilled by any given French course. The French graduate adviser will also have this information. Students must pass a comprehensive examination based on their coursework in the six fields of study. However, students may be exempted from examination in a maximum of two fields in two ways: either by writing a research paper in the field and presenting it at a professional conference or by satisfactorily completing two courses in the field, earning a grade of “A” or “B.” (Note: Only 30 hours of coursework are required for students simultaneously enrolled in the M.B.A. program.)

- **French Option, applied linguistics track without thesis (Plan II).** Curriculum requirements: 36 hours of coursework. The applied linguistics track involves three components: language, linguistics, and applied linguistics. The language component consists of 21 hours of course credit in French language, literature, and/or culture. The linguistics component is comprised of a 3-hour descriptive linguistics course (FR 561). The applied linguistics component consists of 12 hours of coursework in
second language acquisition and pedagogy (FR 512, EN 613, and two of the following: FR 515, EN 610, EN 612, CIE 577, or other approved courses; for descriptions of courses bearing the EN prefix, see the Department of English section of this catalog; for a description of CIE 577, see “Curriculum and Instruction Course Descriptions” in the College of Education section). Based on the advice of the graduate adviser, appropriate courses taken in these components will simultaneously fulfill the Romance languages core requirements listed above. Degree requirements include success on written and oral comprehensive examinations. All examinations are based on the coursework.

- **Spanish Option, Hispanic literature version without thesis** (Plan II). Curriculum requirements: 30 hours of coursework, including at least one course in each of the following six fields:

  1. Twentieth-century Spanish America
  2. Spanish America before 1900
  3. Golden Age
  4. Nineteenth-century peninsular
  5. Twentieth-century peninsular
  6. Hispanic linguistics

Based on the advice of the graduate adviser, appropriate courses taken in these components will simultaneously fulfill the Romance languages core requirements listed above. A student will be held responsible for the items on the M.A. Reading List only in the field(s) for which a prescribed course is not offered during the period of the student’s enrollment or if a student fails to enroll in one of the prescribed courses. In consultation with the Spanish graduate adviser, each student must also select a special area of interest in Hispanic literature. Other specialization options may be available based on the discretion of the graduate adviser. Degree requirements include success on written and oral comprehensive examinations. The written examination will be based on the coursework. In addition to questions from the required fields, the examination will include a component covering the student’s declared area of interest. (It is the student’s responsibility to keep syllabi from each course on file for reference.) Successful completion of the written examination allows the student to proceed to the oral component, which will be a follow-up to the written examination but will also include a presentation based on the declared area of interest.

- **Spanish Option, applied linguistics version without thesis** (Plan II). Curriculum requirements: 36 hours of coursework. The applied linguistics track involves three components: language, linguistics, and applied linguistics. The language component consists of 21 hours of course credit in Spanish language, literature, and culture (a minimum of 6 hours must be in Peninsular literature and 6 hours in Spanish-American literature). The linguistics component is comprised of a 3-hour descriptive linguistics course (SP 556). The applied linguistics component consists of 12 hours of coursework in second language acquisition and pedagogy (SP 502, EN 610, EN 612, CIE 577, or other approved courses; for descriptions of courses bearing the EN prefix, see the Department of English section of this catalog; for a description of CIE 577, see “Curriculum and Instruction Course Descriptions” in the College of Education section). Based on the advice of the graduate adviser, appropriate courses taken in these components will simultaneously fulfill the Romance languages core requirements listed above. Degree requirements include success on written and oral comprehensive examinations. All examinations are based on the coursework.

- **Romance Languages Option, without thesis** (Plan II). Curriculum requirements: 30–36 hours of coursework. The curriculum requires study of French and Spanish, one as the major and one as the minor. The major includes a minimum of 18 hours. The minor includes a minimum of 12 hours. More than the minimum is recommended for both the major and the minor. Graduate courses in Italian studies are also available (see the RL prefix in course listings below). Based on the advice of the graduate adviser, appropriate courses taken in these components will simultaneously fulfill
the Romance languages core requirements listed above. Degree requirements include success on written and oral comprehensive examinations. All examinations are based on the coursework.

**Thesis tracks of the master of arts in Romance languages** (Plan I). A description of the typical configuration for the various thesis tracks of the master of arts in Romance language follows. The Romance languages core requirements do not apply to thesis tracks.

- **French Option, standard version with thesis** (Plan I). Curriculum requirements: 27 hours of coursework and a thesis, including at least one course in each of the following six fields:

1. Medieval and Renaissance
2. Early modern (seventeenth and eighteenth centuries)
3. Nineteenth century
4. Twentieth and twenty-first centuries
5. Francophone and French studies
6. French linguistics

Students must pass a comprehensive examination based on their coursework in the six fields of study. However, students may be exempted from examination in a maximum of two fields in three ways: first, by writing a thesis in the field; second, by writing a research paper in the field and presenting it at a professional conference; or third, by satisfactorily completing two courses in the field, earning a grade of "A" or "B." (Note: Only 24 hours of coursework are required for students simultaneously enrolled in the M.B.A. program.)

- **French Option, applied linguistics track with thesis** (Plan I). Curriculum requirements: 30 hours of coursework and a thesis. In addition to the thesis, the applied linguistics track involves three components: language, linguistics, and applied linguistics. The language component consists of 15 hours of course credit in French language, literature, and/or culture. The linguistics component is comprised of a 3-hour descriptive linguistics course (FR 561). The applied linguistics component consists of 12 hours of coursework in second language acquisition and pedagogy (FR 512, EN 613, and two of the following: FR 515, EN 610, EN 612, CIE 577, or other approved courses; for descriptions of courses bearing the EN prefix, see the Department of English section of this catalog; for a description of CIE 577, see “Curriculum and Instruction Course Descriptions” in the College of Education section). Degree requirements include success on comprehensive written and oral comprehensive examinations. All examinations are based on the coursework.

- **Spanish Option, Hispanic literature version with thesis** (Plan I). Curriculum requirements: 24 hours of coursework and a thesis, including at least one course in each of the following six fields:

1. Twentieth-century Spanish America
2. Spanish America before 1900
3. Golden Age
4. Nineteenth-century peninsular
5. Twentieth-century peninsular
6. Hispanic linguistics

A student will be held responsible for the items on the M.A. Reading List only in the field(s) for which a prescribed course is not offered during the period of the student’s enrollment or if a student fails to enroll in one of the prescribed courses. In consultation with the Spanish graduate adviser, each student must also select a special area of interest in Hispanic literature. Other specialization options may be available based on the discretion of the graduate adviser. Degree requirements include success on written and oral comprehensive examinations. The written examination
will be based on the coursework. In addition to questions from the required fields, the examination will include a component covering the student’s declared area of interest. (It is the student’s responsibility to keep syllabi from each course on file for reference.) Successful completion of the written examination allows the student to proceed to the oral component, which will be a follow-up to the written examination but will also include a presentation based on the declared area of interest.

• **Spanish Option, applied linguistics version with thesis** (Plan I). Curriculum requirements: 30 hours of coursework and a thesis. In addition to the thesis, the applied linguistics track involves three components: language, linguistics, and applied linguistics. The language component consists of 15 hours of course credit in Spanish language, literature, and culture (a minimum of 6 hours must be in Peninsular literature and 6 hours in Spanish-American literature). The linguistics component is comprised of a 3-hour descriptive linguistics course (SP 556). The applied linguistics component consists of 12 hours of coursework in second language acquisition and pedagogy (SP 502, EN 613, and two of the following: SP 581, EN 610, EN 612, CIE 577, or other approved courses; for descriptions of courses bearing the EN prefix, see the Department of English section of this catalog; for a description of CIE 577, see “Curriculum and Instruction Course Descriptions” in the College of Education section). Degree requirements include success on written and oral comprehensive examinations. All examinations are based on the coursework.

• **Romance Languages Option, with thesis** (Plan I). Curriculum requirements: 24–30 hours of coursework and a thesis. The curriculum requires study of French and Spanish, one as the major and one as the minor. The major includes a minimum of 18 hours. The minor includes a minimum of 12 hours. More than the minimum is recommended for both the major and the minor. Graduate courses in Italian studies are also available (see the RL prefix in course listings below). Degree requirements include success on written and oral comprehensive examinations. All examinations are based on the coursework.

**M.B.A./M.A. Modern Languages Dual Degree Program.** Candidates accepted into both the M.B.A. program and an M.A. program in German or Romance languages (either French or Spanish options) can fulfill all requirements for both degrees in three years. Other M.A. requirements may vary from what is shown above, based on factors such as the availability of coursework during the student’s window of opportunity. Typically, students complete the majority of their M.A. coursework in the first year prior to a cultural and language immersion summer experience abroad. The M.B.A. core curriculum comprises the second academic year, followed by a seven-month extensive international internship spanning one summer and the fall semester of the final academic year. Students return to campus for the spring semester of the final year to finish remaining M.B.A. and M.A. coursework and to take comprehensive examinations before graduating. More detailed information about this unique program, about possibilities for financial support, and the admission process is available online or by contacting the Manderson Graduate School of Business or the Department of Modern Languages and Classics.

**Doctor of philosophy in Romance languages.** Three options are available:

**French option.** The curriculum is centered on French, though up to 12 hours of coursework in a related discipline is admissible. All new graduate teaching assistants must take FR 512. At the conclusion of the coursework, a qualifying examination must take place before work on the dissertation can begin. The qualifying examination includes written and oral components. The written examination is comprised of six sections. Four of the sections pertain to standard periods of French literature in which the student has had coursework. The remaining two sections are open and may pertain either to additional literary periods or to any other area(s) of study that the student has undertaken in French or in a related field, such as Francophone literature and culture, French civilization, French linguistics, etc.

**Spanish option.** The curriculum is centered on Spanish, though up to 12 hours of coursework in a related discipline is admissible. All new graduate teaching assistants
must take SP 502. At the conclusion of the coursework, a qualifying examination must take place before work on the dissertation can begin. The qualifying examination includes written and oral components. The written examination is comprised of five sections, all pertaining to the standard periods of Peninsular and Spanish-American literature. Prior to the written examination, the candidate will determine two periods to be of primary interest, and these will figure more prominently in the exam structure.

**Romance languages option.** Candidates for the Romance languages track will be allowed to tailor their programs individually, with the advice of a graduate faculty committee. The goal will be to meet the interests and career requirements of the candidate by utilizing the full resources of the department and of cognate graduate programs offered by the University. Normally, students choosing this option major in French or Spanish, with a minor in the other language. However, both the major and the minor are understood to be flexible and possibly interdisciplinary. For example, a variety of alternative minors are possible, depending upon the student’s needs, and limited only by his or her qualifications and the cooperation of other faculties. Some pre-approved minors for qualified students include German, TESOL (Teaching English as a Second Language), and Latin American studies. Other customized programs can be made to incorporate combinations of coursework in linguistics, applied linguistics, Italian studies, history, art history, women studies, English, anthropology, etc. All new graduate teaching assistants must take either FR 512 or SP 502. The qualifying examination for the Romance languages option takes the following form. The written examination is formulated by a graduate faculty committee and is based on the candidate’s fields and coursework. It has as its goal the cognitive and conceptual understanding of the material actually studied, including the synthesis of possibly disparate fields in the student’s curriculum. It is conceived of as a “defense and illustration” of the student’s program. The oral examination coincides with the presentation of the dissertation proposal and focuses on the coursework and the preliminary research for the proposed dissertation.

**General Departmental Requirements for the Ph.D.**

In addition to the program-specific requirements presented above, all doctoral candidates, regardless of the option selected, must adhere to the following. The minimal formal coursework required is 60 semester hours, which may include up to 30 hours of transferred credits earned at another institution. Students who have completed a master’s thesis, however, need accumulate only 54 hours of coursework. Once all coursework is completed, an additional 24 hours of dissertation research are required. All doctoral candidates must possess reading knowledge of one language in addition to English, their native language, and their language of specialization. It is strongly recommended that, before the termination of studies, all doctoral candidates reside for a period in a country or location requiring constant interaction in the language of specialization.

**Course Descriptions**

**French (FR)**

**FR 501 Reading Proficiency in French I.** Three hours, no credit awarded. Introduction to French grammar and vocabulary, with emphasis on developing basic reading and translation skills.

**FR 502 Reading Proficiency in French II.** Three hours, no credit awarded. Prerequisite: FR 501 or permission of the instructor. Continued study of grammar and vocabulary, with emphasis on further developing reading and translation skills.


**FR 512 Practicum: Applied Linguistics.** Three hours. The analysis and various practical applications of selected teaching techniques. Lightfoot.

FR 521 Pronunciation and Phonetics. Three hours. Introduction to phonetic theory and corrective phonetics through auditory discrimination exercises and contrastive analysis; emphasis on mastery of oral skills. Picone.

FR 531 Francophone Africa. Three hours. Prominent themes of the African experience, seen through the eyes of Francophone authors and cinematographers of the Maghreb, sub-Saharan Africa, and the immigration; dialect variations and sociolinguistic configurations. Picone.

FR 533 Topics in French Culture and Civilization. Three hours. Study of French artistic heritage and development of social and political institutions. May be repeated for credit. Edmunds, Lightfoot, Mayer-Robin, Picone, Robinson Kelly, Zupancič.

FR 545 17th-Century French Literature I. Three hours. Prose writings of the 17th century, including but not limited to the philosophical works of Descartes and Pascal and the novels of Madame de Lafayette. Edmunds.

FR 546 17th-Century French Literature II. Three hours. Verse writings of the 17th century, including but not limited to the pre-classical poets (such as Saint-Amant and de Viau) and the dramatic works in verse (such as the plays of Corneille, Molière, and Racine). Edmunds.

FR 547 Special Topics in 18th-Century French Literature. Three hours. A selection of the important texts of the period. Lectures and discussion. May be repeated for credit.


FR 551 19th-Century French Novel. Three hours. Close readings of the novel alongside studies in Romanticism, realism, naturalism, symbolism, and Décadence. Novelist works, and movements privileged will vary, but generally include combinations of the following: Chateaubriand, Mme de Staël, Stendhal, Balzac, Hugo, Sand, Flaubert, Zola, Huysmans. May be repeated for credit. Mayer-Robin.

FR 552 Special Topics in 19th-Century French Literature. Three hours. Readings in poetry, theatre, and prose, either genre-specific or in combination, generally focusing on the first or latter half of the century in order to consider movements in literary thought. May be repeated for credit. Mayer-Robin.

FR 553 20th-Century French Novel. Three hours. Major novelists of the period and their works. Reading and discussion of complete texts; lectures and reports. Zupancič.


FR 555 Québécois Literature and Culture. Three hours. A study of the history, culture, and literature of Québec and French Canada, with emphasis on the modern period. Zupancič.


FR 564 French Language and Literature of the Middle Ages: Beginnings. Three hours. Old French language and literature will be studied through major works of the period 1000–1250. Robinson Kelly.

FR 565 French Language and Literature of the Middle Ages: 1250–1500. Three hours.
Middle French language and literature will be studied through major works of the period 1250–1500. Robinson Kelly.

FR 590 Directed Readings/Directed Study. Three hours.
Subject matter varies. May be repeated for credit. Edmunds, Lightfoot, Mayer-Robin, Picone, Robinson Kelly, Zupančič.

FR 598 Nonthesis Research. Variable credit.

FR 599 Thesis Research. Variable credit.
May be repeated for a total of 6 hours. Edmunds, Lightfoot, Mayer-Robin, Picone, Robinson Kelly, Zupančič.

FR 643 Poetry of the French Renaissance. Three hours.
Major poets of the Renaissance, with emphasis on Marot, Scève, Louise Labé, du Bellay, Ronsard. Robinson Kelly.

FR 644 Narratives of the French Renaissance. Three hours.
A study of major works, including Rabelais and Montaigne. Robinson Kelly.

FR 670 Graduate Seminar. Three hours.
Subject may be in French literature, linguistics, civilization, or a combination. Examples: Proust, French lexicology, Francophone Louisiana, French cinema. May be repeated for credit. Edmunds, Lightfoot, Mayer-Robin, Picone, Robinson Kelly, Zupančič.

FR 680 Special Topics. Variable credit.
Directed reading and/or research on varying subjects. May be repeated for credit. Edmunds, Lightfoot, Mayer-Robin, Picone, Robinson Kelly, Zupančič.


German (GN)

GN 503 German Reading Proficiency I. Three hours, no credit awarded.
Introduction to German grammar and vocabulary, with emphasis on developing basic reading and translation skills. Normally offered first semester of summer school only.

GN 504 German Reading Proficiency II. Three hours, no credit awarded.
Prerequisite: GN 503 or permission of the instructor.
Continued study of grammar and vocabulary, with emphasis on further developing reading and translation skills. Normally offered second semester of summer school only.

GN 510 History of the German Language. Three hours.
The relationship to Indo-European and to the other Germanic dialects; linguistic development from the earliest times to the present.

GN 511 Gothic. Three hours.
Development of the Gothic language; readings from Wulfila’s Gothic translation of the Bible.

GN 512 Old Norse (Old Icelandic). Three hours.
Old Icelandic grammar; development of the Old Icelandic language; selected readings from the Eddas and the sagas.

GN 515 Middle High German Language and Literature. Three hours.
Introduction to the language and literature of the Middle High German period.

GN 520 Renaissance and Baroque Literature. Three hours.
Works from the Renaissance (including literature from the Reformation and Humanism) and the Baroque (17th century).

GN 525 Literature of the Age of Goethe. Three hours.
Includes the German Enlightenment, Sturm und Drang, Weimar Classicism, and the Romantic movement.

GN 530 Literature of the Age of Realism. Three hours.
Includes Biedermeier, Junges Deutschland, Poetic Realism, and Naturalism.


GN 551:552 Special Problems and Directed Readings. Three hours. Special topics chosen by students in conference with the instructor. Staff.

GN 571 Seminar in Selected Authors. Three hours. Students will normally give reports and write at least one research paper.

GN 575 Seminar in a Literary Genre. Three hours. Students will normally give reports and write at least one research paper.

GN 576 Seminar on a Literary Theme. Three hours. Students will normally give reports and write at least one research paper.

GN 599 Thesis Research. Variable credit.

Romance Languages (RL)

RL 557 Critical Theory. Three hours.

RL 680 Special Topics. Variable credit. Topics may be interdisciplinary or language-specific. A three-hour special topics course in Italian or Italian studies is offered regularly (B. Godorecci, M. Godorecci). Examples: Dante, Petrarch, Boccaccio, 19th-century Italian novel, Vico, Machiavelli, *commedia dell’arte*. May be repeated for credit.

Spanish (SP)

SP 501 Bibliography and Electronic Research Methodology. One hour. Basic research tools and techniques.

SP 502 Practicum: Applied Linguistics. Three hours. In-depth analysis of fundamental concepts in foreign language learning and teaching. Topics include grammar and vocabulary acquisition, classroom discourse, reading and listening comprehension, writing and principles of language testing. Cipria.

SP 503 Reading Proficiency in Spanish I. Three hours, no credit awarded. Introduction to Spanish grammar and vocabulary, with emphasis on developing basic reading and translation skills.

SP 504 Reading Proficiency in Spanish II. Three hours, no credit awarded. Prerequisite: SP 503 or permission of the instructor. Continued study of grammar and vocabulary, with emphasis on further developing reading and translation skills.

SP 515 Spanish-American Colonial Texts. Three hours. In-depth study of texts from the colonial period, with emphasis on colonialism and the role of writing in colonization and decolonization. Readings may vary. Janiga-Perkins.

SP 516 19th-Century Spanish-American Literature I. Three hours. In-depth study of major literary works of the period, with emphasis on Romanticism, social Romanticism, and Romantic realism. Readings may vary. May be repeated for credit. Janiga-Perkins.

SP 517 19th-Century Spanish-American Literature II. Three hours. In-depth study of major literary works of the period, with emphasis on naturalism and modernism (Martí, Darió, etc.). Janiga-Perkins.

SP 518 20th-Century Spanish-American Novel. Three hours. A study of the novelistic currents and selected major novelists from the Mexican Revolution to the present. Toledo.

SP 519 20th-Century Spanish-American Poetry. Three hours. A study of the poetic movements since *modernismo* to the present, with emphasis on important poets, such as Gabriela Mistral, Pablo Neruda, and Octavio Paz. Toledo.

SP 520 18th-Century Spanish Literature. Three hours. Subject matter varies, but will consist of some combination of the following areas: poetry, theatre, and prose works representing the different literary tendencies of the 18th century as well as the ideological issues of the period.
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SP 521 19th-Century Spanish Prose. Three hours.
Reading and discussion of complete texts representative of the literary movements of
the period; lectures and reports. Schnepf.

SP 522 19th-Century Spanish Poetry and Theatre. Three hours.
Important dramatists and poets of the period and their works; lectures and reports.
Schnepf.

SP 525 20th-Century Spanish Literature, Pre–Civil War. Three hours.
Reading and discussion of texts representative of the literary movements of the period.
Lectures, discussions, and reports. Villanueva.

SP 526 20th-Century Spanish Literature, Post–Civil War. Three hours.
Reading and discussion of texts representative of the literary movements of the period.
Lectures, discussions, and reports. Villanueva.

SP 534 Spanish-American Theatre. Three hours.
A study of the development of the Spanish-American theatre from its origins to the pres-
ent, with emphasis on 20th-century authors such as Florencio Sánchez and Rodolfo
Usigli.

SP 535 Spanish-American Short Story. Three hours.
A study of the short story from El Matedero to the present, with emphasis on 20th-cen-
tury writers such as Horacio Quiroga, Jorge Luis Borges, and Gabriel García Márquez.
Toledo.

SP 541 Survey of Medieval Spanish Literature. Three hours.
El Cantar de Mio Cid and other selected texts. Lecture, discussion, and reports.

SP 556 Introduction to Spanish Linguistics. Three hours.
Linguistic theory applied to the analysis of the Spanish language. Topics include phonol-
ogy, morphology, syntax, semantics, and language change and variation. Cipria.

SP 566 Spanish-American Civilization. Three hours.
Study of Spanish-American cultural heritage and of the development of social and
political institutions.

SP 581 Topics in Second Language Acquisition. Three hours. Same as FR 515.
Analysis of major issues, theories, research findings, and their implications for teaching.
Examples: second language reading, classroom language acquisition. May be repeated
for credit. Cipria.

SP 584 Spanish Phonetics and Syntax. Three hours.
Detailed examination of Spanish phonetics and syntactic structures, including dialectical
variations. Cipria.

SP 590 Open Topics. Three hours.
Subject matter varies. May be repeated for credit.

SP 591 Cervantes. Three hours.

SP 593 16th-Century Peninsular Literature. Three hours.
Reading and discussion of selected works of the period. Worden.

SP 594 17th-Century Peninsular Literature. Three hours.
Reading and discussion of selected works of the period. Worden.

SP 598 Nonthesis Research. Variable credit.

SP 599 Thesis Research. Variable credit. May be repeated for a total of 6 hours.

SP 600 Directed Readings or Research. May be repeated for variable credit.

SP 605 Old Spanish: Phonology. Three hours.
Introduction to Medieval epic; El Cantar de Mio Cid.

SP 606 Old Spanish: Morphology. Three hours.
Prerequisite: SP 605.
Representative works of Medieval literature.

SP 689 Seminar in Spanish-American Literature. Three hours.
Subject matter varies. May be repeated for credit.

SP 690 Seminar in Spanish Literature. Three hours.
Subject matter varies. May be repeated for credit.

SP 699 Dissertation Research. May be repeated for variable credit. Three-hour mini-
mum.
The School of Music is an accredited member of the National Association of Schools of Music, and all of its programs and policies are in accordance with NASM requirements. The School offers the doctor of musical arts degree (D.M.A.) with concentrations in composition, performance, choral conducting, and wind conducting. A minor in musicology/ethnomusicology or music theory may be earned in conjunction with any of the D.M.A. concentrations. Descriptions of these curricula may be found in the Graduate Handbook of the School of Music. The master of music (M.M.) degree is offered with concentrations in performance, composition, musicology/ethnomusicology, theory, choral conducting, wind conducting, and organ performance and choral conducting combined. Program outlines are available from the School upon request.

Requirements for Admission

All courses of graduate music study must meet the general requirements of the Graduate School as given in this catalog. In addition, the School of Music imposes the following special requirements:

For the M.M. Degree

1. The bachelor of music degree in the chosen field of study from The University of Alabama or the equivalent from another accredited institution.
2. In special cases, a student holding the bachelor’s degree but without a formal major in the chosen field may be admitted by examination.
3. All students must take examinations in music history and music theory prior to initial registration. Any deficiencies revealed in these examinations must be removed within the student’s first 12 hours of graduate study. Until the deficiencies are removed, no graduate study beyond the 12 hours may be undertaken, and enrollment in graduate theory or history courses may be restricted. A schedule of remediation will be determined by appropriate faculty and the director of graduate studies in music. The schedule may include enrollment in MUS 395 Graduate Theory Review or MUS 396 Graduate History Review.
4. Any deficiencies revealed by analysis of undergraduate transcripts prior to enrollment must be removed within one year of initial enrollment.
5. Information about the entrance examinations may be obtained from the director of graduate studies in music.

Individual Area Requirements for the M.M. Degree

1. **Performance.** An audition on the major instrument. A complete repertoire list must be submitted, noting those works prepared for the audition.
2. **Voice.** The demonstration of a satisfactory vocal technique in the classical style and satisfactory singing diction in French, German, Italian and English.
3. **Composition.** Submission of a group of original works, including at least one in large form.
4. **Theory.** Submission of examples of work that illustrate analytical and writing skills. Students must have a reading knowledge of a foreign language (usually German, French, or Italian). Those who do not have this skill at matriculation will be required to remove the deficiency, through the completion of appropriate language courses or by examination, before they are admitted to candidacy.
5. **Musicology/Ethnomusicology.** Submission of work that illustrates research and writing skills. Students must have a reading knowledge of a foreign language (usually German, French, or Italian). Those who do not have this skill at matriculation will be required to remove the deficiency, through the completion of appropriate language courses or by examination, before they are admitted to candidacy.
5. **Conducting.** An audition with a University ensemble. Two major works, in contrasting styles, must be conducted. Ear training and sight-singing proficiency must be demonstrated.

**For the D.M.A. Degree**
1. The master of music degree from The University of Alabama or the equivalent from another accredited institution. The M.M. equivalent must include recitals and/or major creative work, as appropriate.
2. In the performance areas, an audition at the M.M. level that includes at least 50 minutes of performance time. It must include representative works drawn from a variety of historical periods. In composition, scores and recordings of original works, together with evidence of public performances, must be submitted.
3. Diagnostic entrance examinations in music history/literature and music theory. If deficiencies are revealed in these examinations, a schedule of remediation will be determined by appropriate faculty and the director of graduate studies in music.

**Requirements for Graduation**

**For the M.M. Degree**
1. These differ with the area of specialization; a complete outline of requirements in each field is contained in the *Graduate Handbook of the School of Music*, which may be secured from the director of graduate studies in music or may be viewed on the School of Music Web page at www.music.ua.edu.
2. Concentrations in musicology/ethnomusicology, theory, and composition follow Plan I, which requires a written thesis. Concentrations in performance, choral conducting, wind conducting, and organ performance and choral conducting combined, follow Plan II, which does not require a written thesis but which does require additional course hours and a recital. Concentrations in musicology/ethnomusicology and theory require a public lecture.
3. All M.M. degrees require at least 12 hours in graduate courses in music history and composition/theory, with at least 6 hours in each. MUS 501 Introduction to Graduate Study in Music must be taken in the first fall semester of enrollment.
4. All students must pass written comprehensive examinations in theory, history, and the major area. Written comprehensive examinations must be taken after all course requirements are completed or during the semester in which all course requirements are to be completed. A description of the written comprehensive examinations is included in the *Graduate Handbook of the School of Music*.
5. All students must pass an oral examination. For students under Plan I, the oral examination will be a defense of the thesis. For students under Plan II, the oral examination will be based on the student’s coursework in the M.M. program and will determine the student’s ability to articulate a broader perspective derived from that study. For students following Plan II, the oral examination is the final step in the completion of the degree and is administered only after all other requirements have been completed.
6. A minimum of 33 semester hours of graduate work is required to complete any M.M. degree.

**For the D.M.A. Degree**
1. **Course distribution** (hours required beyond the M.M. degree).
   - Major area: 18–26 hours, including document (see below for description)
   - Theory/music history: 18 hours (minimum of 9 in each area)
   - Pedagogy: 3–6 hours
   - Electives: 7–12 hours
2. **Recital requirements.** In *performance*, a minimum of three recitals. In *conducting*, a minimum of three concerts, one of which must be a lecture-recital. In *composition*, a full recital, or equivalent in length, of music written at the D.M.A. level, exclusive of work done on the document.
3. **Advisory Committee.** A committee shall be appointed to supervise the student’s program and progress toward the degree. The constitution of the committee is described in the *Graduate Handbook of the School of Music*.

4. **Written comprehensive examinations.** All students must pass written comprehensive examinations in theory, history, and the major area. Written comprehensive examinations must be taken after all course requirements are completed or during the semester in which all course requirements are to be completed. A description of the written comprehensive examinations is included in the *Graduate Handbook of the School of Music*.

5. **Document.** In performance, choral conducting, and wind conducting, a written paper, the subject, content, and length of which must be approved by the student’s advisory committee. Work is supervised by a document advisor and the student’s advisory committee. In composition, a large original work in unspecified medium, in addition to and distinct from any work done for degree credit in the D.M.A. program. Work is supervised by the major teacher and the student’s advisory committee.

6. **Public lecture.** In performance, choral conducting, and composition, a 50-minute lecture demonstrating the candidate’s ability to communicate about the area of specialization.

7. **Language requirement.** There is no specific language requirement for the D.M.A. Depending upon the student’s academic program, the advisory committee may require proficiency in a foreign language.

8. **Residency requirement.** A minimum of two consecutive academic semesters must be spent in residence at the University; one may consist of a full summer, if approved by the advisory committee. A minimum of 18 semester hours must be earned in residence. Only degree credit may be counted toward the 18 hours. The student must be registered full-time during each of the two semesters of residency.

9. **Individual area degree outlines.** Complete descriptions of the program in each area of specialization for the D.M.A. are contained in the *Graduate Handbook of the School of Music*; this may be secured by contacting the director of graduate studies in music or may be viewed on the School of Music Web page at www.music.ua.edu.

### Course Descriptions

**Music Academics (MUS)**

**MUS 501 Introduction to Graduate Study in Music.** Three hours. Prerequisite: Permission of the instructor. An introduction to the basic bibliographic tools and research techniques in music. Offered fall semester. Staff.

**MUS 502 Film Scoring.** Three hours. Prerequisite: MUS 510 or permission of the instructor. A study of the art of scoring music for films. The course will examine aesthetics of film scoring and apply it in this course. Offered fall semester. Wolfe.

**MUS 503 Advanced Counterpoint: Canon and Fugue.** Three hours. Prerequisite: Permission of the instructor. The analysis and writing of fugue, ground bass, variation, and canon. Offered spring semesters of even-numbered years.

**MUS 504 Introduction to Graduate Music Analysis.** Three hours. Analysis of literature from the 18th through 20th centuries. Analysis focuses on harmonic and contrapuntal techniques, rudimentary linear reduction concepts, harmonic reduction, and form analysis. Offered spring semester.

**MUS 505 Studio Techniques in Arranging and Orchestration.** Three hours. Prerequisite: MUS 510 or permission of the instructor. This course is an approach to arranging and orchestration in both jazz and commercial settings. The emphasis will be placed on writing for the studio orchestra, MIDI instrumentation, and vocal groups with a focus on the 4- to 6-piece group (jazz and commercial). Offered fall semester. Wolfe.
MUS 506 Advanced Piano Accompanying. Two hours.
Accompanying advanced undergraduate or graduate vocalists and instrumentalists in
studio, plus a weekly seminar. Henderson.

MUS 507 Advanced Analysis. Three hours.
Prerequisite: MUS 307 or equivalent.
Detailed study and analysis of selected scores from 1200 to the present. Offered in
summer school only. Staff.

MUS 510 Advanced Arranging. Three hours.
Prerequisite: MUS 310.
Study of current techniques in arranging, including use of symmetrical scales and chords,
pedal points, polytonality, and planing techniques. Offered spring semester. Wolfe.

MUS 511 Analog Electronic Music Techniques. Three hours.
Prerequisite: Permission of the instructor.
Composition using classical analog synthesis, tape recording, editing, and mixing tech-
niques. Offered fall semesters of odd-numbered years.

MUS 512 Digital Synthesis Using C Sound. Three hours.
Prerequisite: Permission of the instructor.
Fundamental concepts of digitally synthesized sound as implemented in C Sound. Of-
fered fall semesters of even-numbered years.

MUS 513 Introduction to MIDI and Digital Audio. Three hours.
Prerequisite: Permission of the instructor.
An introduction to the operating principles of MIDI and digital audio software and hard-
ware. Offered fall semesters of even-numbered years.

MUS 514 Advanced Electronic Music: Sampling, Analog, and Digital Synthesis.
Three hours.
Prerequisite: MUS 511 or permission of the instructor.
Advanced analog recording, editing, and mixing techniques, sampling, and digital syn-
thesizers. Offered spring semesters of even-numbered years.

MUS 515 Seminar in Musicology. Three hours.
Prerequisites: Graduate standing and permission of the instructor.
A survey of developments, methodologies, and bibliographical resources in the field of
musicology. Offered according to demand. Staff.

MUS 516 Selected Topics in Music Theory and Analysis. Three hours.
Prerequisite: Permission of the instructor.
Selected analytical topics in music theory presented in seminar. Offered spring semester
and according to demand.

MUS 518 Schenkerian Analysis. Three hours.
Prerequisite: Permission of the instructor.
Linear and graphic analytical and reductive techniques according to the theoretical
constructs, practices, and examples of Heinrich Schenker. Offered fall semesters of
odd-numbered years.

MUS 519:520 Advanced Graduate Composition. Three hours (each semester).
Creation of large-scale musical compositions. Offered fall and spring semesters and
on demand.

MUS 527:528 Studies in Special Literature. Three hours (each semester).
Materials vary each semester. May be repeated for credit up to four semesters.

MUS 529 Proseminar in Chamber Music History and Literature. Three hours.
Prerequisite: MUS 307 or equivalent.
Survey of chamber music genres and styles from the 17th to the 20th centuries via
discussion and analysis of selected works.

MUS 531 College Teaching: Music in Higher Education. Three hours.
Developing competencies and understandings that will contribute to one’s becoming a
more effective college music instructor. Offered in summer. Prickett.

MUS 533 Proseminar in Symphonic Literature. Three hours.
Prerequisite: MUS 307 or equivalent.
Survey of the symphonic music repertoire, including the symphony, the symphonic poem,
and the concert overture, via discussion and analysis of selected works.
MUS 534 Proseminar in the Music of the Renaissance. Three hours.  
An intensive study of the music, the composers, the diverse styles, genres, and techniques,  
the theoretical and aesthetic principles, and the performance practices associated with  
music of the Renaissance via reading, listening, and musical analysis.

MUS 535 Proseminar in the Music of the Baroque. Three hours.  
An intensive study of the music, the composers, the diverse styles, genres, and techniques,  
the theoretical and aesthetic principles, and the performance practices associated with  
Baroque music via reading, listening, and musical analysis.

MUS 536 Proseminar in Opera History and Literature. Three hours.  
Prerequisite: MUS 307 or equivalent.  
Survey of operatic styles from the 17th to the 20th centuries via discussion and analysis  
of selected works.

MUS 537 Non-Serial 20th-Century Music. Three hours.  
Prerequisite: Permission of the instructor.  
Detailed analysis of selected non-serial works of the 20th century. Offered fall semesters  
of odd-numbered years.

MUS 538 Serial Music. Three hours.  
Prerequisite: Permission of the instructor.  
Twelve-tone serial techniques and the analysis of serial and serial-informed compositions.  
Offered spring semesters of odd-numbered years.

MUS 539 Proseminar in Ethnomusicology. Three hours.  
An introduction to the definition, theory, and methodology of ethnomusicology in the  
context of an examination of the music of selected world cultures.

MUS 540 Pedagogy of Theory. Three hours.  
A study of teaching music theory to college undergraduates and the practical application  
of pedagogical principles in the classroom. Offered spring semesters of odd-numbered  
years.

MUS 541 The Teaching of Music History and Appreciation. Two hours.  
Prerequisites: Two graduate proseminars and/or seminars in music history.  
Designed to prepare students in the various music degree programs to teach music  
history and appreciation courses at the undergraduate level.

MUS 542 Advanced French Diction. Two hours.  
Prerequisite: Graduate standing or permission of the instructor.  
Advanced study of French diction for singers, including IPA and practical application.  
Offered on demand. Staff.

MUS 543 Advanced German Diction. Two hours.  
Prerequisite: Graduate standing or permission of the instructor.  
Advanced study of German diction for singers, including IPA and practical application.  
Offered on demand. Staff.

MUS 544 Advanced Italian Diction. Two hours.  
Prerequisite: Graduate standing or permission of the instructor.  
Advanced study of Italian diction for singers, including IPA and practical application.  
Offered on demand. Staff.

MUS 549 Proseminar in the Music of the Medieval Period. Three hours.  
An intensive study of the music, theoretical and aesthetic principles, and the culture of  
the Medieval period via reading, listening, musical analysis, and discussion.

MUS 550 Proseminar in the Music of the Classical Period. Three hours.  
An intensive study of the music, the composers, the diverse styles and techniques, the  
theoretical and aesthetic principles, and the performance practices associated with music  
of the pre-classical and classical periods via reading, listening, and musical analysis.

MUS 552 Directed Studies in Piano Pedagogy. One to three hours.  
Prerequisite: Admission to graduate study.  
Independent research projects in piano pedagogy. Offered each semester. Staff.

MUS 553 Proseminar in the Music of the Romantic Period. Three hours.  
An intensive study of the music, the composers, the diverse styles and techniques, the  
theoretical and aesthetic principles, and the performance practices associated with music  
of the 19th century via reading, listening, and musical analysis.
MUS 554 Proseminar in Jazz. Three hours.  
Prerequisite: Permission of the instructor.  
A study of jazz history and performance practices as applied to the performing musician and educator via transcription, analysis, and research. Offered spring semester. Wolfe.

MUS 556 Advanced Keyboard Harmony. Three hours.  
Prerequisite: MUS 406.  
An in-depth analysis and applied study of keyboard skills: harmonization, figured-bass, transposition, and open-score reading. Offered spring semesters of odd-numbered years. W. Henderson.

MUS 558 Proseminar in the Music of the 20th Century. Three hours.  
An intensive study of the music, the composers, the diverse styles and techniques, the theoretical and aesthetic principles, and the performance practices associated with music composed after 1900 via reading, listening, and musical analysis.

MUS 559 Special Topics in Musicology. Three hours.  
Advanced study of a selected topic in musicology. Offered on demand. Staff.

MUS 561 History of the Wind Band and Traditional Literature to 1950. Three hours.  
Comprehensive study of band history from the Renaissance to the present, together with a survey of early and traditional wind works of Mozart, Mendelssohn, Berlioz, Holst, Grainger, Poulenc, and others. Offered fall semesters, and during the first summer terms of even-numbered years. Welker.

MUS 562 Contemporary Wind Ensemble Literature. Three hours.  
Detailed examination of wind ensemble literature since 1950, with emphasis on performance analysis and conducting techniques in the works of Schuller, Hindemith, Persichetti, Schwantner, Penderecki, Bassett, Krenek, and others. Offered spring semesters, and during the first summer terms of odd-numbered years. Welker.

MUS 563 Projects in Wind Music. Three hours.  
Survey of rehearsal techniques and studies in wind performance practices and transcription. Offered fall and spring semesters and during the first summer term. Welker.

MUS 564 Wind Ensemble Practicum I. Two hours.  
Students are required to participate as conducting assistants and, if assigned, as performers in an instrumental ensemble. Offered fall semester. Welker.

MUS 565 Wind Ensemble Practicum II. Two hours.  
Continuation of Wind Ensemble Practicum I. Offered spring semester. Welker.

MUS 568 Seminar in Wind Literature: Chamber Forms. Two hours.  
Prerequisite: Graduate standing.  
An analytical survey of the content and performance practices of selected wind ensemble literature for chamber groups.

MUS 569 Seminar in Wind Literature: Large Forms. Three hours.  
Prerequisite: Graduate standing.  
An analytical survey of the content and performance practices of selected wind ensemble/ band literature for large groups.

MUS 571 Choral Literature, 1450–1750. Three hours.  
Prerequisites: Graduate standing and permission of the instructor.  
In-depth survey of choral literature up to 1750. Offered spring semesters of odd-numbered years. Willetts.

MUS 572 Choral Literature, 1750–Present. Three hours.  
Prerequisites: Graduate standing and permission of the instructor.  
In-depth survey of choral literature since 1750. Offered spring semesters of even-numbered years. Willetts.

MUS 577 Advanced Organ Literature I. Three hours.  
Prerequisite: Graduate standing or permission of the instructor.  
A survey of the literature of the organ from the 15th to the 18th centuries. Offered fall semesters of even-numbered years.

MUS 578 Advanced Organ Literature II. Three hours.  
Prerequisite: Graduate standing or permission of the instructor.  
A survey of the literature of the organ from the 18th century to the present. Offered spring semesters of odd-numbered years.
MUS 592 Advanced Choral Conducting. Three hours.
Prerequisites: Graduate standing and permission of the instructor.
Representative literature from all periods is studied and conducted. Conducting techniques, rehearsal and vocal techniques, diction, performance practice, and score analysis are emphasized. Offered each semester. May be repeated for credit with varied repertoire. Willetts.

MUS 593 Advanced Orchestral Conducting. Two hours.
Both class and private sessions are held. This course is a continuation of Orchestral Conducting. More emphasis is placed on musical interpretation and technical improvements toward that end. Class meetings involve conducting piano transcriptions of major symphonic works, as well as videotaping sessions several times per semester. As part of the final examination, students conduct the University Symphony in a half-hour rehearsal/performance. Offered fall semester. Staff.

MUS 594 Advanced Instrumental Conducting. Three hours.
Prerequisite: MUS 493.
Baton technique, score reading, analysis, interpretation, rehearsal techniques, and instrumental problems in a few selected scores. Offered spring semester. Welker.

MUS 596 Comprehensive Examination. No hours.
All master of music students are required to register for this course at the beginning of the semester during which they take the comprehensive examination. A grade will be determined entirely by an assessment of the student’s performance on the comprehensive examination and will either be pass or fail. The course may be repeated once and must be passed if the student is to graduate.

MUS 597 Oral Examination. No hours.
All master of music students are required to register for this course at the beginning of the semester during which they take the oral examination. A grade will be determined entirely by an assessment of the student’s performance on the oral examination and will either be pass or fail. The course may be repeated once and must be passed if the student is to graduate.

MUS 598 Research Not Related to Thesis. One to three hours. Staff.
MUS 599 Thesis Research. One to three hours. Staff.

MUS 608 Advanced Schenkerian Analysis. Three hours.
Prerequisite: MUS 518 or permission of the instructor.
Application of Schenkerian methodologies to large-scale tonal works. Offered spring semesters of even-numbered years.

MUS 609 Atonal Music. Three hours.
Prerequisite: Permission of the instructor.
Analysis of atonal compositions through a study of pitch and pitch class set structures. Offered fall semesters of even-numbered years.

MUS 611 Advanced Digital Synthesis Using C Sound. Three hours.
Prerequisite: MUS 512 or permission of the instructor.
Instrument design and compositional issues related to digital synthesis using C Sound. Offered spring semesters of odd-numbered years.

MUS 615 Special Topics in Musicology and Ethnomusicology. Three hours.
Prerequisite: Graduate standing or permission of the instructor.
Advanced study of a selected topic in musicology or ethnomusicology.

MUS 617 History of Music Theory. Three hours.
Prerequisite: Graduate standing or permission of the instructor.
Historical survey of theoretical systems in music from the ancient Greeks to the present. Offered according to demand. Staff.

MUS 619:620 Advanced Composition. Four hours each semester.
Prerequisite: Permission of the instructor.
Offered in summer school. Staff.

MUS 622 Seminar in Medieval and Renaissance Music. Three hours.
Prerequisites: Graduate standing and MUS 501.
An intensive study of a specific topic associated with Medieval and/or Renaissance music. Topic varies.
MUS 623 Seminar in Baroque Music. Three hours.
Prerequisites: Graduate standing and MUS 501.
An intensive study of a specific topic associated with Baroque music. Topic varies.

MUS 624 Seminar in Classical Music. Three hours.
Prerequisites: Graduate standing and MUS 501.
An intensive study of a specific topic associated with the music of the classical period. Topic varies.

MUS 625 Seminar in Romantic Music. Three hours.
Prerequisites: Graduate standing and MUS 501.

MUS 626 Seminar in 20th-Century Music. Three hours.
Prerequisites: Graduate standing and MUS 501.
An intensive study of a specific topic associated with music written in the 20th century. Topic varies.

MUS 642 Advanced Vocal Pedagogy. Three hours.
Prerequisite: Graduate standing or permission of the instructor.
An analytical survey of voice teaching with emphasis on practical application. Offered on demand. Staff.

MUS 643 Brass/Woodwind/String Pedagogy. One to three hours.
Intended to teach doctoral students how to be successful in applied studio teaching at the collegiate and preparatory level. The focus of the course will be specific relative to the student's major instrument. Offered each semester. Staff.

MUS 650 Instrumental Conducting Pedagogy. Three hours.
Prerequisite: Graduate standing.
A practical and theoretical study of conducting instruction.

MUS 651 Choral Conducting Pedagogy. Three hours.
Prerequisite: Graduate standing.
A practical and theoretical study of conducting instruction.

MUS 671 Performance Seminar in Piano Literature. Three hours.
Prerequisite: M.M. in piano or permission of the instructor.
A consideration of performance practice in important segments of piano literature. Offered according to demand. Staff.

MUS 672 Performance Seminar in the Literature of Music for Piano and Orchestra. Three hours.
Prerequisite: M.M. in piano or permission of the instructor.
A consideration of the musical, technical, and practical aspects of playing piano concertos. Offered according to demand. Staff.

MUS 674 Topics in Choral Literature. Two hours.
Prerequisites: Graduate standing and permission of the instructor.
A thorough analysis and historical study of the repertoire for the lecture recital.

MUS 675 Topics in Wind Literature. Two hours.
Prerequisite: Graduate standing.
A thorough analysis and historical study of the repertoire for the recital.

MUS 677 Topics in Organ Literature. Three hours.
Prerequisites: Graduate standing and permission of the instructor.
In-depth study of the organ literature of a specific period, its content and performance practice related to the organs of the period, and the performance of the literature. Offered each semester. May be repeated for credit if literature varies.

MUS 692 Advanced Choral Conducting. Three hours.
Prerequisite: Graduate standing.
Advanced conducting techniques, score analysis and preparation, performance practice and interpretation, rehearsal, and vocal techniques and diction. Willetts.

MUS 694 Advanced Instrumental Conducting. Three hours.
Prerequisite: Graduate standing.
Advanced baton technique, score reading, interpretation, rehearsal techniques, and instrumental problems in selected scores. Welker.
MUS 696 Comprehensive Examination. No hours.
All doctor of musical arts students are required to register for this course at the beginning of the semester during which they take the comprehensive examination. A grade will be determined entirely by an assessment of the student’s performance on the comprehensive examination and will either be pass or fail. The course may be repeated once and must be passed if the student is to graduate.

MUS 697 Oral Examination. No hours.
All doctor of musical arts students are required to register for this course at the beginning of the semester during which they take the oral examination. A grade will be determined entirely by an assessment of the student’s performance on the oral examination and will either be pass or fail. The course may be repeated once and must be passed if the student is to graduate.

MUS 698 Research Not Related to Dissertation. One to three hours. Staff.

MUS 699 Document Research. One to six hours. Staff.

Music, Applied (MUA)

Studio instruction. The 500 level of applied study indicates graduate standing; the 600 level indicates doctoral standing. Master’s students register for applied study at the 500 level, doctoral students at the 600 level. Each instrument carries its own numerical designation. The numbering pattern follows the order found in the current UA undergraduate catalog under course listings for music, applied.

MUA 500-Level Studio Instrumental and Vocal Study. One, two, or four hours (each semester).
Prerequisites: Graduate standing and audition.
Private instruction. Staff.

MUA 501 Secondary Applied Study. One hour.
Prerequisites: Graduate standing and audition.
Private instruction. Staff.

MUA 600-Level Studio Instrumental and Vocal Study. One, two, or four hours (each semester).
Prerequisites: Doctoral standing and audition.
Private instruction. Staff.

Graduate Ensembles. One hour (each semester). The ensembles listed below may be taken for graduate credit. M.M. students may apply a maximum of 2 semester hours of graduate ensemble credit toward the degree; D.M.A. students may apply a maximum of 4 semester hours. Graduate ensemble credit is elective credit only and is taken pass/fail.

MUA 550 Symphony Orchestra
MUA 552 Wind Ensemble
MUA 558 Contemporary Music Ensemble
MUA 559 Jazz Ensemble
MUA 560 Opera Workshop
MUA 563 University Singers
MUA 569 Chamber Music

DEPARTMENT OF PHYSICS AND ASTRONOMY (PH)
Professor Stanley T. Jones, Chairperson
Office: 206 Gallalee Hall

The Department of Physics and Astronomy offers programs leading to the master of science and the doctor of philosophy degrees. Research toward a degree may be conducted in either experimental or theoretical areas. Experimental programs include magnetic materials, high-energy physics, materials science, and observational extragalactic astronomy. Theoretical programs include condensed matter, elementary particles, atomic and molecular physics, extragalactic astronomy, and astrophysics.
Admission Requirements

A student who wishes to take graduate work leading to the M.S. or Ph.D. degree should have the equivalent of an undergraduate major in physics, and mathematics through differential equations. Any undergraduate courses required to complete a student’s preparation should be taken as soon as possible. A comprehensive background in general physics is considered as important as mastery of a specialized field.

General requirements are stated in the “Academic Policies” section of this catalog. Specific requirements in physics follow. Note that requirements for students specializing in astronomy differ from those for students in other physics areas.

Requirements for the M.S. Degree

Plan I (with thesis). A total of 24 hours of coursework is required, 18 of which must be in physics and astronomy. Physics students must take PH 501, PH 531, PH 532, PH 541, PH 542, and 6 hours of PH 599. Students specializing in astronomy must take PH 501, PH 531, PH 541, 6 hours of PH 599, and three graduate astronomy courses other than AY 650. All full-time students must take one hour of seminar (PH 597 or AY 597) appropriate to their area of specialization each semester. PH 597 and AY 597 do not count toward the 24-hour course requirement. An oral examination covering coursework and the thesis is required for completion of the degree.

Plan II (without thesis). A total of 30 hours of coursework is required, 18 of which must be in physics and astronomy. Physics students must take PH 501, PH 531, PH 532, PH 541, PH 542, and two of the following: PH 551, PH 561, PH 571, and PH 581. Students specializing in astronomy must take PH 501, PH 531, PH 532, PH 541, PH 542, and three graduate astronomy courses other than AY 650. All full-time students must take one hour of seminar (PH 597 or AY 597) appropriate to their area of specialization each semester. PH 597 and AY 597 do not count toward the 30-hour course requirement. An oral examination covering coursework is required for completion of the degree.

Requirements for the Ph.D. Degree

Courses. A total of 48 hours of coursework is required, 36 of which must be in physics and astronomy. All students are required to take PH 501, PH 531, PH 532, PH 541, PH 542, and PH 571. An additional 18 hours of required graduate work will be determined by the student’s adviser in consultation with the student. For students specializing in astronomy, 15 of those 18 hours must include astronomy courses with at least one course at the 600 level. All full-time students must take one hour of seminar (PH 597 or AY 597) appropriate to their area of specialization each semester. Of the 48-hour requirement, a maximum of 6 hours may be a combination of PH 597 (or AY 597), PH 598, and PH 698.

Examinations. There are two separate examinations each prospective Ph.D. candidate must pass: the qualifying exam and the preliminary exam. The qualifying exam consists of a written exam on advanced undergraduate physics. Financial support may be withdrawn if a student does not pass the exam by the end of his or her second year at the University. Passing the qualifying exam is a requirement for acceptance into the Ph.D. program.

The preliminary exam is an oral exam on the student’s research plan and on courses in the student’s area of specialization. Passing the preliminary exam is a requirement for admission to candidacy for the Ph.D. and allows the student to commence dissertation research. More detailed information regarding physics Ph.D. examination policies is available in the office of the Department of Physics and Astronomy.
Physics (PH)

PH 501 Classical Dynamics. Three hours.
Prerequisite: PH 301.
Variational principles and Lagrange's equations; two-body central-force problems; kinematics of rigid-body motion; rigid-body equations of motion; special relativity; Hamilton's equations of motion; and canonical transformations.

PH 505 Physics for Science Teachers. Three hours.
Prerequisite: Permission of the instructor.
Selected topics in contemporary physics for high-school and post-secondary science teachers.

PH 531 Electromagnetic Theory. Three hours.
Prerequisite: PH 332.
Electric and magnetic fields, Green's functions, and Maxwell's equations.

PH 532 Electromagnetic Theory. Three hours.
Prerequisite: PH 531.
Electromagnetic waves, relativity, and selected topics.

PH 534 Digital Electronics and Computer Interfacing. Three hours. Two three-hour laboratories.
Prerequisite: PH 334 or permission of the instructor.
Theory and practical application of digital integrated circuits, including gates, flip flops, counters, latches, and displays. Computer data acquisition and control using LabView, A/D and D/A fundamentals. Digital communications.

PH 541 Quantum Mechanics. Three hours.
Prerequisite: PH 442.
Solution of the Schroedinger equation, matrix methods, angular momentum, and approximation methods.

PH 542 Quantum Mechanics. Three hours.
Prerequisite: PH 541.
Time-dependent perturbation theory, scattering theory, radiation, identical particles, and spin.

PH 551 Atomic and Molecular Physics. Three hours.
Prerequisite: PH 441.
A detailed study of the structure of simple atomic and molecular systems, perturbation theory, the hydrogen and helium atoms, the hydrogen molecular ion, the hydrogen molecule, and introduction to mathematical methods of molecular physics.

PH 561 Nuclear and Elementary Particle Physics. Three hours.
Prerequisite: PH 441.
Structure and properties of nuclear and subnuclear matter; conservation laws; scattering and decay processes; and fundamental interactions.

PH 571 Statistical Physics. Three hours.
Prerequisites: PH 441 and PH 471.
Ensembles, partition function, quantum statistics, Bose and Fermi systems, phase transitions and critical phenomena, and applications.

PH 581 Solid-State Physics. Three hours.
Prerequisite: PH 441.
Structure of simple crystals; thermal, electrical, and magnetic properties of solids; the free-electron model and the band approximation; and semiconductors.

PH 583 Magnetic Resonance. Three hours.
Prerequisite: Permission of the instructor.
Classical and quantum mechanical descriptions of nuclear magnetic resonance and electron spin resonance; experimental techniques; and applications to physical, chemical, and biological problems. Offered according to demand.
PH 585 Physical Principles of Magnetism. Three hours.
Prerequisite: Permission of the instructor.
Phenomenological properties of magnetic materials including anisotropies, magnetostriction, domain walls, coercivity, reversal mechanisms, superparamagnetism, and dynamics.

PH 586 Magnetic Materials and Devices. Three hours.
Prerequisite: Permission of the instructor.
The relationships between the properties of magnetic materials and their applications; an understanding of the wide range of properties in paramagnetic, ferromagnetic, ferrimagnetic, and antiferromagnetic materials is developed and discussed in relation to a variety of devices from transformers to spin valve heads.

PH 587 The Physics and Materials of Magnetic Recording. Three hours.
Prerequisite: Permission of the instructor.
Principles of magnetic recording, write and read processes, particulate and thin film recording media, write and read heads, including magnetoresistive (AMR and GMR) heads. Emphasis will be placed on the key technologies critical to high-density recording.

PH 591 Advanced Laboratory. Three hours. Two three-hour laboratories weekly.
Prerequisite: Permission of the instructor.
Experimental work in modern physics at an advanced level.

PH 597 Physics Seminar. One hour.
Prerequisite: Admission into physics graduate program.
Required of all full-time physics graduate students each semester in residence. (Students specializing in astronomy must take AY 597.) Students are required to attend at least 10 department colloquia and/or specialty research seminars. Students in their second year and beyond are required to give one oral research presentation.

PH 598 Nonthesis Research. Variable credit.
PH 599 Thesis Research. Variable credit.

PH 641 Relativistic Quantum Mechanics. Three hours.
Prerequisite: PH 542.
The Dirac equation, Lorentz covariance, free-particle solutions of the Dirac equation, Foldy-Wouthuysen transformation, propagator theory, and applications to quantum electrodynamics.

PH 642 Quantum Field Theory. Three hours.
Prerequisite: PH 641.
Classical field theory, quantization of free fields, interacting fields, the scattering matrix, Feynman rules and diagrams, evaluation of integrals and divergences, and electroweak and strong interactions. Offered according to demand.

PH 651 Advanced Atomic and Molecular Physics. Three hours.
Prerequisite: PH 551.
Special topics course in atomic and molecular physics for advanced graduate students. Detailed coverage of topics that are arranged with the instructor. Offered according to demand.

PH 661 High-Energy Physics. Three hours.
Prerequisite: PH 642.
Gauge invariance, non-Abelian gauge theories, hidden symmetries, electroweak interactions of leptons and quarks, strong interactions among quarks, string theories, and phenomenology of high-energy interactions. Offered according to demand.

PH 681 Advanced Solid-State Physics. Three hours.
Prerequisite: PH 581.
Computational methods in solid-state physics are explored in more detail than in PH 581. Band structure calculations, Green’s functions, density-functional methods, superconductivity, and disordered materials. Offered according to demand.

PH 682 Selected Topics in Physics. One to three hours.
Prerequisite: Permission of the instructor.
May deal with any physics topic not covered by existing courses. The course title is added at the time each course is taught. Repeat credit is allowed for different course titles.

PH 698 Nondissertation Research. Variable credit.
Astronomy (AY)*

AY 501 Celestial Mechanics and Astrodynamics. Three hours.  
Prerequisite: PH 301.  
Dynamics of space probes; solar system objects; stars and clusters; and galaxies and galaxy clusters.

AY 521 Theoretical Astrophysics. Three hours.  
Prerequisite: PH 332.  
Introduction to astrophysical processes in stars and the interstellar medium.

AY 533 Observational Techniques. Three hours.  
Prerequisite: PH 333.  
Theoretical and practical aspects of modern astronomical observational techniques. Photometry, spectroscopy, interferometry, and optical and radio data reduction and image processing.

AY 550 Stars and Stellar Evolution. Three hours.  
Prerequisite: PH 442.  
Photospheric structure, radiative processes, spectral lines, and interpretation of stellar spectra; and internal structure, evolution, nucleosynthesis, and the Hertzsprung-Russell diagram.

AY 570 Galaxy and Interstellar Medium. Three hours.  
Prerequisite: PH 441.  
Dynamics and evolution, stellar populations, star formation, physical processes in the interstellar medium, and spectral lines.

AY 597 Astrophysics Seminar. One hour.  
Prerequisite: Admission into physics graduate program.  
Required of all full-time physics graduate students specializing in astronomy each semester in residence. Students must attend weekly seminars and make one oral presentation.

AY 620 Extragalactic Astronomy. Three hours.  
Prerequisite: PH 441.  
Galaxies, clusters, active galaxies, quasars, distance scale, and physical processes.

AY 640 Radiation Processes in Astrophysics. Three hours.  
Prerequisite: AY 521 or equivalent.  
Radiation processes of importance in high-energy radio, UV-optical-IR astronomy. Emphasis is on continuum processes.

AY 650 Special Topics in Astronomy and Astrophysics. One to three hours.  
Prerequisite: Permission of the instructor.  
May deal with any topic in astronomy or astrophysics not covered by existing courses. The course title is added at the time each course is taught. Repeat credit is allowed for different course titles.

AY 660 Astrophysical Plasmas and Magnetodynamics. Three hours.  
Prerequisites: PH 301 and PH 332.  
Includes particle orbit theory, hydromagnetics, shock waves in plasmas, waves in plasmas, and macroscopic and microscopic stability of astrophysical plasmas.

DEPARTMENT OF POLITICAL SCIENCE (PSC)
Professor David J. Lanoue, Chairperson  
Office: 302 ten Hoor Hall

The department offers programs leading to the master of arts (M.A.), master of public administration (M.P.A.), and doctor of philosophy (Ph.D.) degrees. Much more detailed information relating to the degrees offered by the Department of Political Science is contained in supplements issued to students by the department. Students and prospective students should consult these as well as this catalog.

*All courses are offered according to demand.
Master of Arts

Admission Requirements

Applicants for admission to the M.A. program must submit scores from the Graduate Record Examination general test or from the Miller Analogies Test. Additional information is in the “Academic Policies” section of this catalog.

Degree Requirements

Plans I and II. M.A. students may follow either Plan I, requiring 30 semester hours of coursework, a written comprehensive examination, a thesis, and an oral examination in defense of the thesis; or Plan II, requiring 36 hours of coursework and a written comprehensive examination. Students who anticipate seeking a Ph.D. from this department should ordinarily follow Plan I.

Course requirements. Under either plan, students must take courses in three of five fields, including a core seminar in each. The available fields are American politics, comparative politics, international relations, public policy and administration, and political theory. The core seminars are PSC 611 American Political Behavior, PSC 615 American National Government Executive and Legislative Institutions, PSC 631 Seminar in Comparative Politics, PSC 642 Concepts and Theories of International Relations, PSC 651 Political Theory Seminar, and PSC 565 Survey of Public Administration. Students choosing American politics as a field may take either PSC 611 or PSC 615. All students must complete PSC 521 Research Design and PSC 522 Quantitative Methods in Political Science I (or approved substitutes).

Comprehensive examination. The written comprehensive examination will cover the student’s three fields and will require integration of material across courses.

Thesis. After passing the written examination, a student following Plan I should prepare a thesis prospectus, which should describe the substance and methods of the thesis research, outline the thesis itself, and provide a preliminary bibliography. Once the prospectus has been approved, the chairperson will formally appoint a committee of three faculty members to supervise the thesis. The student must submit four copies of the completed thesis and must take a final oral examination to defend it and show competence in the field in which it lies. Except in unusual circumstances, the final oral examination must be taken during the fall or spring semester and before final course examinations begin. After the examination, the student must deposit two copies of the approved thesis with the Graduate School and two copies with the department.

Master of Public Administration

Admission Requirements

The M.P.A. is a professional degree program designed primarily for those who plan a career in federal, state, or local government. Applicants for admission to the M.P.A. program must submit scores from the Graduate Record Examination or from the Miller Analogies Test. Additional information is in the “Academic Policies” section of this catalog.

Degree Requirements

Plans I and II. M.P.A. students may follow either Plan I, requiring 30 hours of coursework, a written comprehensive examination, a thesis, and an oral examination in defense of the thesis; or Plan II, requiring 36 hours of coursework and a written comprehensive examination. Students following Plan II may receive up to 6 hours of credit for an internship, and students following Plan I may receive up to 3 hours.

Course requirements. M.P.A. students must complete at least three of the following four courses: PSC 565 Survey of Public Administration, PSC 662 Organization Theory, PSC 667 Public Budgeting, and PSC 562 Public Personnel Administration. Including the preceding, at least 18 hours must be taken from the courses listed under “Public Policy and Administration.” Student must also complete PSC 522 Quantitative Methods in Political Science I.
Doctor of Philosophy

Admission Requirements

Admission to the Ph.D. program requires either a bachelor’s or a master’s degree. Applicants must submit scores from the Graduate Record Examination general test or from the Miller Analogies Test. All students admitted to the Ph.D. program without a master’s degree will be required to undergo an evaluation of their progress in the program by the Graduate Studies Committee after the completion of 27 hours in residence.

Degree Requirements

**Major and minor fields.** Ph.D. students must choose and develop competence in one major and two minor fields. The fields the department offers are American politics, comparative politics, international relations, public policy and administration, and political theory. In exceptional cases, a student may choose one minor field outside the department, with special permission from the graduate studies committee.

**Course requirements.** Ph.D. students must complete at least 60 hours of graduate coursework. Up to 30 hours may be transferred from other institutions, with the permission of the graduate studies committee. At least 18 hours must be taken within the student’s major field, and at least 12 hours must be taken within each of the two minor fields.

Students must take the core seminars in their fields (see the list under “M.A. Course Requirements” above). Ph.D. students who choose American politics as their major or minor field must take both PSC 611 and PSC 615. In addition, all students must complete 9 hours of methods courses, including PSC 521 Research Design, PSC 522 Quantitative Methods in Political Science I, and either PSC 621 Quantitative Methods in Political Science II or PSC 622 Seminar in Political Science Methodology.

Students interested in pursuing a topic in greater depth than the standard course offerings allow may take up to 12 hours of PSC 595 Directed Reading and PSC 598 Individual Research, with up to 6 hours in any one field.

**Language requirement.** A foreign language is required of Ph.D. students if appropriate to the student’s research interests. The appropriateness of the foreign language requirement shall be determined by the relevant faculty in the student’s primary field of interest prior to the student’s completion of 18 hours in residence in the Ph.D. program.

**Comprehensive examination.** Before writing a dissertation, but only after completing at least two full years of graduate study and satisfying the language requirement, Ph.D. students must take and pass written and oral comprehensive examinations in their three fields. These will be given during fall and spring semesters only.

**Candidacy.** Students who have fulfilled the course requirements and passed the comprehensive examination become Ph.D. candidates.

**Dissertation.** As soon as possible after satisfying the requirements for candidacy, each student should submit three copies of a dissertation prospectus to the department chairperson, who will establish a dissertation committee of five faculty members, with at least three from the Department of Political Science and at least one from another department. The prospectus should contain the same information as an M.A. thesis prospectus (see above).

The department chairperson will decide whether to approve the prospectus, on the recommendation of the dissertation committee. Once the prospectus has been approved, the student may begin work on the dissertation itself, under the supervision of his or her dissertation committee. When finished, the student must submit four copies of the completed dissertation and take a final oral examination to defend it and demonstrate competence in the field in which it lies. The examination, conducted by the dissertation committee, must ordinarily be held during the fall or spring semester. Following a successful defense, the student must deposit two copies of the dissertation, as finally approved, with the department, and another two with the Graduate School.
Course Descriptions

Prerequisite: Graduate standing

American Politics

PSC 511 Public Opinion. Three hours.
The formation, distribution, structure, properties, and techniques of measuring public opinions in the United States.

PSC 512 Urban and Metropolitan Government. Three hours.
An examination of the implications of urban growth, the organization of urban and metropolitan areas, and the political forces operating at this level.

PSC 513 American Foreign Policy. Three hours.
An examination of the forces and processes affecting United States foreign relations. Attention is also given to the content and problems of contemporary American foreign policy.

PSC 514 American Defense Policy. Three hours.
An investigation of the processes involved in making American defense and security policy and the substance of that policy.

PSC 552 American Political Thought. Three hours.
Investigates the origin and direction of the U.S. political ideology, including liberalism, civic republicanism, and debates condemning American exceptionalism.

PSC 566 Urban Policy. Three hours.
An examination of urban political structure and its influence upon selected areas of public policy in contemporary urban society.

PSC 611 American Political Behavior. Three hours.
Research and methodology in the areas of demographic and psychological factors related to voting participation and party preference, with some attention to legislative behavior.

PSC 612 The American Constitutional System. Three hours.
Examines the role of the Supreme Court in the American political system, emphasizing the nature and function of the judicial process.

PSC 614 State Politics. Three hours.
An investigation of electoral, executive, legislative, bureaucratic, and judicial politics in American states.

PSC 615 American National Government Executive and Legislative Institutions. Three hours.
An examination of the structure, operation, and politics of national government executive and legislative institutions.

Comparative Political Systems

PSC 531 Political Development. Three hours.
An examination of the political processes in the developing world, especially of the stress of change and impact of economic development on political life.

PSC 533 Communism, Europe 1945–89. Three hours.
The interaction of Marxist theory and practice in various national settings, with attention to the differential evolution of Communist regimes and parties.

PSC 543 Comparative Public Policy. Three hours.
An examination of the actors and processes involved in making public policy, with an emphasis on the question of what kinds of governments are responsive to popular demands.

PSC 631 Seminar in Comparative Politics. Three hours.
A survey of the theoretical literature in the field of comparative politics.

PSC 632 Special Topics in Comparative Politics. Three hours.
An examination of selected problems in comparative politics.

PSC 633 Governments and Politics of Western Europe. Three hours.
An examination of the major parliamentary democracies of Western Europe. Attention is given to coalition building, cleavage, elites, policy making, parties, and political participation.
PSC 634 Politics of Advanced Industrialized Democracies. Three hours. An examination of the government and politics of the advanced industrialized democracies, including Western Europe, Japan, Canada, Australia, and New Zealand. Precise content varies.

International Relations
PSC 513 American Foreign Policy. Three hours. (See “American Politics” above.) May be taken for international relations credit.
PSC 514 American Defense Policy. Three hours. (See “American Politics” above.) May be taken for international relations credit.
PSC 534 International Political Economy. Three hours. Deals with the international trade and finance regimes, foreign economic policy, transnational corporations in the world economy, North-South and East-West relations, and the implications of economic interdependence.
PSC 541 Comparative Foreign Policy. Three hours. A comparative analytical treatment of how foreign policy is developed by major powers. Attention is given to its determinants, formulation, and execution.
PSC 542 International Conflict. Three hours. An examination of the various kinds of violent conflict in which nation-states become involved.
PSC 544 International Organization. Three hours. This course details the essential structures, actors, land processes in international organizations, by examining both governmental and non-governmental organizations and their roles in the areas of global security, economy, and social welfare.
PSC 545 Nationalism and Ethnic Conflict. Three hours. This course examines theoretical aspects of ethnicity, inter-ethnic conflict, conflict management policies, and specific examples of ethnic crises. It prepares students to analyze inter-ethnic conflict and to examine critically proposed solutions to ethnic strife.
PSC 641 Issues in International Relations. Three hours. An examination of major problem areas in the international system and their effects. Content varies.
PSC 642 Concepts and Theories of International Relations. Three hours. A survey of contemporary theoretical approaches to the study of international relations, providing an overview of traditional and behavioral orientations.

Methodology
PSC 521 Research Design. Three hours. Includes but is not limited to the role of theory, development of hypotheses, modes of observation and analysis, and testing of hypotheses.
PSC 522 Quantitative Methods in Political Science I. Three hours. Introduction to statistical techniques, including univariate and bivariate descriptive statistics and their application within the field of political science.
PSC 523 Survey Research Methods. Three hours. Examination of the theory and practice of various types of surveys and different parts of the survey research process (e.g., sampling, questionnaire design, interviewing, and data reduction).
PSC 621 Quantitative Methods in Political Science II. Three hours. Prerequisites: PSC 521 and PSC 522, or equivalents. Data analysis and statistical applications in political research, including data processing, inferential statistics, correlation and regression, multivariate analysis, and other multidimensional techniques.
PSC 622 Seminar in Political Science Methodology. Three hours. May be repeated for up to 6 hours of credit. Topics vary and may range from case studies and historical analysis to mathematical modeling and computer simulation.
Political Theory

PSC 551 Man and the State. Three hours.
A survey of contemporary political thought and action in political theory, including liberty, equality, justice, natural law, and the organic state.

PSC 552 American Political Thought. Three hours.
Investigates the origin and direction of the U.S. political ideology, including liberalism, civic republicanism, and debates condemning American exceptionalism.

PSC 651 Political Theory Seminar. Three hours.
A survey of the literature examining the approaches, concepts, and issues in the field of normative political theory.

PSC 652 Power, Values, and Public Choice. Three hours.
Theories about public policy studied according to current normative values, beliefs, and attitudes.

Public Policy and Administration

PSC 561 Administrative Regulation. Three hours.
The impact of legal powers and procedures of administrative agencies on public policy. Analysis of regulatory powers in American governments.

PSC 562 Public Personnel Administration. Three hours.
A study of the American public personnel system, with an emphasis on the political setting of government employment, equal opportunity and affirmative action, and collective bargaining.

PSC 563 Natural Resources Policy. Three hours.
Examination of problems and public programs in the related areas of energy and environment. Focus is on issues of policy formation and management in the political context.

PSC 564 Government Planning. Three hours.
A study of the theories, objectives, techniques, and problems of government planning within cities, metropolitan areas, and regions.

PSC 565 Survey of Public Administration. Three hours.
Introduction to the scope, theory, and substantive issues of public administration.

PSC 613 Intergovernmental Relations. Three hours.
A study of intergovernmental relationships in selected policy areas, with attention given to grant-in-aid programs and other devices of cooperative federalism.

PSC 661 The Environment of Public Administration. Three hours.
An analysis of the physical, technological, legal, and political environments of administration.

PSC 662 Organization Theory. Three hours.
An analysis of the theories of organization and management that examines models, reviews current administrative philosophy, and presents contemporary trends in organization and management.

PSC 663 Selected Problems in Public Administration. Three hours.
May be repeated up to a maximum of 6 hours of credit. In-depth analysis of a policy issue or administrative problem. Specific topics vary.

PSC 664 Problems of Public Policy. Three hours.
Focuses on issue and policy analysis, with attention to formal and informal processes of policy development and program implementation.

PSC 665 Urban Administration. Three hours.
An examination of major urban problems and the administrative approach to solving these problems.

PSC 666 Political Economy and Public Policy. Three hours.
An examination of the political economy/public choice approach to the study of public policy.

PSC 667 Public Budgeting. Three hours.
Problems of financial management in governmental units: revenue sources, budgeting, financial management, and control.
Miscellaneous

**PSC 595 Directed Reading.** One to three hours.

**PSC 598 Individual Research.** One to three hours.

**PSC 599 Thesis Research.** Variable credit.

**PSC 679 Internship and Supervised Research.** Three to six hours.

Field work and research opportunities to be supervised by departmental faculty.

**PSC 699 Dissertation Research.** Variable credit. Three-hour minimum.

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**DEPARTMENT OF PSYCHOLOGY (PY)**

Professor Robert D. Lyman, Chairperson
Office: 348 Gordon Palmer Hall

The department offers programs leading to the master of arts and the doctor of philosophy degrees. Programs are offered leading to the Ph.D. degree in clinical psychology and in cognitive psychology. The clinical psychology program is accredited by the American Psychological Association. Concentrations in clinical psychology include child clinical, adult clinical, and psychology/law.

Areas of current faculty research interest include aging, child and adolescent behavior, youth violence, forensic psychology, behavioral intervention, memory, chronic pain, depression, public health psychology, neuropsychology, visual-spatial cognition, autism, persuasion, unconscious cognition, risk assessment, personality, reading processes, personnel selection, social cognition, health attitudes, dehumanization, perception, cognitive aging, cognitive neuroscience, and intellectual abilities.

The department operates a fully staffed psychological clinic offering psychological assessment and intervention services to University students, children, and adults. These facilities are also used in the training of clinical graduate students as professional psychologists. Each candidate for the Ph.D. degree in clinical psychology takes practicum courses in the psychological clinic and must also complete a one-year internship in an accredited facility. The internship is taken after completion of coursework and passing of the doctoral preliminary exam, and is a degree requirement.

**Admission Requirements**

Students applying for graduate work in psychology must present at a minimum undergraduate courses in general psychology, statistics, experimental psychology (or research methods), and history and systems. In making up deficiencies in these areas, graduate work may be taken concurrently. In addition, prior coursework in laboratory science (particularly biology) and in college mathematics is desirable.

Applications for admission to graduate study must be accompanied by Graduate Record Examination general test scores (the advanced section is recommended for clinical applicants). Admission is competitive and is influenced by the overall quality of the applicant’s record, including grades, GRE scores, and past experiences. Application materials should be received by February 1 (by January 1 for the clinical psychology program) to ensure full consideration for admission for the following fall term.

**Degree Requirements**

**Master of arts degree.** Twenty-four credit hours plus a thesis are required of candidates for the master of arts degree. The 24 hours must include the following core curriculum:

- PY 599 Thesis Research
- PY 607 Research Methods in Psychology
- PY 650 Cognition and Learning
- PY 651 Physiological Psychology or PY 629 Cognitive Neuroscience

Each graduate student must take an acceptable course in history and systems either prior to admission or during graduate study. In addition, two research skill courses must be taken from those listed in the research skill requirements below.
Doctor of philosophy degree. A minimum number of credit hours (51 hours for cognitive psychology and 68 hours for clinical psychology) and a dissertation are required for the doctoral degree. In addition to completing the M.A. program core curriculum, all doctoral candidates are required to take PY 695 or PY 696 Teaching of Psychology and two of the following:

- PY 652 Life-Span Developmental Psychology
- PY 670 Perception
- PY 672 Advanced Social Psychology

A detailed brochure indicating specialized coursework (e.g., clinical, cognitive) is available on request.

Research skill requirements. All doctoral students must complete with grades of “B” or better three of the following courses (or approved equivalents):

- PY 602 Advanced Statistics I
- PY 603 Advanced Statistics II
- PY 604 Multivariate Methods of Analysis
- PY 659 Psychometrics

They must also pass the preliminary examination for the Ph.D. degree. Candidates for the doctoral degree are required to take the M.A. degree, Plan I.

Course Descriptions

Prerequisites: Graduate standing and permission of both the director of graduate studies and the instructor.

Graduate students enrolled in 500-level courses that are also offered at the 400 level are expected to perform extra work of an appropriate nature.

PY 581 Readings in Psychology. One to three hours. Prerequisite: Permission and sponsorship of an instructor. Selected supervised readings.

PY 591 Seminar in Psychology. One to three hours. In-depth examination of a selected contemporary psychological area. Different sections offered each semester. Section descriptions are available at registration.

PY 598 Graduate Research. One to three hours. Prerequisite: Permission and sponsorship of an instructor. Research conducted in apprenticeship to a graduate faculty member.

PY 599 Thesis Research. Variable credit.

PY 602 Advanced Statistics I. Three hours. A basic review of probability theory, sampling distributions, and hypothesis testing, emphasizing coverage of analysis of variance, including between-, within-, and mixed-model designs.

PY 603 Advanced Statistics II. Three hours. Prerequisite: PY 602. A survey of advanced statistical methods emphasizing the general linear model and its applications in multiple regression/correlation and complex analysis of variance.

PY 604 Multivariate Methods of Analysis. Three hours. Prerequisites: PY 602 and PY 603. Multivariate analysis, with emphasis on factor analysis, discriminant analysis, canonical analysis, clustering techniques, and structural equation modeling.

PY 607 Research Methods in Psychology. Three hours. Study and analysis of psychological methodology.

PY 608 Introduction to Ethics. Three hours. Prerequisite: First- or second-year graduate student in psychology. Introduction to ethical issues as they affect the practice of psychology.
PY 609 Psychological Assessment I. Three hours.
Principles of psychological evaluation; introduction to the clinical use of assessment techniques, with particular emphasis on intellectual assessment.

PY 610 Psychological Assessment II. Three hours.
The theory and application of projective techniques and personality inventories for adults.

PY 611 Introduction to Neuropsychological Assessment. Three hours.
An introduction to the theory, content, and practice of clinical neuropsychology.

PY 612 Psychological Assessment III. Three hours.
Principles of psychological evaluation, with particular emphasis on the assessment of children.

PY 619 Principles of Psychotherapy. Three hours.
The study of psychotherapeutic processes, outcomes, and systems, with particular attention given to the operations common to all approaches.

PY 620 Behavior Therapy. Three hours.
Provides a framework for conceptualizing, assessing, and treating child and adult clinical problems from the perspective of behavioral psychology.

PY 621 Psychotherapy Laboratory. One hour.
A skills-building seminar emphasizing interview and communications techniques. Introduction to practicum.

PY 625 Contemporary Issues in Cognitive Research. One to three hours.
Current issues relating to research in cognitive and individual differences are presented and discussed.

PY 627 Developmental Disabilities. Three hours.
An introduction to the study of deviations in development from a cognitive, behavioral, and biological perspective.

PY 629 Cognitive Neuroscience. Three hours.
To understand brain mechanisms of perception and thought through a variety of methodological approaches (e.g., lesions, brain imaging, and normal subject experiments).

PY 631 Practicum in Psychology I. One to three hours.
Prerequisites: PY 619.
Supervised experience in psychotherapeutic procedures in an approved clinical facility; seminars and case conferences.

PY 632 Practicum in Psychology II. One to three hours.
A continuation of PY 631.

PY 633 Practicum in Psychology III. Three hours.
Supervised experience in psychotherapy in groups.

PY 634 Practicum in Psychology IV. Three hours.
Supervised experience with emotionally and behaviorally disordered children.

PY 635 Practicum in Psychology V. One to three hours.
Supervised experience with mentally retarded children and adults in field settings.

PY 636 Practicum in Psychology VI. Three hours.
Supervised training and experience in the practice of community psychology, with special reference to crisis intervention.

PY 637 Practicum in Psychology VII. Three hours.
Supervised field placement in a forensic or criminal justice setting.

PY 638 Practicum in Psychology VIII. One to three hours.
Supervised placement in an industrial/organizational setting.

PY 639 Practicum in Psychology IX. One to three hours.
Prerequisites: PY 631 and PY 632.
Intensive experience with a variety of child and family disorders and therapy techniques. Exposure to interdisciplinary treatment settings and personnel.

PY 640 Practicum in Psychology X. One to three hours.
A continuation of PY 639.

PY 641 Advanced Clinical Placement. One to three hours.
Prerequisites: PY 631 and PY 632.
Supervised experience in an approved setting.
Primary clinical supervision by faculty or licensed psychologist at a placement facility.
PY 642 Practicum in Psychology XI. One to three hours.
Supervised experience in clinical geropsychology.

PY 650 Cognition and Learning. Three hours.
Contemporary approaches to cognition and learning. A broad survey, with in-depth looks at selected topics including attention and memory.

PY 651 Physiological Psychology. Three hours.
Prerequisite: One year of biology desirable.
Examination of bodily structures — nervous, muscular, and glandular — that underlie behavior.

PY 652 Life-Span Developmental Psychology. Three hours.
An integrated view of the development, stability, and decline of several behavioral processes rooted in the physical growth, cognition, and socialization of the individual over the span of life.

PY 658 Psychopathology. Three hours.
Prerequisite: PY 358.
A survey of manifestations of abnormal behavior, and the diagnosis of abnormal behavior and mental disorders.

PY 659 Psychometrics. Three hours.
Theoretical issues in the construction, evaluation, and application of psychological measures.

PY 662 Advanced Theory in Human Cognition II. Three hours.
Prerequisites: PY 650 and completion of thesis.
An in-depth analysis of current theories in cognitive psychology. Selected topics include attention, memory, and perception.

PY 666 Child Treatment. Three hours.
Prerequisite: PY 658.
Examines diagnosis and treatment of childhood disorders from empirical, theoretical, and practical standpoints.

PY 668 Theory of Personality. Three hours.
An examination of contemporary frames of reference relating to personality, with emphasis on contrasting implications of alternative personality interpretations.

PY 669 Seminar in Clinical Child Psychology. One hour.
Issues in research and practice of clinical child psychology.

PY 670 Perception. Three hours.
An introduction to issues and concepts in the study of perception. Fundamental theoretical and empirical controversies are analyzed.

PY 671 History and Systems in Psychology. Three hours.
Systematic points of view placed in historical perspective.

PY 672 Advanced Social Psychology. Three hours.
Major aspects of social psychology including attitude change, attribution theory, aggression, altruism, prejudice, interpersonal relations, and group dynamics.

PY 676 Criminal Forensic Assessment. Three hours.
Familiarizes students with relevant issues in criminal forensic assessment and introduces them to current forensic assessment instruments.

PY 677 Correctional Psychology: Method, Theory, and Research. Three hours.
A comprehensive review of psychological principles, theory, and techniques related to problems of crime, corrections, and offenders.

PY 678 Forensic Psychology. Three hours.
The application of clinical psychology to forensic and legal issues. Competency to stand trial, criminal responsibility, testamentary capacity, jury decision making and dynamics, jury selection, and expert witness testimony.

PY 679 Seminar in Psychology/Law. One hour.
Issues in research and practice of psychology as related to the law.

PY 681:682 Readings in Psychology. One to three hours.
Prerequisite: Permission and sponsorship of an instructor.
Selected supervised readings.
PY 687 **Clinical Psychology of Aging.** Three hours.  
Prerequisite: Permission of the instructor.  
A survey of clinical geropsychology including review of major disorders experienced by older adults, assessment issues, and treatments used in work with older adults.

PY 688 **Seminar in Adult Clinical Psychology.** One hour.  
Issues in research and practice related to adult clinical psychology.

PY 689 **Seminar in Ethics and Professional Issues.** Three hours.  
Prerequisite: Third-year and beyond graduate student in psychology.  
An introduction to professional and ethical issues as they affect the practice of psychology.  
Focus is on the development of an ethical and professional attitude toward the practice of psychology, including teaching and research.

PY 690 **Cultural Competency.** Three hours.  
This seminar emphasizes the role of ethnicity, class, culture, gender, sexual orientation, and disability in mental health, and the impact of these factors on assessment, diagnosis, and treatment.

PY 691 **Seminar in Clinical Psychology.** One to three hours.  
Selected topics.

PY 693 **Seminar in Advanced General Psychology.** One to three hours.  
Selected topics.

PY 695 **Teaching of Psychology.** Three hours.  
Prerequisite: Permission of the department.  
Principles of teaching and supervised experience.

PY 698 **Graduate Research.** One to three hours.  
Independent research by the advanced graduate student.

PY 699 **Dissertation Research.** Variable credit. Three-hour minimum.

**DEPARTMENT OF THEATRE AND DANCE (TH)**

Professor Edmond Williams, Chairperson  
Office: 115 Rowand-Johnson Hall

The Department of Theatre and Dance is a fully accredited member of the National Association of Schools of Theatre (NAST), and all of its programs and policies are in accordance with NAST requirements. The department offers several programs leading to the master of fine arts (M.F.A.) degree in theatre. These include programs conducted entirely on the campus in Tuscaloosa, programs with residency split between the campus and the Alabama Shakespeare Festival (ASF) in Montgomery, and a program conducted entirely at ASF. The purpose of the M.F.A. degree in theatre is to train students whose previous experience, demonstrated ability, and professional potential are sufficient to suggest a productive career in the theatre.

**Admission Requirements**

**General.** While the M.F.A. degree has several areas of specialization, admission is granted in only one area. Admission to the M.F.A. degree program in theatre requires satisfaction of all admission requirements of the Graduate School (please note that no test scores are required except for the theatre management/arts administration track); and an interview, including audition, and/or portfolio review. Certain areas have specific admission requirements as noted below.

**Programs on the Tuscaloosa campus.** The M.F.A. degree program requires specialization in one area of production. Students in the program must be admitted to one of the following areas of study: acting pedagogy, directing, costume design/production, scene design, and lighting design/technical production. (Note: The costume design/production, scene design, and lighting design/technical production programs offer the option for a third-year residency at the Alabama Shakespeare Festival. See "Programs in conjunction with the Alabama Shakespeare Festival" below.) Other areas of concentration are available through the programs conducted in conjunction with the Alabama Shakespeare Festival.

Subject to approval by the department chairperson and the dean of the Graduate School, in specified programs a maximum of 20 semester hours of graduate work
may be transferred from another institution. These hours must be in theatre or in a closely allied subject, and they must contribute to the student’s educational objective. Should deficiencies in the student’s undergraduate program be perceived, appropriate undergraduate courses will be required. While these undergraduate courses may not be counted toward the graduate degree, they may be taken in addition to the maximum allowable number of graduate hours.

The M.F.A. program is normally a three-year program. Students who hold the M.A. degree in theatre upon admission to the program may expect a shortened course of study, dependent upon faculty evaluation of the previous work. Students seeking such a shortened program must apply to have previous work evaluated. Normally, a two-year minimum residency is required for students with shortened programs.

Problems in conjunction with the Alabama Shakespeare Festival. M.F.A. programs in theatre management/arts administration, stage management, scene design, lighting design/technical production, and costume design/production are available in conjunction with the Alabama Shakespeare Festival and require a residency split between Tuscaloosa and Montgomery. Admission to the joint UA/ASF programs depends heavily on an interview and portfolio review. Faculty members in each area of specialization normally attend the URTA unified auditions and the Southeastern Theatre Conference for the purpose of conducting admission interviews. Interviews may also be arranged in Tuscaloosa and Montgomery.

Due to these programs’ highly structured curricula, transfer of credit from other institutions is not allowed.

UA/ASF Professional Actor Training Program. In addition to the M.F.A. program in acting pedagogy conducted on the Tuscaloosa campus, the department, in conjunction with the Alabama Shakespeare Festival, offers the Professional Actor Training Program (an Equity Membership Candidacy Program), which leads to the M.F.A. degree.

Students are admitted to the program by audition only, and must meet all Graduate School admission requirements. Due to these programs’ highly structured curricula, transfer of credit from other institutions is not allowed.

Degree Requirements

General. All students must follow Plan II (see “Academic Policies” in this catalog) and complete 60 semester hours of graduate coursework for the degree. Continuation in the M.F.A. degree program is contingent upon recommendation by the theatre faculty, following an annual review of the student’s academic and production work. Students may be placed on probation following the review; students placed on probation have one semester in which to reestablish their academic standing. Under no circumstances will a student be permitted to continue in the program on probation for more than one semester.

Programs on the Tuscaloosa campus. The Department of Theatre and Dance uses “contract advising,” which requires each student in the department to develop a plan of study within six weeks of beginning the program, in conjunction with an assigned adviser from the student’s area of specialization. The plan of study must meet the minimum requirements of the Graduate School and the Department of Theatre and Dance, and have the approval of the assigned adviser. While each plan is developed individually, examples of typical curricula are available on request from the department.

A student with a .5 FTE departmental assistantship cannot take more than 10 hours and no less than 6 hours of graduate work during a semester or more than 6 hours in each term of the summer session.

Programs in conjunction with the Alabama Shakespeare Festival. The theatre management/arts administration program and the stage management program require two calendar years of continuous residency for completion. Students will be enrolled in a total of 60 semester hours of intense academic and applied work. These hours are divided between the University campus in Tuscaloosa and the ASF in Montgomery. At ASF, students study with both academic faculty and members of the festival’s professional staff.
The programs in scene design, lighting design/technical production, and costume design/production require a standard three-year program, which includes two years in Tuscaloosa and the third year in residence at ASF. That residency includes 20 semester hours of work with the festival’s professional design and technical staff, as well as visiting designers. The program is planned to allow rotation through the various areas of the festival’s studio operations.

**UA/ASF Professional Actor Training Program.** The Professional Actor Training Program requires two calendar years of continuous residency at ASF, comprising six consecutive terms (60 semester hours) of a very intensive program of academic study and performance.

**Course Descriptions**

*Prerequisites for 500- and 600-level courses: Graduate standing and permission of the instructor*

**TH 519 Computer Graphics for the Theatre.** Three hours.  
Prerequisite: Permission of the instructor.  
A study of computer drawing programs and computer-assisted design and drafting programs used in producing technical drawings for theatre. AutoCAD will be the primary program studied.  
**TH 521 Period Decor.** Three hours.  
A survey of period architecture, ornament, and furniture as applied in the stage designer’s research.  
**TH 523 Sketching and Drafting for the Theatre.** Three hours.  
A studio course in drawing and painting techniques for the stage designer.  
**TH 525 Scene Painting.** Three hours.  
A studio course in the materials and techniques for painting stage scenery and properties. Lab fee, $25.00.  
**TH 526 Sound Production Techniques for Theatre and Dance.** Three hours.  
A course providing a working knowledge of sound production, with an emphasis on the creation of sound tapes for theatre and dance and the setup and maintenance of sound reproduction and modification equipment. Lab fee, $25.00.  
**TH 530 History of Costume for the Stage.** Three hours.  
A historical study of civil costume in relation to costuming for the stage.  
**TH 531 Costume Construction I.** Three hours.  
A studio course in patternmaking, cutting, and constructing costumes for the stage. Additional hours in related theatre activities are required. Lab fee, $25.00.  
**TH 533 Costume Design I.** Three hours.  
A studio course in costume design principles and presentation for stage costumes. Lab fee, $25.00.  
**TH 540 Stage Movement and Physical Acting.** Three hours.  
An advanced course in body awareness, alignment, breathing techniques, physicalization, and physical characterization.  
**TH 541 Advanced Scene Study.** Three hours.  
Advanced course in specific methodologies for character conception and projection.  
**TH 542 Careers in the Professional Theatre.** Three hours.  
A course focusing on audition and interview techniques, unions, resume writing, and other skills required to apply for positions in the academic and professional theatre.  
**TH 543 Script Analysis and Interpretation.** Three hours.  
Theory and methodology of the textual analysis of playscripts for production.  
**TH 544 Period Acting Styles I.** Three hours.  
Study and practice of period acting styles.  
**TH 545 Period Acting Styles II.** Three hours.  
A continuation of TH 544, usually focusing on verse drama, especially Shakespeare.  
**TH 546 Advanced Voice and Speech for Performance.** Three hours.  
Intensive exercise and practice for acquiring acceptable use of voice and speech for performers.
TH 547 Stage Dialects. Three hours.  
Prerequisite: TH 546. 
Study of dialects in dramatic literature. Offered in alternate years.  

TH 548 Rehearsal Process. Three hours.  
Acting course in which students analyze and participate in the rehearsal process with both unpublished and published scripts.  

TH 551 History of the Theatre I. Three hours.  
Beginnings to the Restoration.  

TH 552 History of the Theatre II. Three hours.  
Restoration to the present.  

TH 553 European Theatre History. Three hours.  
Special topics relating to Western theatre. Examples include the commedia dell'arte, European sources of the modern theatre, studies in Brecht, the avant-garde theatre, etc.  

TH 554 Seminar in Contemporary Theatre. Three hours.  
An examination of trends and developments in the theatre and drama since the Vietnam Era.  

TH 555 Seminar in Theatre History and Literature: Classical. Three hours.  
The theatre and drama of ancient Greece and Rome.  

TH 556 Seminar in Theatre History and Literature: Elizabethan, Jacobean, and Caroline. Three hours.  
The English theatre and drama from 1558 to 1642.  

TH 557 Seminar in Theatre History and Literature: American. Three hours.  
Theatre and drama in the United States from its beginnings. Special focus on 19th-century developments and current post-modern adaptations of earlier plays and forms.  

TH 562 History of Directing. Three hours.  
Historical development of directing theory and methodology since Saxe-Meiningen.  

TH 570 Theatre Management. Three hours.  
Principles of management applied to the fields of theatre operation and production, with emphasis on marketing, development, budgeting, and organizational structure.  

TH 572 Arts Administration. Three hours.  
A study of fiscal, administrative, and legal principles as they apply to the performing arts, particularly theatrical productions.  

TH 573 Fundraising and Financial Management. Three hours.  
A study of fundraising and financial management of nonprofit arts organizations with an emphasis on fundraising audits, forecasting, and plans.  

TH 576 Theatre Management: Internship. Six hours.  
Prerequisites: TH 570, TH 576, and completion of 20 hours in the M.F.A. program.  
Professional experience with a major professional resident theatre company. Course may be repeated for a maximum of 12 hours.  

TH 582 Playwriting I. Three hours.  
An introduction to writing for the stage, from dramatic conception to finished script.  

TH 583 Playwriting II. Three hours.  
Advanced course in playwriting; concentration on various play forms, draft revision, and the script development process.  

TH 584 Dramaturgy: Principles and Practices. Three hours.  
Prerequisite: TH 582.  
Explores dramaturgic theory, current practices, and historical foundations. Includes studies in adaptation, literary management, new play development, production, and audience-related dramaturgy.  

TH 586 Dramatic Theory and Criticism. Three hours.  
A survey of the major critical and performance theories, with special emphasis on Aristotelian and 20th-century approaches. Includes study and practice of reviewing dramatic productions.  

TH 599 Thesis Research. Three hours.  

TH 600 Advanced Practicum. One hour.  
Execution of significant creative assignments in mainstage and/or A. B. Theatre productions throughout the term.
TH 602 Alabama Shakespeare Festival: Conservatory. Ten hours. Professional, practical application of various theatre specialties in conjunction with the ASF in Montgomery, Alabama. This rubric is used for the Professional Actor Training Program, as well as the programs in stage management, theatre management and arts administration, scene design and production, and costume design and production.

TH 606 Stage Management I. Three hours. The precepts and practice of stage management.

TH 607 Stage Management II. Three hours. Continuation of TH 606.

TH 615 Lighting Design I. Three hours. A thorough study of the technical aspects of stage lighting, including electricity, optics, color, control theory, and light-plotting techniques.

TH 616 Lighting Design II. Three hours. An advanced course covering the theory and practice of lighting design for the theatre, with an emphasis on script analysis and execution.

TH 618 Lighting Design III. Three hours. A seminar involving the presentation of designs for various productions and preparation of problem-related demonstrations. May be repeated.

TH 622 Scene Design I. Three hours. A studio course in scenic design for the theatre. Students will execute designs for several plays focusing on analysis, graphic representations, and portfolio building.

TH 623 Scene Design II. Three hours. A continuation and intensification of the material in TH 622. Attention given to script analysis and complete design drawing, plus design for varied forms of stages.

TH 628 Problems in Theatre Arts: Design. Three hours. An intensive study of the designer's responsibility involving design for varied forms of staging and design drafting.

TH 632 Costume Construction II. Three hours. A studio course in advanced costume construction and costume crafts. Included topics are tailoring, corsetry, millinery, armor, wigs, masks, and jewelry, both period and modern. May be repeated. Lab fee, $25.00.

TH 634 Costume Design II. Three hours. A continuation and intensification of the material in TH 533. Projects will address specific problems of design. May be repeated. Lab fee, $25.00.

TH 639 Problems in Theatre Arts: Costuming. Three hours. Study and studio work in a specialized area of costume design or technology.

TH 640. Problems in Theatre Arts: Stage Movement. Three hours. Prerequisite: TH 540 or permission of the instructor. Advanced theory and practice in stage movement topics such as anatomy, clowning, mask, stage combat, mime, etc. May be repeated for credit when the topic differs.

TH 642 Teaching Acting. Three hours. A course to provide practical experience in teaching and coaching actors and developing methods and various approaches in teaching acting.

TH 643 Teaching Practicum. Three hours. Prerequisites: TH 642 and permission of the instructor. A course covering the practical aspects of teaching, including syllabi preparation, course planning, and classroom experience.


TH 674 Arts Advocacy, Policy, and Public Relations. Three hours. A study of the history and manifestation of public arts policy in the United States, with emphasis placed on arts advocacy and public relations tactics and campaigns.

TH 675 Business and Legal Issues in the Arts. Three hours. An examination of legal requirements of nonprofit arts organizations, specifically addressing tax exemption, reporting of contributions, development considerations, and contemporary legal issues affecting artists.
TH 676 Marketing the Arts. Three hours.
A study of contemporary marketing practices and how they are applied to the nonprofit arts organization. Special emphasis on marketing audits, forecasting, analysis, and campaigns.

TH 679 Problems in Theatre Arts: Management. Three hours.
Directed studies in specific management techniques and theoretical development of theatre projects.

TH 683 Problems in Theatre Arts: Playwriting. Three hours.
Specific topics such as the historical play, New Dramaturgy, and writing; workshops with visiting writers from the New Playwrights Program.

TH 684 Problems in Theatre Arts: Dramaturgy. Three hours.

TH 690 Independent Study. Three hours.

TH 698 Research Not Related to Thesis. Three hours.

DEPARTMENT OF WOMEN’S STUDIES (WS)
Professor Ida M. Johnson, Chairperson
Office: 104 Manly Hall

The Department of Women’s Studies offers a course of study leading to the master of arts degree in women's studies. The M.A. in women’s studies is designed to support feminist research. The program emphasizes interdisciplinary and cross-cultural methodology. It provides a conceptual framework, analytical training, and bibliography and research tools for feminist studies. The program is designed for students from a variety of humanities and social science backgrounds with interest in gender studies and the status and roles of women in society, past and present.

Graduates of the M.A. program will have the skills to continue graduate work toward a Ph.D. in a humanities or social science discipline. Training in feminist studies and research methods will also enable graduates of the M.A. program to enhance their work in other careers, such as law, health care, criminology, social work, public welfare, and education.

Graduate work in women’s studies is also available to students whose degree programs permit them to select courses in other programs and divisions. A master of arts concentration in women’s studies may be taken through the Department of American Studies of the College of Arts and Sciences and through other cooperating departments and programs. Admission and programs of study are subject to the guidelines presented by the appropriate department or program.

Admission Requirements

The requirements for admission to the Graduate School are detailed in the “Academic Policies” section of this catalog. All applicants to the Department of Women’s Studies must submit test scores from either the Graduate Record Examination or the Miller Analogies Test in support of the application. International students must submit results of the TOEFL as well. It is preferred that each applicant to the M.A. program have an undergraduate major or minor in women’s studies, or the equivalent, and a major in a humanities or social science discipline. Each applicant should have a grade point average of at least 3.0 on a 4.0 scale and satisfy minimum requirements for admission to the Graduate School. Students with deficiencies in undergraduate preparation may be required to take additional credit hours. Financial assistance is available in the form of research/teaching assistantships and fellowships for qualified students. Applicants who wish to be considered for research or teaching assistantships or fellowships should file their applications by February 1.
General Degree Requirements

The M.A. in women’s studies requires at least 24 semester hours of coursework, including 9 hours of core courses and 15 hours of elective courses, plus 6 hours of thesis research. A grade of “B” or better must be earned in all courses. Students must pass a written comprehensive examination and complete a thesis.

Course Descriptions

WS 500:501 Independent Study in Women’s Studies. One to six hours.
Independent study on any subject pertaining to women. Projects are conducted under the supervision of a professor in the chosen field and must be approved in advance by the program director.

WS 502:503 Seminar in Teaching Women’s Studies. Three hours.
The student attends a section of WS 200 and works with one group. Meetings with other discussion leaders and supervisors are required in addition to written work.

WS 510 Special Topics. Three hours.
Seminar format. The course offers an interdisciplinary approach to topics, which vary by semester. Active student engagement, such as conducting an interview, is required. Sample topic: women in the world.

WS 520 Women and Work. Three hours.
A study of women and various work relationships, through autobiographies of working women, novels, and essays.

WS 521 Women’s Studies Practicum. Three hours.
The class meets for seven weeks to discuss theoretical and methodological issues concerning contemporary women, in preparation for an eight-week internship with either an organization or individual in the community.

WS 525 Feminist Theory: Major Texts. Three hours.
Seminar consists of close readings in feminist theory, with an emphasis on primary texts. Intellectual, cultural, and political theory.

WS 530 Feminist Theory: Contemporary. Three hours.
Considers major economic, social, psychological, and philosophical approaches to the study of women. Emphasis is on the formulation of theories and mastery of primary works in the field.

WS 532 Issues and Problems in Women’s Studies Research. Three hours.
This seminar focuses on interdisciplinary research and problems in methodology in women’s studies.
WS 540:541 Seminar in Women’s Studies. Three hours.
Topics vary each semester. Graduate students are required to conduct original re-
search. The courses focus on such topics as language and gender, Southern women’s
culture.
WS 550 Women in America. Three hours.
The cultural roles and experiences of American women; how they have been perceived
and how they have perceived themselves within American life.
WS 560 Women and Public Policy. Three hours.
The systematic analysis of public policy formation at the federal, state, and local levels
as it relates to the status of women. Strategies for change and the impact of the women’s
movement are examined. Team and individual research projects.
WS 570 Gender, Race, and Class: Cross-Cultural Approaches. Three hours.
Prerequisite: WS 530, WS 532, or equivalent.
The major focus of this seminar is a cross-cultural approach to the study of gender,
race, and class. Emphasis is placed on theories of and research on gender, race, and
class.
WS 590 Women and Law. Three hours.
This seminar’s major focus is the impact of the law on the status and lives of women.
WS 592 Women in the Labor Force. Three hours.
The historic and demographic changes of women’s labor force participation from co-
lonial times to the present, and the economic and social impact of their changing work
roles.
WS 594 Sex Discrimination. Three hours.
This seminar is designed to survey sex discrimination law and issues related to marriage
and family life, employment, and educational opportunity.
WS 599 Thesis Research. Three to six hours.
The focus of this research may involve traditional or community-related research on the
student’s approved thesis topic in women’s studies.
WS 635 Seminar in Feminist Literary Criticism. Three hours.
Intensive study in the writings of one critic, or exploration of the theory and practice of
feminist criticism involving works by several critics. This course is the same as EN 635
Seminar in Literary Criticism, when its subject is feminist literary criticism.
MANDERSON GRADUATE SCHOOL OF BUSINESS

GRADUATE PROGRAMS

The Manderson Graduate School of Business is the graduate division of the Culverhouse College of Commerce and Business Administration. The mission of the College is to excel in the creation, dissemination, and application of business knowledge. The faculty of the Manderson Graduate School of Business offers six graduate degrees: the master of business administration (M.B.A.), master of accountancy (M.Acc.), master of tax accounting (M.T.A.), master of arts (M.A.), master of science in commerce (M.S.C.), and doctor of philosophy (Ph.D.).

The master of business administration and master of tax accounting degrees are generally regarded as terminal professional degrees; that is, they are designed primarily for people who plan professional careers in business, government, or nonprofit organizations. The other master’s programs serve similar purposes and also function as preparatory programs for doctoral-level work. The M.S.C. is a research-oriented master’s degree that requires a thesis.

The doctor of philosophy program prepares graduates for careers as college or university professors or as professional researchers. The Ph.D. requires an extensive, in-depth knowledge of the major field of study, a supporting minor field of study, and a specialized knowledge of statistical and quantitative techniques necessary for the advancement of knowledge in business and economics. A doctoral dissertation is required.

An applicant for graduate study must meet both the general requirements of the University of Alabama Graduate School and the standards set by the program to which the student is seeking admission. Successful applicants are admitted to a specific program of study as stated on the application. A student who wishes to pursue a new degree or change the major field of study is required to submit a new application.

Programs offered through the Manderson Graduate School of Business are accredited by the AACSB International — The Association to Advance Collegiate Schools of Business.

FACILITIES

The Culverhouse College of Commerce and Business Administration recently completed a major building program designed to expand and modernize its teaching and research facilities. This business complex consists of three buildings located adjacent to one another in the central University campus. Mary Hewell Alston Hall, which was completed in 1991, houses faculty and administrative offices, seminar rooms, and four technologically innovative classrooms. The Angelo Bruno Business Library and Sloan Y. Bashinsky Sr. Computer Center was occupied in January 1994. This integrated business information center includes the expanded business library, three hands-on computer classrooms, and open computer labs for undergraduate students and for graduate students. Bidgood Hall, the traditional home of the College, reopened in January 1994 after extensive renovations. This building now houses 32 classrooms, including 13 multimedia classrooms and two classrooms equipped to telecast and receive distance learning classes. The business complex is equipped with a wireless network allowing full Internet access from laptops and other equipped devices. Bidgood Hall also houses the offices of the Manderson Graduate School of Business, office space and group study facilities for graduate students, and the research centers affiliated with the College.
Angelo Bruno Business Library

The state-of-the-art Angelo Bruno Business Library serves the business information needs of the University of Alabama, and in particular the students and faculty of the Culverhouse College of Commerce and Business Administration (C&BA) and the Manderson Graduate School of Business. The library serves over 300,000 visitors each year, which represents repeated use by C&BA students, faculty, staff, and others from the University community and beyond. The 64,000 square foot facility is conveniently located on Stadium Drive within the C&BA complex and also houses the College’s Sloan Y. Bashinsky Sr. Computer Center. Combining business library services and business computer laboratory services in the same facility provides seamless access to information services for business students.

The Bruno Library’s resources comprise a wide variety of online computer databases and over 180,000 volumes, including hundreds of business periodicals. The Bruno Library is a fully computer-networked environment offering enhanced access to electronic information sources. In addition, a wireless network facilitates students’ use of their laptop computers for accessing many business library databases from anywhere in the library and the C&BA complex. Library faculty and staff offer users specialized information assistance and services and individual and class instruction in library research and effective use of library databases. Special features include an electronic library instruction classroom and several types of seating and study accommodations, including group study rooms for team assignments. The Bruno Library Information Network and the Bruno Web site provide convenient access to library resources, including the library catalog, commercial databases, and the World Wide Web.

The Bruno Library’s books, journals, special collections, and commercial databases offer excellent support of the C&BA teaching and research fields in business, economics, finance, management, marketing, accounting, information systems and statistics. Full-text access to business-related periodicals and newspapers is available through such databases as ABI/Inform, Factiva.com, and LEXIS-NEXIS. Extensive worldwide data on publicly traded securities of all kinds is available from BLOOMBERG Financial Markets and News. Other resources provide coverage of important topics such as company financial data, international business, tax regulations and cases, and current trends and case law in labor and human resources. The Bruno Library’s extensive collection of current and historical corporate annual reports has received national recognition.

The Angelo Bruno Business Library provides convenient access to information resources through technologically advanced as well as traditional means. User service is a major emphasis. Our goals are to tailor our collections and services to meet the needs of C&BA undergraduate and graduate students and faculty and to deliver the best possible mix of traditional and technologically advanced library services. For more information, visit the Bruno Library’s Web site at http://www.cba.ua.edu/bruno/.

Technology Group

The Technology Group was established in 1984 to provide computing facilities for the College of Business Administration students and faculty. The C&BA network connects over 400 lab and desktop computers to the campus network and the Internet. Our network file servers provide access to dozens of powerful applications specific to the various disciplines of the College. There are 7 professional staff and 40 student employees available to provide technical assistance to our faculty, staff, and student users.

The Bashinsky Lab, completed in 1994, offers a 20-seat collaborative facility, two 40-workstation multimedia classrooms, a 60-workstation open lab and a 20-workstation graduate lab. The E-Commerce Lab in Bidgood Hall was completed in 2001 and provides 16 group workstations. A Special Projects Lab was also completed in 2001. This lab provides students working on class projects with 10 workstations, an LCD projector, and a conference table.

There are 22 multimedia classrooms within the College featuring high-resolution projectors, PA system, wireless microphones, DVD, VHS, and access to all network resources. Training is available to faculty and staff on the usage of these classrooms.
The Technology Group provides support for faculty, staff, and student e-mail accounts, Web accounts, ftp, and personal network storage. They also support color laser network printing, college-wide wireless computing, and remote access for faculty and staff. Faculty can also obtain support for Web and presentation development, imaging, and video services.

Detailed information on the services offered by the Technology Group is available on the Web at http://technology.cba.ua.edu.

RESEARCH AND SERVICE CENTERS

Center for Business and Economic Research

The Center for Business and Economic Research (CBER) in the Culverhouse College of Commerce and Business Administration serves as the central reservoir within the state of Alabama for business, economic, and demographic data. Since its creation in 1930, CBER has engaged in research programs to promote economic development within the state, while continuously expanding and refining its broad base of socioeconomic information and statistics from federal, state, local, and private sources.

CBER staff responds to queries for specific business, economic, or demographic information on Alabama, the region, and the nation. Additionally, the results of CBER-originated special projects and ongoing programs frequently are available to meet information needs.

The Alabama State Data Center, housed within CBER, provides an important link with the U.S. Bureau of the Census. The center maintains all census publications for the state of Alabama and many surrounding states. The center also provides extraction of items from census computer files that would not otherwise be available. Under the Federal-State Cooperative Programs for Local Population Estimation and Projection, CBER works with the Bureau of the Census to prepare Alabama’s intercensal population estimates and projections. Through this participation and the historic need for reliable population estimates and projections, CBER has engaged in population research for more than 30 years. This experience, coupled with the rising demand for detailed demographic data, has made CBER a leader in demographic work within the state.

As a part of the effort to track the level of economic activity in Alabama, CBER has developed an annual econometric model of the Alabama economy. The model was constructed and tested in the late 1970s and first exercised in 1980 to produce short- and long-term forecasts (by industry group) of the economy: gross state product, employment, personal income, and wages. The model is continuously revised and refined to reflect the changing structure of the state’s economy. Output from the model is published in the annual Alabama Economic Outlook.

CBER has an active publications program. Published monthly since the 1930s, Alabama Business features analytical and tabular economic data in a concise format. The Economic Abstract of Alabama combines in one volume historic and current socioeconomic data from numerous sources. CBER also publishes ASDC News, Research Notes, and a retail sales annual update. The center maintains a site on the World Wide Web (cbcer.cba.ua.edu) that contains news and announcements, as well as articles presenting and interpreting socioeconomic data. Users can read, print, or download current and historic data on Alabama’s population, employment, income, retail sales, and other economic indicators.

William R. Bennett Alabama International Trade Center

The William R. Bennett Alabama International Trade Center (AITC) is a nonprofit organization dedicated to the development of international business activity. The trade center actively seeks international opportunities to assist firms and public agencies in successfully concluding business agreements and international projects. Since its creation in 1979, under the auspices of the College of Commerce and Business Administration, AITC has served more than 4,500 firms in a variety of international marketing areas, including international market research, strategic planning, and consulting.

Internships are available at AITC for students with experience or academic training in international business.
Alabama Productivity Center

The Alabama Productivity Center is a vehicle for improving productivity in manufacturing and service firms throughout the state. One of its primary activities is to coordinate applied-research projects in which University faculty and students work jointly with a company's management and labor to resolve specific marketing, production, or other operational problems. These projects have simultaneously a research/educational focus and a real-world mission. Academic benefits include thesis topics, scholarly articles, research assistantships, and permanent employment contacts. Other activities of the center include conducting basic research in productivity analysis and improvement technologies and administering a state productivity and quality award.

Alabama Real Estate Research and Education Center

The Alabama Real Estate Research and Education Center (AREREC) is a state of the art, comprehensive research and education facility designed to support Alabama's real estate industry and the state's overall economic development efforts.

The center serves as a clearinghouse for real estate expertise and a depository for local, state, and national data that can be used to provide real estate decision makers with site selection, feasibility, and market area analyses.

The center also offers professional real estate education for practitioners and conducts academic research on real estate related topics, real estate markets, and housing policy issues that impact both real estate professionals and the consumer.

Enterprise Integration Lab

The EIL was founded by C&BA in 1996 to help business organizations seamlessly integrate business activities using information technology (IT). Confronted with global market demands and evolving IT, the EIL's mission is to develop business best practices for sharing, managing, controlling, and coordinating business data, work practices, and networks. To accomplish this goal, the lab performs

• basic research to expand the fundamental knowledge related to developing complex management information systems
• applied research to examine how to align theoretical concepts with constraints of the real world
• business outreach to aid business in applying accepted best practices
• education to transfer best practices using state of the art techniques and methods

Each of these areas nurtures the others. The results of the lab's basic research is intended to provide the fundamental tenets that are used to solve real business issues for the first time (applied research). Once these tenets are used and their value substantiated, they become the basis for generalized outreach projects. Outreach projects serve a broad segment of the business community and provide experiential education to students through real-world consulting assignments.

Family Business Forum

The Family Business Forum, a unit of the Manderson Graduate School of Business, was organized in 1997. The forum seeks to improve the success rate of family businesses by providing members with knowledge and experience on the topics most crucial to their success and survival. The forum specifically focuses on family dynamics as they pertain to the family members who own and/or run their businesses as well as on the management of family-owned businesses.

Garner Center for Current Accounting Issues

The Garner Center was established within the Culverhouse School of Accountancy in 1988. The center has been successful in fostering and enhancing accounting research and education by providing a focal point for scholarly activities and a vehicle for faculty
efforts to address accounting issues. In particular, the center hosts a speaker series to facilitate interaction among faculty, students, and professional accountants. The Gamer Center also houses the International Academy of Accounting Historians.

Human Resources Institute

The Human Resources Institute, a unit of the Manderson Graduate School of Business, was organized in January 1972. Through the institute, the University seeks to contribute to the development, upgrading, and effective utilization of human resources in the state, region, and nation. The mechanisms utilized to accomplish these goals include both individual and contract research; training programs for labor, management, and governmental groups; technical assistance programs for private- and public-sector organizations; and the publication and national distribution of research monographs, papers, and proceedings. The institute houses the Alabama Chapter of the Industrial Relations Research Association.

Hess Institute for Retailing Development

The Hess Institute for Retailing Development is based in the Department of Management and Marketing. The initial contribution of funds for the establishment of the institute was made by Parisian Inc. of Birmingham.

The primary objective of the institute is to provide better quality teaching, research, and service to companies that make up the retailing industry. To accomplish this objective, faculty talent and expertise are used to address the needs of both the business and student markets. The Hess Institute sponsors three major annual events — Retailing Day, Retailing Week, and the Annual Management Symposium — that bring together students, academicians, and retailing practitioners so all will benefit through interaction and exchange of ideas.

M.B.A. Association (M.B.A.A.)

The M.B.A. Association (M.B.A.A.) was established to assist in the professional development and program enrichment of M.B.A. students in the Manderson Graduate School of Business. Membership includes first and second-year M.B.A. students, and the association supports a learning environment of fellowship, social interaction, and program enhancement. The M.B.A.A. sponsors professional development programming, alumni and community events, corporate outreach, and philanthropic initiatives as well as coordinates social, cultural, athletic and other activities.

Small Business Development Center

The Small Business Development Center (SBDC), a service arm of the College since 1981, works to improve the economy and quality of life of West Alabama by developing new small businesses and helping existing businesses expand. Assisting 200 to 300 new or existing businesses each year, SBDC provides entrepreneurs with education and training opportunities that cover a wide range of business topics.

Specifically, SBDC is available to assist new or existing firms in devising business plans, assessing new markets, answering basic start-up questions, and addressing other needs. Counseling, workshop training, and information transfer form the core of SBDC activities. A special emphasis of the Small Business Development Center continues to be procurement assistance, which takes the form of computer-generated bid notifications forwarded to clients; bid package preparation; bonding; pricing; and quality assurance.

SBDC’s location within the College encourages maximum benefit from the College’s extensive business resources. Faculty, graduate and undergraduate students, library holdings, and other College units (for example, the Center for Business and Economic Research) support SBDC’s service mission.
MASTER’S DEGREE REQUIREMENTS

Admission Requirements

Master’s degrees offered through the Manderson Graduate School of Business reflect a diverse range of missions and objectives. Enrollment in all master’s programs is limited and competitive. Admissions are supervised by committees of the graduate faculty in each of the academic programs. The minimum admission requirements are (a) admission to the Graduate School of The University of Alabama, (b) an acceptable score on the Graduate Management Admissions Test (GMAT), and (c) the completion of an appropriate undergraduate degree. A particular master’s program may establish higher standards and/or specific prerequisites for admission. Further information about the requirements for admission to master’s programs is included in the section of this catalog pertaining to each specific master’s degree and major field or curriculum.

Degree Requirements

1. Graduate students must meet all the general requirements of the University of Alabama Graduate School pertaining to the master’s degree.
2. The normal course load for graduate students is 12 hours per semester.
3. Exceptions to the requirements for the master’s degree may be made only with the approval of the Faculty Executive Board of the Manderson Graduate School of Business.

Second Degree Requirements

A student may pursue two master’s degree programs when such a combination is consistent with the student’s career and educational objectives. Six semester hours of eligible credits earned toward one master’s degree may be applied to the requirements for a second master’s degree. Accordingly, a student who is interested in combined programs is advised to meet with the faculty coordinator of each degree program before enrolling, since careful planning is required to achieve a successful combination of two degrees.

Master of Business Administration (M.B.A.) Degree Program

Objective. The objective of the Alabama M.B.A. Program is to prepare high-achieving, high-potential students for successful careers in business within a globally competitive environment. The Alabama M.B.A. is a full-time, selective admission program with a commitment to providing a high value-added experience, innovative programs, and relationship-intensive programming within a diverse and collaborative learning environment. The curriculum delivers fundamental business concepts and business knowledge through an interdisciplinary perspective. Case studies, live projects, teamwork and technology provide a dynamic applied teaching and learning environment. Students choose from a diverse selection of concentration areas in the second year, which allows for specialization in an area of focus aligned with his or her desired career path.

Admission requirements. Admission to the M.B.A. Program requires a bachelor’s degree from a college or university of fully recognized standing (or the equivalent); strong academic performance must have been demonstrated. Applicants also must show evidence of career interest in management, and relevant employment experience is considered in the admissions decision. Applicants must submit scores from the Graduate Management Admissions Test (GMAT). Students whose native language is not English are required to complete the Test of English as a Foreign Language (TOEFL). Following an initial review of completed application materials, an applicant may be requested to visit campus for an admissions interview.

Students are admitted to the program for the fall only and are encouraged to submit applications for admission no later than April 15. Applications completed prior to February 15 have priority for consideration for financial aid.

A student beginning the M.B.A. Program is expected to have mastery understanding of business software applications, including the Microsoft Office Suite of applications, prior to program entry. Students are also encouraged to have an understanding of introductory
calculus. All enrolled students are required to have a personal laptop computer compatible with defined minimum specifications in order to fully utilize the technology and learning opportunities available within the Manderson Graduate School of Business.

**Program and degree requirements.** The M.B.A. is a full-time, two-year program in which students take courses leading to an area of concentration and electives totaling 49 semester hours (some concentrations may require additional coursework to complete). In the first year, students take a prescribed program of courses and cross-discipline work that blends an introduction to the analytical tools of management and the functional areas of business into a general management perspective. These courses include accounting, economics, finance, human resources management, marketing, operations research, and statistics.

In the second year, required courses emphasize strategy of the firm, managerial communications, and the interaction of the firm in a dynamic society. In addition, each student pursues elective courses leading to an area of concentration. All course selections for the area of concentration must be made with the advice of a designated graduate faculty member in the chosen area. Internship experiences are encouraged in the summer between the first and second years.

The teaching method is a combination of case method, lecture-discussion, and project-based instruction. The small size of the program allows faculty members to utilize a variety of techniques for enhancing learning. Opportunities exist for international study as part of the program.

**Concentration requirements.** The M.B.A. Program offers students a variety of established concentrations, as well as the opportunity to design an individualized study program. We recommend that applicants to the M.B.A. Program declare an intended concentration as early as possible, because applying to the program “at-large” will not guarantee acceptance to a specific concentration. Admission to certain established concentrations may require a student to participate in additional application procedures involving the concentration faculty. Additional application requirements may include faculty interview, specific degree requirements, minimum test scores/GPA, and/or specific work requirements. More information about admission to concentrations may be obtained by contacting the director of the M.B.A. Program.

**Joint degree programs.** The Manderson Graduate School of Business offers a number of joint and dual degree opportunities in partnership with other colleges and academic units. Admission to joint and dual programs is often limited, and students must typically apply separately to each program.

**J.D./M.B.A. Joint Degree Program in Law and Business.** The University of Alabama School of Law and the Manderson Graduate School of Business offer students who are interested in combined business and legal career opportunities a law and M.B.A. curriculum culminating in the awarding of the juris doctor (J.D.) and M.B.A. degrees within four years. Law and business studies are alternated each year, with the final years being a combination of law and M.B.A. courses. Further information about the joint J.D./M.B.A. Program may be obtained by contacting the director of the M.B.A. Program and/or the Law School admissions office as well as visiting the respective Web sites.

**M.B.A./M.A. Dual Degree Programs in Business and Foreign Languages.** The University of Alabama dual M.B.A./M.A. in foreign language provides a distinctive program of language and cultural study with business application. It is designed for the professional who desires to build a portfolio of international competencies in a rapidly changing world environment. In this three-year program, students complete the majority of their M.A. coursework in year one prior to an overseas summer language study experience. Students return to The University of Alabama for the M.B.A. core in year two, followed by a seven-month overseas internship beginning in late spring. Students return for the final spring semester to complete their M.B.A. concentration coursework in international business prior to graduation. The full-time M.B.A./M.A. program prepares students to assume major responsibilities in multinational corporations, international finance and economics, and as global entrepreneurs. Candidates wishing to be considered for admission to the M.B.A./M.A. foreign language program must first apply and be accepted, unconditionally, to both the M.B.A. Program as well as the M.A. program in the language
of their choosing. All degree requirements for the M.A. in the language program and the M.B.A. must be met.

Further information about the dual M.B.A./M.A. program may be obtained by contacting the director of the M.B.A. Program and/or the Department of Modern Languages and Classics as well as visiting the respective Web sites.

**M.S.N./M.B.A. Joint Degree Program in Nursing and Business.** The Capstone College of Nursing and the Manderson Graduate School of Business offer a joint degree program including both the master of science in nursing (M.S.N.) and the master of business administration (M.B.A.). The highly specialized program of study allows students to gain expertise in both advanced practice nursing and business. The program is multidisciplinary in approach and permits highly qualified students an opportunity to learn from faculty in both professional schools. This program is supplemented with clinical practicums in research, nursing case management, and a summer internship in business management. To complete the degrees, students should be prepared to attend full time for six consecutive semesters including both summer sessions.

In order to be accepted into the M.B.A./M.S.N. program, a student must apply for admission to, and be accepted by, both the Capstone College of Nursing and the Manderson Graduate School of Business. More information about the joint M.B.A./M.S.N. degree program may be obtained by contacting the director of the M.B.A. Program and the graduate coordinator in the Capstone College of Nursing.

**3/2 Joint Business Undergraduate and M.B.A. Degree Program.** The Manderson Graduate School of Business offers to highly qualified business undergraduates at The University of Alabama the option to earn both the baccalaureate and M.B.A. degrees within a five-year period. Further information about the joint 3/2 Business Undergraduate and M.B.A Degree Program may be obtained by contacting the director of the M.B.A. Program as well as visiting the M.B.A. Web site.

**Executive M.B.A. (EMBA) Weekend Program.** The Executive M.B.A. Program is a 17-month program designed to provide working professionals with the tools, skills, and knowledge essential for pursuing new career options in business. Weekend classes allow students to pursue the M.B.A. degree without sacrificing current employment. Classes meet on Fridays and Saturdays usually twice a month and for one full week each term, including an international trip/experience during the weeklong in the fourth term where students will visit with the senior management of global companies of that particular country. Distance learning technology is used to enhance classroom learning and to facilitate student and faculty interaction when students are away from campus.

The Executive M.B.A. Program consists of four consecutive semesters of study, including summer, with a new student group beginning its study each December or January. Admission is selective. Five years of work experience at a significant level of responsibility are recommended for applicants. Applicants should have access to a laptop or desktop computer when away from campus, and a working knowledge of electronic communication and data management. A satisfactory score on the Graduate Management Admissions Test (GMAT) and a bachelor's degree from a regionally accredited college or university of fully recognized standing (or equivalent) are required for admission. Further information may be obtained from the director of Executive Education Programs.

**Master’s Degree Programs in Accountancy**

**History and objectives of the Culverhouse School of Accountancy.** The School of Accountancy was established in July 1978 as an academic unit within the College of Commerce and Business Administration. The school was named in honor of Mr. Hugh F. Culverhouse Sr. in February 1989. Mr. Culverhouse was an alumnus of the University, a noted lawyer and businessman, and a major supporter of the accounting program. The Culverhouse School of Accountancy is a charter member of the Federation of Schools of Accountancy. The School holds accounting accreditation at both the undergraduate and graduate levels from the American Assembly of Collegiate Schools of Business.

Primary objectives of the School are to maintain high-quality undergraduate and graduate programs that attract top students, and to prepare these students for careers as professional accountants in public accounting, management accounting, auditing,
taxation, and nonprofit accounting. The program provides basic conceptual accounting and business knowledge as a foundation for accounting career development. To achieve these objectives, the School maintains a highly qualified faculty who have the required academic credentials, professional experiences, and significant scholarly accomplishments necessary to prepare students for professional careers. Teaching effectiveness and research productivity are emphasized.

The computer is integrated throughout the accounting curriculum. Emphasis is placed on the need for accountants to be competent in business and to be well-rounded citizens. Efforts are made to ensure that students have an understanding of the professional and ethical responsibilities of accountants.

**Alabama CPA examination requirements.** Students planning to take the certified public accountant examination in Alabama must complete 150 semester hours of college courses. To fulfill this requirement, students in the Culverhouse School of Accountancy must be admitted to either the master of accountancy program or master of tax accounting program. Students should apply for admission to one of these graduate programs during the first semester of the senior year.

**Master of Accountancy (M.Acc.) Degree**

**Admission requirements.** Before final admission to the program, students should have completed the following accounting courses or their equivalents:

- AC 310 Financial Reporting & Analysis of Business Activities I
- AC 311 Financial Reporting & Analysis of Business Activities II
- AC 361 Cost Analysis for Planning & Control
- AC 371 Introduction to Taxation
- AC 389 Accounting Information Systems Development, Operation & Control
- AC 432 Introduction to Corporate Governance, Risk Assessment, & Assurance Services

**Degree requirements.** The master of accountancy degree program is a fifth-year professional program. The objective of the program is to provide students with greater breadth and depth of understanding in accounting and business than is possible in an undergraduate program. The program prepares students for careers as professional accountants in financial institutions, government, industry, nonprofit organizations, and public practice. Graduates are prepared to research various databases related to troublesome accounting problems, and to exercise judgment in making accounting-related decisions by drawing on their integrated, comprehensive body of accounting and business knowledge. Students are required to complete a minimum of 30 hours of approved coursework beyond the undergraduate degree. A minimum of 24 hours must be taken in courses open only to graduate students.

The following courses are required for the M.Acc. degree. A minimum of 21 hours of accounting courses (required and elective) must be completed. Electives in areas other than accounting are chosen in consultation with the student’s adviser and vary based on students’ backgrounds and interests.

**Course requirements for M.Acc. Program.** Students must take a minimum of 30 hours of graduate courses, including a minimum of 21 hours of accounting courses. Electives must be approved by the coordinator of the M.Acc. program.
Required accounting courses* (15 hours)
AC 512 Advanced Financial Reporting and Analysis
AC 523 Business Valuation and Performance Measurement
AC 532 Advanced Governance, Risk Assessment, and Assurance
AC 533 Systems Analysis and Control
AC 561 Accounting for Business Management

Other accounting courses* (minimum of 6 hours)
AC 500 Professional Judgment and Decision Making
AC 516 Risk Analysis and Control
AC 534 Fraud Risk Management
AC 541 International Accounting
AC 554 Professional Certification
AC 556 Governmental and Nonprofit Accounting

M.Acc. students may take one of the following tax courses:
AC 571 Taxation of Business Organizations
AC 573 Individual Tax Planning
AC 593 Research and Communication in Taxation

Other required course (3 hours)
LGS 504 Legal Issues in Accounting

Non-accounting electives (up to 6 hours)

Master of tax accounting (M.T.A.) degree. The master of tax accounting (M.T.A.) degree program is a multidimensional approach to the education of the modern tax specialist. The program develops an understanding of the taxation system and the inter-relationships that exist between that system and accounting theory; a basic knowledge of the legal system as it relates to taxation; and the basic tools necessary for research and communication in taxation. Graduates are prepared to research various tax, legal, and accounting databases related to troublesome tax problems and to exercise judgment in making tax-related decisions by drawing on their integrated, comprehensive knowledge of accounting and taxation.

Admission requirements. Before final admission to the program, students should have completed the following courses or their equivalents:

AC 310 Financial Reporting and Analysis of Business Activities I
AC 311 Financial Reporting and Analysis of Business Activities II
AC 361 Cost Analysis for Planning and Controlling
AC 371 Introduction to Taxation
AC 389 Accounting Information Systems Development, Operation and Control
AC 432 Introduction to Corporate Governance, Risk Assessment, and Assurance Services
AC 471 Taxation of Business Transactions and Organizations

Degree requirements. Students are required to complete a minimum of 31 hours of approved coursework beyond the undergraduate degree. At least 18 of these hours must be in coursework in the major field. A minimum of 24 hours must be taken in courses open only to graduate students, and 15 of these must be in courses in accounting and taxation at The University of Alabama.

*Students cannot receive graduate credit for a course if they have taken an equivalent course at the undergraduate level. Another accounting course should be substituted with the approval of the coordinator of the M.Acc. program. Students who have not taken AC 456 and AC 471 or their equivalents must take AC 456 or AC 556 and AC 471 or AC 571.
Students who will sit for the CPA exam in Alabama are required to take AC 456 Governmental and Nonprofit Accounting as part of their undergraduate or graduate program. 
To receive the master of tax accounting degree, the student must complete the required core courses with an average grade of “B” or better, and must maintain an average grade of “B” or better in all required accounting courses. The following core courses are required for the M.T.A. degree:

<table>
<thead>
<tr>
<th>Required courses</th>
<th>Semester hours</th>
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</thead>
<tbody>
<tr>
<td>AC 573 Individual Tax Planning</td>
<td>3</td>
</tr>
<tr>
<td>AC 575 Taxation of Corporations and Shareholders</td>
<td>3</td>
</tr>
<tr>
<td>AC 576 Advanced Corporate Taxation</td>
<td>3</td>
</tr>
<tr>
<td>AC 577 Tax Practice and Procedure</td>
<td>3</td>
</tr>
<tr>
<td>AC 578 Partnership Taxation</td>
<td>3</td>
</tr>
<tr>
<td>AC 593 Research and Communication in Taxation</td>
<td>3</td>
</tr>
<tr>
<td>LAW 612 Legal Research</td>
<td>1</td>
</tr>
<tr>
<td>LAW 725 Legal Concepts of Property</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives (choose three)

<table>
<thead>
<tr>
<th>Electives (choose three)</th>
<th>Semester hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC 512 Advanced Financial Reporting and Analysis or</td>
<td>3</td>
</tr>
<tr>
<td>AC 523 Business Valuation and Performance Measurement</td>
<td>3</td>
</tr>
<tr>
<td>AC 532 Advanced Governance, Risk Assessment, and Assurance or</td>
<td>3</td>
</tr>
<tr>
<td>AC 516 Risk Analysis and Control</td>
<td>3</td>
</tr>
<tr>
<td>AC 556 Governmental and Nonprofit Accounting</td>
<td>3</td>
</tr>
<tr>
<td>LGS 504 Legal Issues in Accounting</td>
<td>3</td>
</tr>
<tr>
<td>Elective (approved by adviser)</td>
<td>3</td>
</tr>
</tbody>
</table>

Total ........................................................................... 31

Two undergraduate tax courses (which may be a part of the undergraduate degree requirements) are required as prerequisites to each of the graduate tax courses.

Master of Arts (M.A.) and Master of Science in Commerce (M.S.C.) Degree Programs

The M.A. and M.S.C. degrees are specialized master’s degrees designed to prepare students for professional positions in business, management, and related fields, and to serve as preparation for study toward a doctoral degree. The principal difference between the two degrees is that the M.S.C. degree requires a thesis, whereas the M.A. does not. M.A. and M.S.C. degrees are offered in five major fields of curricula: banking and finance, economics, management, management science, and marketing. Program missions and prerequisites vary by field and are described in the following sections pertaining to each curriculum.

Admission requirements. Admission requirements are outlined on p. 219 and under each curriculum in the following sections.

M.A. degree requirements. The master of arts degree with a major field of specialization is granted upon (a) the completion of 30 semester hours of graduate work in accordance with the requirements of the University of Alabama Graduate School under Plan II; and (b) the passing of a written examination covering the student’s major field of study. The examination is conducted by the graduate faculty of the student’s program area on a date established by the chairperson of the program area. A student may attempt the examination only twice.

A maximum of 6 hours of 400-level coursework may be accepted for an M.A. degree program. The remaining courses must be selected from those numbered 500 or above.
M.S.C. degree requirements. The master of science in commerce degree with a major field of specialization is granted upon (a) the completion of 24 semester hours of graduate work; (b) the passing of a written examination covering the student's major field of study; and (c) the acceptance by the student's thesis committee of a master's thesis, as described in the requirements of the University of Alabama Graduate School under Plan I.

The written examination is conducted by the graduate faculty of the student's program area on a date established by the chairperson of the program area. A student may attempt the examination only twice.

The thesis must demonstrate the candidate's proficiency in academic or professional research and writing on a topic in or related to the major field of study. Thesis research and writing are directed by a committee of two members of the graduate faculty, normally in the field selected as the major. The subject, the research plan, and a tentative outline of the thesis must be approved by the thesis committee at least one semester before the student plans to graduate.

A maximum of 6 hours of 400-level coursework may be accepted for an M.S.C. degree program. The remaining courses must be selected from those numbered 500 or above.

Following are the curricula for M.A. and M.S.C. degree study.

CURRICULUM IN BANKING AND FINANCE

The master's in banking and finance program offers a specialized curriculum with focused training in finance. The course of study is designed to provide insight into the following topics: (1) the important role of financial intermediaries; (2) the management of financial intermediaries and an understanding of the markets in which they participate; (3) the valuation of financial assets such as stocks, bonds, derivatives, and other specialized assets, and how they are managed in a portfolio; (4) the determination and behavior of interest rates and rates of return on assets; and (5) the incentives and determinants of corporate behavior.

The master's in banking and finance is designed to offer advanced applied and theoretical expertise in investments, banking, corporate finance, and/or financial engineering. The financial risk strategy track within this master's program addresses modern techniques for managing financial risk. Students selecting this track will have the opportunity to be trained in state-of-the-art techniques in valuing and using derivative securities, with a particular emphasis on mortgage-backed securities, structured notes, and computer-based solution design within an object-oriented framework.

Successful completion of the master's in banking and finance provides students with knowledge useful for pursuing careers in investments, financial management, banking, and other financial services. With the appropriate choice of courses, students can apply to transfer many of their master's courses into the doctoral program in finance.

Admission Requirements

Students accepted into the program are not required to have obtained an undergraduate degree in business. Before commencing the program, however, the student is advised to have completed the equivalent of undergraduate courses in accounting, statistics, calculus, economics, and finance. Any deficiencies should be made up by taking courses during the summer before entering the master's program.
Degree Requirements

The following courses are required for both the M.S.C. and the M.A. degrees in banking and finance:

<table>
<thead>
<tr>
<th>Required courses</th>
<th>Semester hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC 508 Microeconomic Theory or</td>
<td>3</td>
</tr>
<tr>
<td>EC 510 Advanced Microeconomic Theory</td>
<td></td>
</tr>
<tr>
<td>EC 509 Macroeconomic Theory and Policy or</td>
<td>3</td>
</tr>
<tr>
<td>EC 511 Advanced Macroeconomic Theory</td>
<td></td>
</tr>
<tr>
<td>EC 470 Introduction to Mathematical Economics or EC 471 Econometrics</td>
<td>3</td>
</tr>
<tr>
<td>FI 510 Financial Management</td>
<td></td>
</tr>
<tr>
<td>FI 512 Money and Capital Markets</td>
<td></td>
</tr>
<tr>
<td>FI 514 Investments</td>
<td></td>
</tr>
<tr>
<td>FI 522 Bank Administration</td>
<td></td>
</tr>
</tbody>
</table>

Total common core courses ........................................ 21

For the M.S.C. degree, the following courses are also required:
- Electives chosen with approval of adviser .................. 3
- Thesis acceptable to the student’s thesis committee .......... 6

Total hours for M.S.C. degree ..................................... 30

For the M.A. degree, the following courses are also required:
- Electives chosen with approval of adviser .................. 9

Total hours for M.A. degree ..................................... 30

CURRICULUM IN ECONOMICS

The graduate program in economics is designed to prepare students for careers as professional economists in business, government agencies, and colleges and universities.

Admission Requirements

Entering graduate students are expected to have completed undergraduate coursework in economics, statistics, and mathematics. Students must have completed the following undergraduate courses or their equivalents:

- EC 308 Intermediate Microeconomics
- EC 309 Intermediate Macroeconomics
- ST 250 Statistical Methods I
- ST 251 Statistical Methods II
- MATH 121 Calculus and Applications or MATH 125 Calculus I

Any deficiencies should be made up by taking courses during the summer before entering the master’s program.

Degree Requirements

There are two tracks available for both the M.A. and M.S.C. degrees in economics. Track I provides preparation for the Ph.D. in economics. Track II is designed for students who wish to pursue careers applying economic analysis.
Track I. The following are the requirements for the M.A. and M.S.C. degrees in economics to prepare for the Ph.D.:

**Required courses**

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Semester hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC 570 Mathematical Economics</td>
<td>3</td>
</tr>
<tr>
<td>EC 571 Econometrics</td>
<td>3</td>
</tr>
<tr>
<td>EC 610 Seminar in Microeconomic Theory</td>
<td>3</td>
</tr>
<tr>
<td>EC 611 Seminar in Macroeconomic Theory</td>
<td>3</td>
</tr>
<tr>
<td>EC 616 Seminar in Monetary Economics</td>
<td>3</td>
</tr>
<tr>
<td>EC 660 Game Theory</td>
<td>3</td>
</tr>
<tr>
<td>EC 671 Seminar in Econometrics</td>
<td>3</td>
</tr>
<tr>
<td>ST 554 Mathematical Statistics I</td>
<td>3</td>
</tr>
</tbody>
</table>

Total hours of required courses ................................ 24

**Electives**

Electives are chosen from the following areas: applied microeconomic theory, monetary economics, or public economics. A student may also write a thesis (EC 599) for the M.S.C. degree in lieu of the two elective courses.

Minimum total hours for Track I .................................. 30

Track II. The following are the requirements for the M.A. or M.S.C. degrees in applied economics:

**Required courses**

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Semester hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC 508 Microeconomic Theory</td>
<td>3</td>
</tr>
<tr>
<td>EC 509 Macroeconomic Theory and Policy</td>
<td>3</td>
</tr>
<tr>
<td>EC 570 Mathematical Economics</td>
<td>3</td>
</tr>
<tr>
<td>EC 471 Econometrics</td>
<td>3</td>
</tr>
</tbody>
</table>

Total hours of required courses ................................ 15

**Electives**

Electives are chosen from the following: EC 516, EC 531, EC 550, EC 581; FI 504 (or FI 510), FI 524 (or FI 512), FI 514. Other courses may be substituted with the permission of the graduate program committee. A student may also write a thesis for the M.S.C. (EC 599) in lieu of 6 hours of elective coursework.

Total hours of elective courses ................................ 15

or, Elective courses and ........................................ 9

Thesis (EC 599) .................................................................. 6

Minimum total hours for Track II ..................................... 30

**CURRICULUM IN MANAGEMENT**

The master of arts in management is a 30-credit-hour degree program designed as a part-time curriculum for lower- to mid-level managers. Its primary objective is to provide graduates with the increasingly specialized skills and knowledge required for effectively managing the human issues of organizations.

The practicing managers who graduate from the program are trained to solve the growing array of problems that are faced by organizations as they strive to succeed in an increasingly competitive world. This program is structured to prepare students to be...
more effective managers of their human resources as they work in their current positions as well as into the future.

Each student who completes the master’s program is expected to have a basic knowledge of the concepts, processes, and practices associated with the management of organizations. For someone with a non-business undergraduate degree and no work experience, this would include microeconomics, principles of accounting, production, management, and finance — or having a minor in business.

Admission Requirements
Admission requirements are outlined on p. 219.

Degree Requirements
Students admitted to the M.A. program in management complete a minimum of 30 hours of approved coursework beyond the requirements for an undergraduate degree. The normal course load is 6 hours per semester.

In addition to the course requirements, the candidate must successfully complete a final oral examination. This examination covers issues raised in a research paper completed by the student under the guidance of a faculty member.

All students who complete a master’s program are expected to have a basic understanding of the concepts, processes, and institutions associated with the management of business organizations.

<table>
<thead>
<tr>
<th>Required courses</th>
<th>Semester hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGT 510 Research Methods in Management</td>
<td>3</td>
</tr>
<tr>
<td>MGT 511 Employee Recruitment, Selection, and Placement</td>
<td>3</td>
</tr>
<tr>
<td>MGT 520 Change Management</td>
<td>3</td>
</tr>
<tr>
<td>MGT 527 Strategic Human Resources Management</td>
<td>3</td>
</tr>
<tr>
<td>MGT 532 Employee Relations</td>
<td>3</td>
</tr>
<tr>
<td>MGT 542 Management Communication</td>
<td>3</td>
</tr>
<tr>
<td>MGT 597 Contemporary Issues in Performance Management</td>
<td>3</td>
</tr>
<tr>
<td>BER 540 Statistical Methods</td>
<td>3</td>
</tr>
<tr>
<td>MGT 598 Research in Management</td>
<td>3</td>
</tr>
</tbody>
</table>

Total hours of required courses ................................ 27

<table>
<thead>
<tr>
<th>Elective</th>
<th>Semester hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any graduate level course with consent of adviser</td>
<td>3</td>
</tr>
</tbody>
</table>

Total hours for M.A. program in management ............ 30

CURRICULUM IN MANAGEMENT SCIENCE
Management science is a scientific approach to analyzing problems and making decisions. It uses mathematics and mathematical modeling on computers to forecast the implications of various choices and focus on the best course of action.

Manufacturers use management science to make products more efficiently, schedule equipment maintenance, and control inventory and distribution. Success in these areas leads to further applications in strategic and financial planning and in such diverse areas as criminal justice, education, meteorology, and communications, and into virtually every corner of the globe.

The management science degree programs feature two concentrations — management science and production/operations management. Prior study of business is not required for either concentration.

The management science concentration provides instruction in a variety of modeling tools and techniques including mathematical programming, simulation, and expert systems. Understanding and use of quantitative models and tools are emphasized throughout the curriculum.
The concentration in production/operations management (POM) is designed to prepare students for the practice of production/operations management. The program is structured to provide instruction in materials management, scheduling and control, and quality management. A flexible elective structure allows additional exposure to logistics and distribution management, manufacturing simulation, statistical analysis, and operation research methods. Quantitative models and tools are emphasized throughout the curriculum. The POM M.A. degree permits greater depth and breadth in the production/operations management area than an M.B.A. degree with a concentration in POM would allow.

Admission Requirements
Admission requirements are outlined on p. 219.

Degree Requirements
For either concentration: Entering students are expected to possess strong quantitative skills; good communication skills (written and oral) are also important. Prior study of business is not required. Students with engineering, mathematics, computer science, or natural science undergraduate backgrounds are particularly encouraged to apply. Program prerequisites are multivariate calculus (MATH 227) and ability to program (GES 126).

The program consists of 30 hours of coursework which well-prepared students can complete in 12 months with entry in the fall term. All students are expected to complete the program in 15 months. No thesis or research paper is required.

## Required courses

<table>
<thead>
<tr>
<th>Semester hours</th>
<th>Concentration I — Management Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGS 500 Management Science I</td>
<td>3</td>
</tr>
<tr>
<td>MGS 540 Systems Simulation</td>
<td>3</td>
</tr>
<tr>
<td>MGS 560 Knowledge-Based Systems Methods or AEM 585 Genetic Algorithms in Optimization and Machine Learning</td>
<td>3</td>
</tr>
<tr>
<td>MGS 598 Research in Management Science</td>
<td>3</td>
</tr>
<tr>
<td>Electives in management science, approved by adviser of the student’s program</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total hours</strong></td>
<td><strong>21</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester hours</th>
<th>Concentration II — Production/Operations Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGS 500 Management Science I</td>
<td>3</td>
</tr>
<tr>
<td>MGS 522 Production Scheduling Problems</td>
<td>3</td>
</tr>
<tr>
<td>MGS 523 Inventory Management</td>
<td>3</td>
</tr>
<tr>
<td>MGS 524 Manufacturing Scheduling and Control Systems</td>
<td>3</td>
</tr>
<tr>
<td>ST 550 Statistical Methods for Applied Research I</td>
<td>3</td>
</tr>
<tr>
<td>ST 575 Statistical Quality Control</td>
<td>3</td>
</tr>
<tr>
<td>Elective in management science, approved by adviser of the student’s program</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total hours</strong></td>
<td><strong>21</strong></td>
</tr>
</tbody>
</table>

For the **M.S.C. degree**, the following are also required:
- MGS 599 Thesis Research in Management Science | 3 |
- Thesis acceptable to the student’s thesis committee

**Total hours for the M.S.C. program** | **24**
The master’s degree in marketing management prepares students for successful careers in marketing. Marketing is concerned with (a) the identification and assessment of consumer and industrial market needs and (b) the development and implementation of marketing programs to satisfy those needs. Marketing personnel in profit and non-profit organizations analyze markets and industries to define new and refine existing opportunities. Marketers are also responsible for product development and management, promotional programs, distribution systems, and appropriate pricing for the targeted market opportunities. Employment opportunities exist in supply chain management, sales and sales management, product and brand management, market research, advertising, distribution and logistics, retail management, purchasing, and other areas.

The graduate faculty in marketing that blends a strong teaching emphasis, recognized expertise in management consulting, and an important research commitment provides students with an excellent base for their education and allows them to view marketing as a pervasive philosophy, rather than merely as another discipline. Two degrees are offered at the master’s level: the master of arts and the master of science in commerce.

Master of arts (M.A.). The master degree in marketing management prepare students for the practice of marketing management. The program is structured to provide instruction in marketing research and analysis as well as the management of product, price, promotion, and distribution programs. Students who graduate from the program are prepared to compete favorably for entry-level marketing and sales positions and to move quickly into supervisory or management-level positions.

Admission Requirements

To be eligible for admission, a student must (a) have earned an undergraduate degree with an acceptable grade point average; (b) be accepted for admission to the Graduate School of The University of Alabama; and (c) have earned an acceptable score on the Graduate Management Admissions Test (GMAT). All students should have completed at least 3 hours of undergraduate work in microeconomics as a prerequisite for this program.

Entering students are expected to possess strong communication (oral and written) skills and an analytical aptitude. Prior study of business is not required. Students with liberal arts, engineering, science, communications, as well as business undergraduate backgrounds are encouraged to consider this program. The target market segments for this program include the following:

1. Students with undergraduate degrees in non-business fields
2. Students with undergraduate business degrees who want advanced instruction in marketing management
3. Persons who are employed and interested in pursuing advanced degrees in marketing on a part-time basis
4. Persons who are thinking about pursuing the Ph.D. in marketing who want to learn about marketing management
Degree Requirements

The program of study consists of 30 hours of coursework, which can be completed in a calendar year (12 months) with entry in the fall term. The program can also be completed in 15 months.

The following courses are required for the M.A. degree:

<table>
<thead>
<tr>
<th>Required courses</th>
<th>Semester hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MKT 591 Marketing Research*</td>
<td>3</td>
</tr>
<tr>
<td>MKT 518 (M.B.A.) Survey of Marketing</td>
<td>3</td>
</tr>
<tr>
<td>MKT 530 Advanced Marketing Analysis</td>
<td>6</td>
</tr>
<tr>
<td>MKT 531 Services Marketing</td>
<td>3</td>
</tr>
<tr>
<td>ST 550 Statistical Methods for Applied Research I</td>
<td>3</td>
</tr>
<tr>
<td>ST 551 Statistical Methods for Applied Research II</td>
<td>3</td>
</tr>
<tr>
<td>Three courses chosen from those listed below for the four marketing concentration areas</td>
<td>9</td>
</tr>
</tbody>
</table>

Total hours ..................................................................... 30

**M.A. concentration areas.** Four areas of concentration are offered to M.A. students, who may select a minimum of three courses (9 hours) from the following options to complete the 30 hours of M.A. requirements. With the adviser’s consent, substitutions may be made.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Semester hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Concentration I — Marketing Research (choose three)</strong></td>
<td></td>
</tr>
<tr>
<td>EC 413 Economic Forecasting and Analysis</td>
<td>3</td>
</tr>
<tr>
<td>MKT 581 Project Management in Marketing</td>
<td>3</td>
</tr>
<tr>
<td>MKT 597 Special Topics in Marketing</td>
<td>3</td>
</tr>
<tr>
<td>ST 465 Sampling Techniques</td>
<td>3</td>
</tr>
<tr>
<td>ST 552 Applied Regression Analysis</td>
<td>3</td>
</tr>
<tr>
<td>ST 553 Applied Multivariate Analysis</td>
<td>3</td>
</tr>
</tbody>
</table>

Total hours ..................................................................... 9

<table>
<thead>
<tr>
<th>Courses</th>
<th>Semester hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Concentration II — Strategic Marketing Management (choose three)</strong></td>
<td></td>
</tr>
<tr>
<td>MKT 522 Strategic Logistics Management</td>
<td>3</td>
</tr>
<tr>
<td>MKT 510 Product Design and Management</td>
<td>3</td>
</tr>
<tr>
<td>MKT 521 Seminar in Retailing Management</td>
<td>3</td>
</tr>
<tr>
<td>MKT 581 Project Management in Marketing</td>
<td>3</td>
</tr>
<tr>
<td>GBA 526 Competitive Strategy</td>
<td>3</td>
</tr>
<tr>
<td>GBA 527 Managing Strategy Implementation</td>
<td>3</td>
</tr>
</tbody>
</table>

Total hours ..................................................................... 9

<table>
<thead>
<tr>
<th>Courses</th>
<th>Semester hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Concentration III — International Business (choose three)</strong></td>
<td></td>
</tr>
<tr>
<td>IBA 550 Global Business</td>
<td>3</td>
</tr>
<tr>
<td>IBA/MGT 551 International Business Management</td>
<td>3</td>
</tr>
<tr>
<td>IBA/MKT 555 Global Marketing Management</td>
<td>3</td>
</tr>
<tr>
<td>EC 430/530 International Economics</td>
<td>3</td>
</tr>
<tr>
<td>FI 431/531 International Finance</td>
<td>3</td>
</tr>
<tr>
<td>MKT 460 Export/Import Management</td>
<td>3</td>
</tr>
</tbody>
</table>

Total hours ..................................................................... 9

*Students enroll in MKT 591 but attend MKT 473. Additional MKT 591 assignments are made.*
Concentration IV — General Marketing (choose three)

MKT 510 Product Design and Management ........................................... 3
MKT 521 Seminar in Retailing Management ........................................... 3
MKT 522 Strategic Logistics Management ............................................... 3
MKT 538 Sales Management .................................................................. 3
MKT 581 Project Management in Marketing ........................................... 3
MKT 691 Graduate Seminar in Marketing ............................................... 3
IBA/MGT 550 Global Business ............................................................ 3
IBA/MGT 555 Global Marketing Management ....................................... 3

Total hours ............................................................................................. 9

Master of science in commerce (M.S.C.), with a major in marketing. This curriculum is designed for students interested in developing strong analytical skills and a research orientation in marketing. The curriculum comprises 24 hours of required coursework and 6 hours of credit for a thesis acceptable to the student’s thesis committee.

Required courses Semester hours
MKT 473 Marketing Research ............................................................... 3
MKT 531 Services Marketing ............................................................... 3
MKT 674 Measurement and Structural Equation Modeling .................. 3
MKT 688 Marketing Models ............................................................... 3
ST 550 Statistical Methods for Applied Research I ............................ 3
ST 551 Statistical Methods for Applied Research II ............................ 3
ST 552 Applied Regression Analysis .................................................... 3
ST 553 Applied Multivariate Analysis ................................................... 3

Total hours ............................................................................................. 24

MKT 599 Thesis ..................................................................................... 6

Total hours ............................................................................................. 30

CURRICULUM IN STATISTICS

See the information about the interdisciplinary program in applied statistics, p. 420.

DOCTORAL PROGRAMS IN BUSINESS

The doctor of philosophy degree is awarded for scholarly attainment and represents the highest degree in business administration that the University may bestow upon a student. Doctoral programs in business are designed principally for those who wish to prepare for careers in college or university teaching or research, or positions in profit and not-for-profit organizations.

The faculty of the Manderson Graduate School of Business offer the Ph.D. degree in six business fields: accounting, economics, finance, management, management science, and marketing. The doctoral program in management offers an interdisciplinary concentration in management information systems. The faculty also administer the interdisciplinary program in applied statistics, which is described elsewhere in this catalog. Please visit www.cba.ua.edu/grad/phd.html for additional information about our doctoral programs and access to specific program policies and guidelines.

Doctoral programs in business are built upon the premise that a student should possess an extensive, in-depth knowledge of one major field of study and one supporting or minor field of study, as well as knowledge of statistical and quantitative methods of analysis necessary to conduct research and contribute to the advancement of knowledge in business. Special emphasis is placed on the fact that the degree is not granted as a result of the student’s having taken a given number of courses or having earned a given number of credit hours. These factors, while obviously important, will vary for different students: consequently, there is no total number of courses or hours that satisfies degree
requirements uniformly for all students. Instead, the requirements should be thought of primarily from the standpoint of the student’s ability to satisfy the graduate faculty that he or she has a thorough grasp of the fields selected. In all cases, however, students must meet the minimum requirements stipulated by the Graduate School and by the Manderson Graduate School of Business.

In addition to the course requirements, each student must show evidence of research competence by writing a dissertation and must satisfy the language/research tool requirement of his or her major field. The dissertation, as the culmination of each student’s scholarly efforts, should be a significant contribution to the field of knowledge in business.

**Admission to Ph.D. Degree Programs**

Admission to doctoral programs in business is open to qualified individuals who hold undergraduate and/or graduate degrees from accredited colleges and universities. Individuals seeking admission to a doctoral program should follow the application procedure established by the Graduate School of The University of Alabama. Applications for admission are carefully evaluated by selected members of the graduate faculty of the specific field to which the student is seeking admission.

**Degree Requirements**

- **Student program committee.** For registration for the first semester or summer session in residence, each student will be advised by the graduate coordinator or department head of the major field. A program committee is established for each student early in the first semester of study leading to the Ph.D. degree. The committee, consisting of four members of the graduate faculty, is made up as follows: two members representing the student’s major field (one of whom is the chairperson), one member representing the minor field, and one member from any field of the Manderson Graduate School of Business other than the major field, representing the College as a whole. The program committee guides the student in course selection and counsels the student regarding other aspects of the program. The committee may ask the student to withdraw from the program if the work attempted is not satisfactory. The program committee ceases to exist when the student passes the preliminary oral examination.

- **Scholastic requirements.** Each student’s program will be reviewed by the program committee at the end of each semester. If a student’s cumulative grade average falls below “B,” or if the student earns a “D” or “F” in a graduate course, the student may be asked to withdraw from the program.

- **Residency requirements.** For those students who are well prepared, the minimum period (following the bachelor’s degree) for earning the Ph.D. degree is three full academic years. The student is required to spend at least one continuous academic year in residence on the campus of The University of Alabama, in addition to any residency devoted to earning a master’s degree.

- **Major field requirements.** The student must choose a major field from one of the following programs: accountancy, economics, finance, management, management science, or marketing. The major field may include cognate courses offered by divisions of the University outside or within the Manderson Graduate School of Business. The student must take at least seven graduate-level courses in the major field to prepare for the written comprehensive examination.

- **Minor field requirements.** One minor field of study must be selected from within the Manderson Graduate School of Business or in a discipline outside the School that is closely related to the student’s major field of study. To satisfy the minor-field requirement, the student must meet the standards set by the program area granting the minor. In general, this means that the student must demonstrate a thorough grasp of the philosophy, methodology, and outstanding literature dealing with the minor field. The student must take a minimum of four graduate courses to satisfy the minor-field requirement. Some minor fields require a written comprehensive examination.

- **Quantitative methods requirements.** Each student is required to complete two courses in statistical methods equivalent to the content of ST 550 and ST 551, and two
additional courses involving more advanced quantitative and/or statistical methods. These two elective courses are in addition to courses selected to satisfy the major or minor field requirements. A student who selects statistics as the major or minor field may satisfy the quantitative-methods requirement by completing at least four courses involving quantitative methods in addition to those selected to satisfy the minor field requirements in statistics.

**Language/research tool requirements.** There is no University-wide or College-wide language/research tool requirement for the Ph.D. degree. Each program offering the degree may set its own requirements. In cases where the program has established a language/research tool requirement, candidates must complete the language/research tool requirement before taking the preliminary oral examination. Each student should contact the doctoral program coordinator in his or her major field for more information concerning language/research tool requirements.

**Written and oral examinations.** Each student is required to pass a written comprehensive examination in the major field, and, if required, a written comprehensive examination in the minor field(s). The examinations primarily aim to determine the student's ability to show relationships among the various segments of knowledge within the major and minor fields of study. The written examination in the major field is scheduled for each student by the department head or program director. Examinations in the minor field (if required) may be taken at any time scheduled by the respective programs. A preliminary oral examination is given after the student has successfully completed the written examinations, and after the language/research tool requirement (if any) has been satisfied. The program committee or Ph.D. written examination committee administers the preliminary oral examination. In addition, faculty representatives from within and outside the Manderson Graduate School of Business may participate as members of the examining committee. The examination may be passed satisfactorily or provisionally.

In accordance with University policy, a student may attempt each examination no more than two times. However, each student should consult his or her program's policies for the written comprehensive examination because programs may vary in approach and requirements.

**Student dissertation committee.** When the student is prepared to present a dissertation proposal, the dissertation committee is appointed by the department head or the graduate coordinator in the student's major field, in consultation with the faculty and the student. The committee consists of a minimum of five members of the graduate faculty; no fewer than two members must be from outside the student's major field and at least one member must be from outside the student's academic department. Each member of the committee must possess a terminal degree. Exceptions must be approved by the dean of the Culverhouse College of Commerce and Business Administration and by the dean of the Graduate School. The director of the dissertation is the chairperson of the committee.

Program areas may impose additional procedures for approval of dissertation proposals. The dissertation committee is responsible for admission of the student to candidacy, supervision of the dissertation, and administration of the final oral examination.

**Admission to candidacy.** Students are certified by the dean of the Graduate School for admission to candidacy for the Ph.D. degree after they have met the following requirements:

1. Completed the program of coursework approved by the program committee
2. Demonstrated in comprehensive written examinations their competence in (a) the major field and (b) each minor field requiring the written examination
3. Satisfactorily fulfilled the language/research tool requirement, if any
4. Passed the preliminary oral examination
5. Received approval of the dissertation proposal from the dissertation committee

**Dissertation requirements.** A dissertation showing power of independent research and literary skill must be prepared on some topic in the major field. The subject of the
dissertation must be approved by the student's dissertation committee.

A student who completes the coursework but fails to complete the dissertation within five years after being admitted to candidacy will be required to retake the written examinations and the preliminary oral examination. All candidates are expected to register for dissertation supervision each semester and summer session until the dissertation is completed.

Final oral examination. When the dissertation has been completed and accepted by the dissertation committee, the candidate will be given a final oral examination by the committee. This examination is primarily concerned with the research work of the candidate as embodied in the dissertation and the field in which the dissertation lies, but it may extend over the whole primary field of study. The final oral examination is governed by the rules of the Graduate School of The University of Alabama. All faculty members of the Manderson Graduate School of Business are invited to attend final oral examinations.

The candidate will present a copy of the final draft of the dissertation to each committee member at least two weeks in advance of the final oral examination. A copy of the final draft of the dissertation must be on file in the Bruno Business Library at least five days before the final oral examination.

Time limit for completion of the Ph.D. A student entering the Ph.D. program must complete all requirements for the Ph.D. degree within seven years of the date of initial matriculation in the graduate program.

If a student is dropped from the Ph.D. program for exceeding the time limits for completion of the program, the individual may petition the Culverhouse College of Commerce and Business Administration’s M.A. and Ph.D. Programs Committee for an extension of time. Extension of time and/or additional requirements for readmission to the program must be recommended to the Graduate School of The University of Alabama by the graduate faculty of the major program or school.

Course Descriptions

The courses below are offered by the Manderson Graduate School of Business. Courses offered by other divisions of the University that business students are either required to take or permitted to elect are listed under the appropriate department in this catalog or in the undergraduate catalog. Prerequisites for any course may be waived if the student has equivalent knowledge or if the student passes an examination on the required prerequisites.

CULVERHOUSE SCHOOL OF ACCOUNTANCY (AC)
Professor Robert W. Ingram, Director
Office: 314 Alston Hall

AC 432 Introduction to Corporate Governance, Risk Assessments, and Assurance Services. Three hours.
Prerequisites: AC 311 with a grade of "C-" or higher.
A risk-oriented study of standards, concepts, procedures, and professional ethics underlying corporate governance and the practice of external and internal auditing and assurance services. The course will focus on mechanisms and activities that enhance the reliability of information for decision making.

AC 456 Governmental and Nonprofit Accounting. Three hours.
Prerequisite: AC 310 with a grade of "C-" or better.
Special features of budgetary and fund accounting as applied to municipalities, other government units, and institutions such as schools and hospitals.

AC 471 Taxation of Business Transactions and Organizations. Three hours.
Prerequisites: AC 371 with a grade of "C-" or higher.
Examination of the tax implications of business formations, transactions between the entity and the owners, reorganizations, and liquidations. The course develops tax research skills.
Prerequisites: AC 389 with grade of "C-" or higher.
Implementation, security, and control of accounting information systems and e-commerce applications.

AC 500 Professional Judgment and Decision Making. Three hours.
The course is designed to improve decision-making skills using a structured decision model incorporating critical, creative, evaluative, logical, and reflective judgment processes. Cases represent professional problems in audit, tax, and management, including ethical conflicts and technical decisions.

AC 501 Basic Accounting for Managerial and Financial Control. Three hours.
Prerequisite: Admission to the EMBA program.
Study of the fundamentals of financial accounting. Attention is given to the interpretation and uses of information contained in financial statements.

AC 502 Accounting for Management Decisions. Three hours.
Prerequisite: AC 501 and admission to the EMBA program.
Study of the fundamentals of managerial accounting. Attention is given to the use of accounting by business managers.

AC 506 Concepts of Financial and Managerial Accounting. Three hours.
Prerequisite: Admission to the M.B.A. program.
Basic accounting concepts and procedures with an emphasis on the use of accounting information by business managers.

AC 510 Principles of Systems Development. Three hours.
Prerequisite: AC 489 and admission into the M.Acc. program.
Systems analysis and design methods across the development cycle: planning, analysis, design, creation, implementation, operation and maintenance. Particular attention is given to roles of accountant/auditor.

AC 512 Advanced Financial Reporting and Analysis. Three hours.
Prerequisite: AC 311 or equivalent.
Advanced topics in financial accounting and reporting considered from a practical and theoretical perspective.

AC 516 Risk Analysis and Control. Three hours.
Prerequisite: AC 506 or equivalent.
Identification of the risk profile of a business, including operational, financial, technological, and behavioral risks. Development and implementation of risk management policies and procedures used to detect and prevent business risk problems.

AC 522 Contemporary Accounting Issues. Three hours. May be repeated for up to six hours credit.
Prerequisite: Permission of the instructor.
Examination of topics of current relevance to accounting theory and practice.

AC 523 Business Valuation and Performance Measurement. Three hours.
Prerequisite: AC 506 or equivalent.
The analysis of accounting information for purposes of valuing businesses for investment, credit, and related decisions.

AC 532 Corporate Governance, Risk Assessment, and Assurance. Three hours.
Prerequisite: AC 432 or AC 516 or equivalent.
Advanced study of standards, concepts, procedures, and professional ethics underlying governance and the provision of assurance services.

AC 533 Systems Analysis and Control. Three hours.
Examination of information systems development and control issues from the perspective of ensuring relevance, reliability, and security of business systems and information.

AC 534 Fraud Risk Management. Three hours.
Prerequisite: AC 432 or AC 516 or equivalent.
Study of principles and procedures used for preventing, detecting, and reporting financial fraud and mismanagement.
AC 541 International Accounting. Three hours.
Prerequisite: AC 311 or equivalent.
Accounting and financial reporting issues associated with global business operations.

AC 554 Professional Certification. Three hours.
Examination of accounting standards and procedures required for professional accounting certification.

AC 556 Governmental and Nonprofit Accounting. Three hours.
Prerequisite: AC 310 or equivalent.
Special features of budgetary and fund accounting as applied to municipalities, other governmental units, and institutions such as schools and hospitals.

AC 561 Accounting for Business Management. Three hours.
Concepts and procedures employed in developing and using accounting information for management decisions.

AC 571 Taxation of Business Organizations. Three hours.
Prerequisite: AC 471 or equivalent.
A study of advanced tax topics with an emphasis on problem analysis, research, and preparation of proposed solutions.

AC 573 Individual Tax Planning. Three hours.
Prerequisite: AC 471 or equivalent.
A study of tax planning for individual taxpayers, including the interplay of income, estate, and gift taxes; and the taxation of partnerships, estates, and trusts.

AC 574 Special Topics in Taxation. Three hours.
A study of special tax topics, including taxation of natural resources and international taxation.

AC 575 Taxation of Corporations and Shareholders. Three hours.
Prerequisite: AC 471 or equivalent.
A study of federal income tax problems of corporations and the relationships of these problems to the tax problems of the corporate shareholder.

AC 576 Advanced Corporate Taxation. Three hours.
Prerequisite: AC 471 or equivalent.
A study of the tax accounting problems relating to corporate organizations, commonly controlled corporations, and consolidated tax returns.

AC 577 Tax Practice and Procedure. Three hours.
Prerequisite: AC 471 or equivalent.
A study of organization, policies, and procedures of federal and state taxing authorities, including consideration of problems of organizations generally exempt from tax.

AC 578 Partnership Taxation. Three hours.
Prerequisite: AC 471 or equivalent.
Designed to explore, in depth, the taxation of the formation, operation, and disposition of partnerships and LLCs. In addition, a brief review of the taxation of S corporations is presented.

AC 579 Seminar in Taxation. Three hours.
A study of selected current issues in taxation, including policy of taxation, taxation of foreign income, and taxation of special industries.

AC 589 Accounting Information Systems. Three hours.
Designed for students pursuing the M.Acc. program.

AC 591 Independent Study in Accounting. Three hours.

AC 592 Accounting Internship. Three hours.

AC 593 Research and Communication in Taxation. Three hours.
Prerequisite: AC 471 or equivalent.
A study of tax research procedures, documentation of research, and presentation of research findings.

AC 595 Accounting Research and Communication. Three hours.
Individual study of specific accounting topics and written and oral communication of the results of the study.

AC 597 Special Topics in Accounting. Variable credit.

AC 598 Research in Accounting. Variable credit.
AC 599 Thesis Research in Accounting. Variable credit.
AC 610 Introduction to Accounting Research Methods. Three hours.
Prerequisite: Ph.D. student.
Study of the production of accounting research, with specific focus on the scientific method. Intensive focus on problem identification and communication, and theory and hypothesis development.
AC 620 Advanced Accounting Research Methods. Three hours.
Prerequisite: Ph.D. student.
Study of advanced research methods with intensive focus on design and method development, data analysis, and interpretation of results.
AC 630 Archival Accounting Research. Three hours.
Prerequisite: Ph.D. student.
Study of the archival accounting research literature.
AC 640 Experimental Accounting Research. Three hours.
Prerequisite: Ph.D. student.
Study of the experimental accounting research literature.
AC 650 Directed Research. Three hours.
Prerequisite: Ph.D. student.
Examination of the literature and methodology associated with a specific research topic. Directed focus on development of second-year paper.
AC 691 Research Practicum I. Three hours.
Prerequisite: Ph.D. student.
Development of a first year project under the supervision of a faculty member. Resulting papers are presented at a departmental research workshop.
AC 692 Research Practicum II. Three hours.
Prerequisite: Ph.D. student.
Development of a second-year research project under the supervision of a faculty member. Resulting papers are presented at a departmental research workshop.
AC 698 Research Colloquium Series. One hour.
Prerequisite: Ph.D. student.
Participation in a research colloquium series involving scholars from top academic institutions.
AC 699 Dissertation Research in Accounting. Variable credit (three to nine hours).

ECONOMICS (EC)
Professor Billy P. Helms, Head
Office: 206 Alston Hall

Intermediate macro- and microeconomic theory (EC 309 and EC 308 or their equivalents) are considered prerequisites for all graduate coursework in economics, except for M.B.A.-designated courses.

A study of the various types of industry structure, conduct, and performance; business strategies; and policy alternatives. Emphasizes case studies of major types of industry.
EC 413 Economic Forecasting and Analysis. Three hours.
Prerequisites: ST 260 and MATH 121 or MATH 125.
A survey of the analytical techniques used by economists to forecast the macro- and micro-levels of economic activity and the effects of public policy on the economy.
EC 416 Monetary Theory and Policy (same as FI 416). Three hours.
An analysis of the role of money in the economy and the conduct of monetary policy. Emphasis is given to the money supply process, the demand for money, and the choice of monetary policy strategies and procedures.
EC 421 Regional Economics. Three hours.
A study from the viewpoint of economics of the interrelationships among areas of a universe of unevenly distributed and imperfectly mobile resources.
EC 422 Urban Economics. Three hours.
An analysis of the economics of community growth and the application of economic principles to solving problems and exploiting opportunities generated by the process of urban development.

EC 423 Public Finance (same as FI 423). Three hours.
A study of the principles of taxation, government expenditures, borrowing, and fiscal administration.

EC 429 Seminar in Planning. Three hours.
Prerequisite: Permission of the Committee on Urban and Regional Planning and Development.
The course surveys the practice and theory of comprehensive planning, with the primary objective of integrating the various aspects of social, political, economic, and physical relationships germane to the various planning processes.

EC 430 International Economics. Three hours.
An analysis of the theoretical principles underlying international trade, with an application of these principles to recent historical developments and to current national policies.

EC 431 International Finance (same as FI 431). Three hours.
An examination of international financial economics and the international financial system, with emphasis on the theories, techniques, and practices relevant to international financial management.

EC 440 Economic Growth and Development. Three hours.
A comparative analysis of economic strategies, problems, issues, and policy outcomes in low-income and newly industrialized countries.

EC 441 International Financial Management (same as FI 441). Three hours.
Prerequisites: FI 302 and EC/FI 431.
Study of the application of principles of financial management in an international setting, primarily from the perspective of non-financial, multinational firms.

EC 442 Economic Development in Latin America. Three hours.
A comparative analysis of economic strategies, problems, issues, and policy outcomes, with special attention given to Mexico, Costa Rica, Cuba, and Brazil.

EC 450 History of Economic Concepts. Three hours.
A study of the development of economic theory from Adam Smith to the present day.

EC 452 Economics of Regulated Industries (same as FI 452). Three hours.
Prerequisite: MATH 121 or MATH 125.
Application of selected mathematical methods to the analysis of economic problems.

EC 453 Comparative Economic Systems. Three hours.
A comparative study of the various economic systems as they operate in the major nations of the modern world.

EC 461 Modern Finance Capitalism. Three hours.
A study of the development and function of financial markets and institutions as they impact the economy, both domestically and internationally.

EC 470 Introduction to Mathematical Economics (same as FI 470). Three hours.
Prerequisite: MATH 121 or MATH 125.
Application of selected mathematical methods to the analysis of economic problems.

EC 471 Econometrics. Three hours.
Prerequisites: ST 260 and MATH 121 or MATH 125.
This course emphasizes statistical methods for analyzing data used by social scientists. Topics include simple and multiple regression analyses and the various methods of detecting and correcting data problems such as autocorrelation and heteroscedasticity.

EC 480 Economics of the Environment and Natural Resources. Three hours.
Prerequisite: EC 311.
A survey of the techniques used to estimate the benefits of environmental improvements and an analysis of public policy relating to the environment and the use of natural resources.
EC 481 Economics of the Public Sector. Three hours.
Prerequisite: EC 308.
A study of the provision of public goods and services introducing the theory of welfare economics, public choice, and cost-benefit analysis.

EC 482 Senior Seminar on Economic Issues. Three hours.
Group discussions of current economic issues together with analysis and policy recommendations.

EC 483 Health Care Economics. Three hours.
Prerequisites: EC 110, EC 111, and EC 308.
An investigation of the microeconomics of the American health care delivery system. The course focuses on the demand for and supply of health care services and emphasizes the efficiency and equity characteristics of the system.

EC 491 Independent Study. Variable credit.

EC 492 Internship. Three hours.

EC 497 Special Topics in Economics. Three hours.

EC 500 (M.B.A.) Managerial Economics. Three hours.
An introduction to the foundations of both micro- and macroeconomic analysis, including consumer demand, production and cost analysis, price determination, and macroeconomic theory and policy. Emphasis is on the theory of the firm.

EC 503 (M.B.A.) Economics of the Firm. Three hours.
An introduction to the foundations of economic analysis as it applies to consumer and firm behavior. Emphasis is on market structures and pricing decisions.

EC 508 Microeconomic Theory. Three hours.
Prerequisites: EC 308 or equivalent and MATH 125 or equivalent.
An examination of the theory of resource allocation. Topics include demand theory, production and cost functions, theory of markets, general equilibrium analysis, and welfare theory.

EC 509 Macroeconomic Theory and Policy. Three hours.
Prerequisite: EC 508, EC 308, or permission of the instructor.
This overview of modern macroeconomic theory and its implications for the conduct of stabilization policies is intended to provide a solid background in macroeconomics for students not seeking a terminal degree in economics or for students preparing for EC 511. The course considers the microeconomic foundations of aggregate economic analysis, but with less mathematical rigor than in EC 511.

EC 510 Advanced Microeconomic Theory. Three hours.
A thorough examination of advanced value theory and a brief survey of distribution theory.

EC 511 Advanced Macroeconomic Theory. Three hours.
Modern theory of aggregate income and employment, with application to analysis of stabilization policies.

EC 512 Industrial Organization and Public Policy. Three hours.
Prerequisite: EC 508 or equivalent.
The theoretical and empirical study of large industrial firms in a market economy. The focus is on corporate and governmental policies affecting markets.

EC 513 (M.B.A.) Macroeconomic Policy. Three hours.
Prerequisite: ST 509 (M.B.A.) or equivalent.
A survey of the fundamental aspects of national income and price level analysis. Emphasis is placed on the policy implications of current theoretic issues.

EC 516 Monetary Theory and Policy (same as FI 516). Three hours.
Prerequisites: EC 508 and EC 509 or equivalents.
Theoretical and empirical analysis of the money supply process, the demand for money, the impact of money on the economy, and the implementation of monetary policy.

EC 523 Public Finance. Three hours.
Prerequisites: EC 508 and EC 470.
Study of the principles of taxation, government expenditures, borrowing, and fiscal administration.
EC 530 International Economics. Three hours.
Prerequisite: EC 430 or equivalent.
Analysis and policy implications relating to the international movement of goods, resources, and financial assets.

EC 531 International Finance (same as FI 531). Three hours.
Prerequisite: EC 430 or equivalent.
An examination of the foreign exchange market, exchange rate determination, international financial institutions, and the management of the risks associated with international business.

EC 540 The Theory of Economic Development. Three hours.
A comprehensive study of classical and modern theories of economic progress. Particular emphasis is given to the less developed countries and to the role of institutions.

EC 550 Survey of Development of Economic Thought. Three hours.
A study in the development of economic ideas, from the classical writers down to the present.

EC 570 Mathematical Economics (same as FI 570). Three hours.
Prerequisite: EC 470 or equivalent.
An introduction to mathematical tools commonly used in advanced economic theory and econometrics.

EC 571 Econometrics. Three hours.
Prerequisite: EC 570 or equivalent.
Corequisite: ST 551 or equivalent.
A quantitative analysis of actual economic phenomena based on the current development of theory and observation, related by appropriate methods of inference.

EC 591 Independent Study. Variable credit.
EC 597 Special Topics in Economics. Variable credit.
EC 598 Introduction to Economic Research. Variable credit.
EC 599 M.A. or M.S.C. Thesis Supervision. Variable credit.

EC 610 Seminar in Microeconomic Theory. Three hours.
Prerequisite: Graduate student status and permission of the instructor.
An advanced study of the modern theory of value and price. The seminar includes demand and supply analysis, marginal analysis, and the monopolistic and competitive structure of markets.

EC 611 Seminar in Macroeconomic Theory. Three hours.
Prerequisite: Graduate student status and permission of the instructor.
Selected topics in contemporary macroeconomic theory, with emphasis on dynamic analysis of cyclical fluctuations, stabilization policies, and growth.

EC 612 Seminar in Industrial Organization. Three hours.
Prerequisite: EC 512 or equivalent.
A survey of selected topics in industrial organization. Both theoretical and applied topics are examined, with special emphasis on recent developments.

EC 615 Distribution Theory. Three hours.
Prerequisite: Graduate standing.
Analysis of welfare economics as applied to income and wealth distributions. Methods of measuring and evaluating poverty, inequality, growth, income mobility, and redistributive policies.

EC 616 Seminar in Monetary Economics (same as FI 616). Three hours.
Prerequisite: EC 516 or equivalent.
Selected topics in contemporary monetary theory, with emphasis on determination of the value of money and the effectiveness of monetary policies.

EC 622 Seminar in Public Finance (same as FI 622). Three hours.
Prerequisite: EC 581 or equivalent.
A seminar on recent developments in public economics, with emphasis on the theory of taxation including tax incentives and tax incidence.
EC 623 Public Expenditure and Policy Analysis. Three hours.  
Prerequisite: EC 510 or equivalent. 
A survey of the public-economics literature, with emphasis on the theory of public goods, 
public choice, and income distribution policies. 

EC 630 International Trade Theory. Three hours.  
Prerequisite: EC 610 or permission of the instructor. 
A survey of selected topics in international trade with emphasis on the basis for trade 
and the welfare effects of trade policy. 

EC 631 Seminar in International Finance (same as FI 631). Three hours.  
Prerequisite: EC 531 or equivalent. 
A survey of the most important professional literature dealing with international financial 
management. 

EC 640 Theory of Risk and Insurance (same as FI 640). Three hours.  
Prerequisite: Graduate standing. 
Foundation of insurance in risk theory and its problems and practices. 

EC 641 Seminar in the International Economics of Development. Three hours.  
Prerequisite: EC 430, EC 440, or equivalent. 
Consideration of advanced literature in international economics, with emphasis on 
those issues that relate to less developed countries: trade, multinational enterprise, 
and external debt problems. 

EC 650 Seminar in Economic Thought. Three hours.  
Prerequisite: EC 550 or equivalent. 
An examination of the literature on economic analysis and policy. The course aims at 
establishing a synthesis of evolving doctrines that have become, and are formulating, 
the basis of accepted economic theory and policy. 

EC 653 Comparative Economic Systems. Three hours.  
A comparative analysis of market and non-market theoretical economic systems from 
the viewpoint of economic welfare. 

EC 660 Game Theory. Three hours.  
Prerequisites: EC 610 and EC 470. 
An introduction to non-cooperative game theory. Emphasis on applications in microeco-
nomics and macroeconomics. 

EC 671 Seminar in Econometrics. Three hours.  
Prerequisite: EC 571 or equivalent. 
A study of selected topics and problems in econometrics emphasizing methodology for 
economic research measurements. 

EC 672 Financial Econometric Modeling. Three hours.  
Prerequisite: EC 571 or ST 570. 
The application of econometric time-series methods to financial data. GARCH, nonlinear 
and cointegration models will be emphasized. 

EC 698 Research in Economics. Three hours.  
These courses consist of supervised study and investigation of specific problems in 
economics. They are open only to graduate students nearing completion of coursework 
for the degree. 

EC 110 and EC 111 or their equivalents are prerequisites for all graduate coursework in finance, except for M.B.A.-designated courses.

FI 411 Corporate Financial Policy. Three hours.
Prerequisite: FI 302.
An integrative course designed to give the student experience in problem solving in finance. Cases will be used to permit students to apply what they know to specific business problems.

FI 412 Money and Capital Markets. Three hours.
Prerequisites: FI 301 and FI 302.
An overview of the financing process and the role of financial markets. Areas covered are aggregate investment and savings behavior; money, capital markets, and flow of funds; determinants and the relationships between different asset prices (i.e., fixed income and equity yields); the role of financial intermediates and the impact of their portfolio policy; and international aspects of financial markets.

FI 414 Investments. Three hours.
Prerequisites: FI 301 and FI 302.
A study of the various investment media together with analysis of factors involved in the development of a well-balanced investment program.

FI 415 Advanced Investment Topics and Portfolio Management. Three hours.
Prerequisite: FI 414.
The aim of this course is to acquaint the student with standards for the selection of securities of investment quality.

FI 416 Monetary Theory and Policy (same as EC 416). Three hours.
Prerequisite: FI 301.
An analysis of the role of money in the economy and the conduct of monetary policy. Emphasis is given to the money supply process, the demand for money, and the choice of monetary policy strategies and procedures.

FI 419 Financial Engineering. Three hours.
Prerequisite: FI 414.
Function, techniques, and impact of speculation conducted through forward markets, and the nature of speculative transactions, pricing, and methods of trading.

FI 421 Bank Administration. Three hours.
Prerequisites: FI 301 and FI 302.
A survey of analytical methods in banking, including a study of the powers of the various government agencies. Emphasis is placed on the managerial aspects of commercial banking.

FI 423 Public Finance (same as EC 423). Three hours.
A study of the principles of taxation, government expenditures, borrowing, and fiscal administration.

FI 431 International Finance (same as EC 431). Three hours.
An examination of international financial economics and the international financial system, with emphasis on theories, techniques, and practices relevant to international financial management.

FI 432 Real Estate Appraisal. Three hours.
A study of the sources of real estate value, the techniques for estimating property value, and the effective use of appraisal information.

FI 436 Real Estate Finance. Three hours.
Prerequisites: FI 301 and FI 302.
A study of the institutions of real estate finance. Factors affecting the flow of funds, investment analysis, and procedures involved in real estate financing.

FI 441 International Financial Management (same as EC 441). Three hours.
Prerequisites: FI 302 and EC/FI 431.
Study of the application of principles of financial management in an international setting, primarily from the perspective of non-financial, multinational firms.
FI 442 Business Risk Management. Three hours.
The role of insurance in serving business firms and governmental bodies exposed to economic loss.

FI 443 Property and Liability Insurance. Three hours.
Current financial, legal, and social problems concerning the property-liability insurance industry. Role of government in providing insurance and topics in the management of property-liability insurance companies and agencies.

FI 444 Life and Health Insurance. Three hours.
Detailed analysis of life insurance and health insurance with emphasis on their role in employee-benefit planning. Specific provisions of qualified retirement plans. Current problems facing the life insurance industry and analysis of the distribution system for life and health insurance. Topics in management of life and health insurance companies and agencies.

FI 452 Economics of Regulated Industries (same as EC 452). Three hours.
An examination of the form of regulation and its impact on American industries, encompassing both traditional public-utility regulation and newer, social regulation (e.g., environmental and health-and-safety regulation).

FI 491 Independent Study. Variable credit.
FI 492 Internship. Three hours.
FI 497 Special Topics in Finance. Three hours.
Corporate financial planning and decision making; working capital management, capital budgeting, financing, risk-return analysis, valuation, and dividend policy.

FI 505 Corporate Valuation. Three hours.
Prerequisite: FI 504 (M.B.A.) or equivalent.
A case study course designed to give the student an opportunity to apply financial theory to specific business problems.

FI 506 Mergers and Acquisitions. Three hours.
Prerequisite: FI 504, FI 510, or equivalent.
An examination of corporate acquisitions, including firm valuation, bidding contests, and defense managers, as well as the corporate tax and legal environment.

FI 510 Financial Management. Three hours.
Prerequisite: FI 302 or permission of the instructor.
A course concerned with the management of corporate capital. Emphasis is on analysis of problems.

FI 512 Money and Capital Markets. Three hours.
A detailed analysis of the role of money and capital markets in the financial process and of the influence outside forces have on these markets.

FI 514 Investments. Three hours.
Prerequisites: FI 301 and FI 302 or equivalents.
An overview of the investment decision process. Areas covered are financial statement analysis, risk measures, stock-price valuation models, and portfolio management.

FI 515 Quantitative Investment Analysis. Three hours.
Prerequisite: FI 514 or permission of the graduate adviser.
Acquaints the student with the quantitative approaches used in modern portfolio theory and investment analysis.

FI 516 Monetary Theory and Policy (same as EC 516). Three hours.
Prerequisites: EC 510 and EC 511 or equivalents.
Theoretical and empirical analysis of the money supply process, the demand for money, the impact of money on the economy, and the implementation of monetary policy.

FI 519 Financial Engineering. Three hours.
Prerequisite: FI 514 or equivalent.
A study of options and futures markets, with emphasis on the nature of speculative transactions, pricing, and method of trading.
FI 520 Advanced Financial Engineering. Three hours.
Prerequisite: FI 519.
Advanced methodologies of valuing and managing structured notes and mortgage-backed securities are introduced, including lattice approaches, simulation and option-adjusted spreads. The C++ object-oriented framework is introduced.

FI 522 Bank Administration. Three hours.
Prerequisites: FI 301 and FI 302.
A case course examining various aspects of managing a commercial bank in a dynamic environment.

An analysis of the role of financial markets (especially equity markets) and financial institutions in the economy.

FI 531 International Finance (same as EC 531). Three hours.
Prerequisite: EC 430 or equivalent.
An examination of the foreign exchange market, exchange rate determination, international financial institutions, and the management of the risks associated with international business.

FI 534 Seminar in Real Estate. Three hours.
Prerequisite: Graduate standing.
A survey of the major topics and issues in real estate, including real estate investment, alternative financing arrangements, law and agency theory, appraisal, market analysis, taxation, and brokerage.

FI 535 Seminar in Real Estate Investment. Three hours.
Prerequisite: FI 534 or equivalent.
A study of the concepts and principles of real property valuation and the analysis of real estate investments.

FI 591 Independent Study. Variable credit.

FI 597 Special Topics in Finance. Variable credit.

FI 598 Research. Variable credit.

FI 599 Thesis Research. Three hours.

FI 600 Research Methods for Finance. Three hours.
Prerequisite: FI 470 or EC 471.
Emphasis on the different approaches and techniques used by financial researchers. Hands-on experience with data analysis is required.

FI 601 Finance Theory I. Three hours.
Prerequisite: FI 510.
Advanced practices of financial management and their application to decision making in the business firm.

FI 602 Advanced Finance Theory II. Three hours.
Prerequisite: FI 511.
An extension of the content of previous courses to summarize modern developments in financial theory.

FI 610 Seminar in Financial Management. Three hours.
Advanced management theory and techniques in the finance area. Emphasis is on current publications in the academic finance literature.

FI 614 Seminar in Investments. Three hours.
Provides an understanding of theoretical and functional aspects of professional investment management theory.

FI 616 Seminar in Monetary Economics (same as EC 616). Three hours.
Prerequisite: FI 516 or equivalent.
Selected topics in contemporary monetary theory, with emphasis on determination of the value of money and the effectiveness of monetary policies.

FI 620 Market Microstructure Theory. Three hours.
Prerequisite: EC 610 or permission of the instructor.
This course provides exposure to the major theoretical models that examine how the structure of markets affects price formation, information transmission, and operational efficiency.
FI 622 Seminar in Public Finance (same as EC 622). Three hours.  
Prerequisite: EC 581 or equivalent.  
A seminar on recent developments in public economics, with emphasis on the theory of taxation including tax incentives and tax incidence.

FI 624 Seminar in Financial Markets. Three hours.  
This seminar provides for a deep understanding of the monetary and financial system, required of finance specialists in corporate finance, banking, and investments.

FI 631 Seminar in International Finance (same as EC 631). Three hours.  
Prerequisite: FI 531 or equivalent.  
A survey of the most important professional literature dealing with international financial management.

FI 633 Principles of Land Utilization. Three hours.  
A study of factors affecting land use, land use patterns, and the development and measurement of land values, and of problems related to the optimization of land values and the maintenance of the highest and best use of land.

FI 634 Land Utilization Policy. Three hours.  
A study of the impact on the use of land and the control of the use of land of private investment activity and public activities, including monetary management, fiscal policy, federal aid to highways, FHA, VA, urban renewal, and public housing programs.

FI 640 Theory of Risk and Insurance (same as EC 640). Three hours.  
Prerequisite: Graduate standing.  
The foundation of insurance in risk theory and its problems and practices.

FI 641 The Social and Economic Functions of Insurance Enterprises. Three hours.  
Prerequisite: Graduate standing.  
The functions performed within insurance and insurance-related institutions and the response of management to the changing needs of society.

FI 649 Seminar on Insurance and Its Environment. Three hours.  
The institution of insurance is viewed as one of many approaches to achieve environmental security.

FI 698 Research in Finance. Three hours.  

GENERAL BUSINESS ADMINISTRATION (GBA)  
Professor Ronald E. Dulek, Head  
Office: 104 Alston Hall

GBA 501 (M.B.A.) Professional Development. One hour.  
Mini-lectures on current topics related to the profession of business.

GBA 525 Strategy Formulation and Implementation. Three hours.  
An integrative study of the manager’s role as chief strategy maker and chief strategy implementer, using case analysis and management simulation techniques.

GBA 526 Competitive Strategy. Three hours.  
Prerequisite: GBA 525 or equivalent.  
Examines conceptual tools for the in-depth analysis of industries and competitors; how to build and defend competitive advantages and how to formulate a successful competitive strategy. Usually offered spring semester.

GBA 527 Managing Strategy Implementation. Three hours.  
Prerequisite: GBA 525 or equivalent.  
An examination of the tasks of strategic leadership and the action alternatives for matching internal organizational conditions to the requirements of strategy execution. Usually offered spring semester.

GBA 570 Starting New Ventures. Three hours.  
Focuses on strategy development, planning, identification of market opportunities, capital structure, organization, and operations start-up as applied to new-venture management.
GBA 571 Management of Health Care Organizations. Three hours.
Prerequisites: MGT 517 (M.B.A.) or equivalent and EC 503 (M.B.A.) or equivalent.
An analysis of the problems, issues, and environmental forces affecting management in health care organizations. Emphasis is given to the role of management and its particular functions in a health care environment.

GBA 591 Independent Study. Three hours.
Open to all graduate students on an elective basis. This course offers students an opportunity to pursue a course of study that they design according to their own interests. Students may also work on a faculty-directed research project and receive credit.

GBA 592 Managerial Internship. Three hours.
Open to all graduate students on an elective basis. Through the cooperation of participating organizations, students are exposed to actual management situations and are given an opportunity to apply classroom knowledge to practical decision problems.

HEALTH CARE MANAGEMENT (HCM)
Professor Ronald E. Dulek, Head
Office: 104 Alston Hall

HCM 571 Management of Health Care Organizations. Three hours.
Prerequisites: MGT 517 (M.B.A.) or equivalent and EC 500 (M.B.A.) or equivalent.
An analysis of the problems, issues, and environmental forces affecting management in health care organizations. Emphasis is given to the role of management and its particular functions in a health care environment.

HCM 573 Advanced Issues in Health Care Management. Three hours.
Prerequisites: Graduate status with: an undergraduate degree or enrollment in HCM, or health care related field; or enrollment in the MBA program, or instructor’s permission.
This course examines current policy and social issues in health care management. Students develop the analytical skills needed by decision makers of health care organizations.

INTERNATIONAL BUSINESS ADMINISTRATION (IBA)
Professor Ronald E. Dulek, Head
Office: 104 Alston Hall

Students who are interested in international business may select a concentration in economics or marketing. International courses are offered in marketing, economics, finance, legal studies, and accounting. It is strongly recommended that interested business students develop a working knowledge of a language other than English. Opportunities for dissertation research in international business are available in economics, management, and marketing.

IBA 550 Global Business. Three hours.
A seminar emphasizing the environmental factors affecting international business operations, and studying different economic, social, cultural, legal, and other environmental conditions and their influence on both the formulation and execution of business policy of firms engaged in multinational business.

IBA 551 International Business Management. Three hours.
A seminar acquainting the student with the functions, problems, and decision-making processes of multinational business organizations. Representative cases are used as a basis for decisions. Offered spring semester.

IBA 555 Global Marketing Management. Three hours.
The object of this course is to investigate the effects of cultural similarities and differences on marketing practices worldwide. Also examined are the effects of market idiosyncrasies on globally oriented products, promotion, pricing, and distribution strategies.
Other International Course Offerings

**EC 430 International Economics.** Three hours. Analysis of the theoretical principles underlying international trade, with an application of these principles to recent historical developments and to current national policies.

**EC 530 International Economics.** Three hours. Prerequisite: EC 430 or equivalent. Analysis and policy implications relating to the international movement of goods, resources, and financial assets.

**FI 431 International Finance** (same as EC 431). Three hours. An examination of international financial economics and the international financial system, with emphasis on theories, techniques, and practices relevant to international financial management.

**FI 441 International Financial Management** (same as EC 441). Three hours. Prerequisites: FI 302 and EC/FI 431. Study of the application of principles of financial management in an international setting, primarily from the perspective of non-financial, multinational firms.

**FI 531 International Finance** (same as EC 531). Three hours. Prerequisite: EC 430 or equivalent. An examination of the foreign exchange market, exchange rate determination, international financial institutions, and the management of the risks associated with international business.

**LGS 405 International Business Law.** Three hours. Prerequisite: LGS 402 recommended. This course is concerned with law pertaining to international marketing, regulations pertaining to import-export trade, etc.

**MKT 455 International Marketing.** Three hours. An examination of the various political, economic, legal, and cultural systems and their effects on the global marketing of products and services, with particular focus on product, promotion, pricing, and distribution decisions.

**MKT 460 Export-Import Management** (same as IBA 460). Three hours. Includes a thorough examination of export-import management processes and highlights the importance of examination in international business strategy.

**LEGAL STUDIES (LGS)**

Professor Billy P. Helms, Head  
Office: 206 Alston Hall

The School does not offer a graduate-level major program in legal studies. However, these courses will add breadth and a valuable background to any of the available graduate programs, by incorporating understanding of law within other disciplines.

**LGS 402 Government and Business.** Three hours. Prerequisite: EC 111. This course is designed to give students some information about the regulations government may or may not impose on business, leaving students free to form their own conclusions as to the wisdom, adequacy, and practicability of the regulations. A survey of basic constitutional principles and the legal aspects of recent federal legislation affecting business and antitrust laws.

**LGS 403 Estates and Trusts.** Three hours. This course treats principles and rules of law relating to wills and inheritances; how the estates of deceased persons are administered; why and how trusts are created and their operation; and the duties and settlement of executors, administrators, and trustees.

**LGS 404 Legal Issues in the Accounting Profession.** Three hours. Prerequisite: LGS 200. A study of various legal issues in the accounting profession. Among the topics covered are accountant liability, commercial transactions, and business organizations.
LGS 405 International Business Law. Three hours.
Prerequisite: LGS 402 recommended.
This course is concerned with law pertaining to international marketing, regulations pertaining to import-export trade, etc.

LGS 407 Real and Personal Property Law. Three hours.
This course is concerned with the conveyance of property, deeds, covenants, condemnation of property, rights of landlord and tenant, and bailments.

LGS 408 Law of Business Organizations. Three hours.
This course covers the law of business organizations, their formation, and bankruptcy.

LGS 472 Legal Aspects of Health Care (same as HCM 472). Three hours.
Prerequisite: HCM 370.
Examines aspects of the law that are of most concern to individuals in health care management, including administrative law, hospital law, welfare law, public health law, and licensing and legislation.

LGS 491 Independent Study. Variable credit.

LGS 504 Legal Issues in Accounting. Three hours.
Prerequisite: LGS 200.
Study of various legal issues in the accounting profession. Among topics covered are accountant liability, commercial transactions, and business organizations.

LGS 522 (M.B.A.) The Legal and Ethical Environment of Business. Three hours.
A study of the legal system, with an emphasis on government regulation, including antitrust law.

LGS 591 Independent Study. Variable credit.

LGS 597 Special Topics in Legal Studies. Variable credit.

LGS 600 Problems in International Business Law. Three hours.

MANAGEMENT (MGT)
Professor Ronald E. Dulek, Head
Office: 104 Alston Hall

MGT 420 Organizational Change. Three hours.
Prerequisite: MGT 300 or permission of the instructor.
An investigation of task, structure, technological, and humanistic approaches to organizational change; the resistance to change; and the implementation of change in business, private, and public organizations.

MGT 421 Managerial Analysis. Three hours.
This course uses case analysis to examine the development and implementation of managerial actions in modern organizations.

MGT 510 Research Methods in Management. Three hours.
This course familiarizes the student with the basic methodology for addressing issues and solving problems in modern organizations.

MGT 511 Employee Recruitment, Selection, and Placement. Three hours.
A course designed to acquaint the student with a scientific approach to the selection, training, and placement of employees. Validation of selection practices and evaluation of training programs are emphasized.

MGT 517 (M.B.A.) Organizational Theory and Behavior. Three hours.
Analysis of organizational theory and structure, the behavior of individuals and groups within organizations, the management of personnel, and organizational change.

MGT 520 Change Management. Three hours.
The major objective of the course is to introduce students to the most recent thinking about strategic change, its drivers, and the techniques that are currently used for its management.

MGT 527 Strategic Human Resources Management. Three hours.
An analysis of the methods and techniques used in the management of human resources.

MGT 530 Labor Economics. Three hours.
A course in the methods of economic analysis of the major problems of labor. Micro- and macroanalysis of wages, hours, employment, labor markets, and related public labor.
MGT 532 Employee Relations. Three hours.
A critical examination of the factors that condition employee relations in both the private and public sectors. Topics covered include philosophies of management and how organizations resolve friction, the concept of industrial relations, systems theory, minority employment, and work and discontent.

MGT 542 Management Communication. Three hours.
Methodology for understanding both written and oral presentations. Students develop a language to use to manage written and oral verbal skills in specific business environments.

MGT 582 New Venture Development. Three hours.
This course provides an opportunity to develop a business plan for a new venture or for expansion of an existing company. Students are expected to acquire skills in evaluating business ventures; to learn alternative financing sources; to develop ideas for differentiating products; and to develop an understanding of what is required to harvest the profits of a growing business.

MGT 586 Small Business Consulting Field Project. Three hours.
Prerequisite: By invitation only.
This course is designed to offer education and training in the art of management consulting as it applies to smaller firms. The overall purpose of the course is the acquisition of knowledge and skills that will enable students to provide management advice to entrepreneurs and businesspersons to improve the performance of smaller organizations.

MGT 591 Independent Study in Human Resources Management. Three hours.
Open to graduate students with the approval of the chairperson of the human resources management program. This course offers graduate students in human resources management the opportunity to undertake a specialized course of study, under the guidance of an individual faculty member.

MGT 592 Internship in Human Resources Management. Three hours.
Open to graduate students with the approval of the chairperson of the human resources management program. Graduate students receive on-the-job experience in human resources management in actual organizational settings, under the joint guidance of the cooperating organizational officials and faculty members.

MGT 597 Contemporary Issues in Performance Management. Three hours.
A graduate seminar devoted to the study of current topics of interest.

MGT 598 Research in Management. Three hours.
A supervised study of specific issues and problems in management. The course is open to students in their final semester of coursework leading to the completion of a master's degree in management.

MGT 599 Thesis Research. Variable credit.

MGT 610 Introduction to Management Thinking. Three hours.
A critical analysis of the theories as well as the study of selected problems and developments in management thinking. The course places particular emphasis on the application of a wide range of social science theory and research to the study of managerial thought.

MGT 620 Organizational Behavior and Individual Performance. Three hours.
A course designed to develop thorough understanding of individual behavior within formal organizations. Consideration is given to a number of important behavioral processes, including learning, perception, attitudinal structuring, conflict, motivation, and social reinforcement. Attention is devoted to the individual's effect on the organization and the way behavior affects the achievement of organizational goals.

MGT 621 Organizational Behavior and Group Performance. Three hours.
A study of human interaction and interpersonal behavior within working relationships. Emphasis is given to findings of the behavioral sciences as related to management problems. Theoretical and empirical approaches to issues such as communication, socialization, and role theory are presented.

MGT 622 The Management of Organizational Change. Three hours.
A course that gives special attention to the human aspects of problems that arise in technical, social, and organizational arenas faced with the need to change. The course includes detailed analyses of organizations as systems and of organizational leadership, change, and development.
MGT 623 Contemporary Issues in Organizational Theory. Three hours.
This course deals with the definition and grouping of work units, the relationships between
work units, and the assignment of decision-making authority to units within a contingency
framework. Special emphasis is placed on the influence of the external environment on
the structure and design of the organization.

MGT 679 Theory Development and Testing (same as MKT 679). Three hours.

MGT 698 Research in Organizational Management. Three hours.
A course that provides an overview of theory, research, and techniques associated with
the investigation of specific research problems in the fields of personnel management,
industrial relations, and organizational behavior.


MANAGEMENT INFORMATION SYSTEMS (MIS)
Professor Edward R. Mansfield, Head
Office: 300 Alston Hall

MIS 430 Systems Analysis and Design I. Three hours.
Prerequisites: MIS 320, MIS 330, and CS 325 or CS 326.
Corequisite: MIS 450.
Intermediate-level skills in systems analysis and design techniques are presented.
Emphasis is placed on project-level systems development utilizing SDLC, RAD, CASE,
and project management.

MIS 431 Systems Analysis and Design II. Three hours.
Prerequisites: MIS 430 and MIS 450.
Corequisite: MIS 451.
Advanced-level skills in systems analysis and design techniques are presented. Emphasis
is placed on enterprise-level systems development, creation of tailored methodologies,
creation of architectural standards, and business strategy alignment.

MIS 440 Decision Support Systems. Three hours.
Prerequisite: MIS 430.
This course assesses information requirements to support the various types of busi-
ness decisions in an organization. Students develop the specifications for each of the
components of a model-based information system designed to support effective mana-
gerial decision making.

MIS 450 Systems Construction and Implementation I. Three hours.
Prerequisites: MIS 320, MIS 330, and CS 325 or CS 326.
Corequisite: MIS 430.
Leveraging software development skills honed in junior-level MIS and CS courses,
students develop skills to code and test functional application systems.

MIS 451 Systems Construction and Implementation II. Three hours.
Prerequisites: MIS 430 and MIS 450.
Corequisite: MIS 431.
Students code, test, and implement large-scale application systems. User and system
documentation is developed and maintained. Conversion, migration, training, and op-
erations plans and budgets are emphasized.

MIS 491 Independent Study in Management Information Systems. Three hours.
Students may earn degree credit for only one independent study course (491).

MIS 492 Internship. Three hours.
Prerequisites: Junior or senior standing and a GPA of 2.50 or higher.
Students are selected through a competitive process for assignments in approved business
or public-sector organizations. The internship is administered through the C&BA Office
of Student Services. Students may earn degree credit for only one internship (492).

MIS 497 Special Topics. Three hours.

MIS 510 Principles of Systems Development. Three hours.
Prerequisites: AC 489 and admission into the M.Acc. program.
The role of accountants and auditors in the design, development, and operations of
management information systems is addressed.
**MIS 511 Management Information Systems.** Three hours. 
Motivation for, construction of, and application of MIS. Topics include IS strategic alignment, information intensive business processes, and decision making. Business analysis techniques are emphasized for systems such as TPS, e-business, management reporting systems, and data warehouses.

**MIS 516 Practicum.** Three hours.
Prerequisite: MIS 514 (offered in Interim session). 
Experiential learning in a dual-coached, commercial IS environment reporting to faculty and organizational management. Projects started during the practicum continue through the remainder of the program.

**MIS 520 Systems Analysis and Design.** Three hours.
Prerequisite: MIS 511. 
Methodologies of systems analysis and design are introduced, including conducting feasibility studies, analysis, and designing application software through the SDLC, prototyping, and rapid application development.

**MIS 525 Information Systems Project Management.** Three hours.
Prerequisites: MIS 514 (offered in Interim session) and admission to the MBA/MIS program.
Corequisite: MIS 520. 
The role of systems consultants in defining, planning, directing, monitoring, and controlling the development of acceptable information technology business solutions on time and within budget.

**MIS 527 Emerging Information Technologies Seminar.** Three hours.
Prerequisites: MIS 516 and admission to the MBA/MIS program.
Corequisite: MIS 520. 
Exploration of the capabilities, potential uses, constraints, value and implications of emerging information technologies through formal methods of analysis, measurement, and evaluation.

**MIS 530 Systems Development and Implementation.** Three hours.
Prerequisite: MIS 520. 
Methodologies of systems development and implementation are introduced, including managing the software development process, interface design, technology considerations, prototyping, JAD, OO, control, and performance evaluation.

**MIS 535 Information Systems Consulting.** Three hours.
Prerequisites: MIS 520 and MIS 525.
Corequisites: MIS 530 and GBA 527. 
Exploration of the role of information systems consultants in client relationship management, proposal development, scope negotiation, component-based costing, knowledge acquisition, knowledge management, software module and deliverable integration, systems deployment, and change management.

**MIS 540 Database Design, Construction, and Operations.** Three hours.
Prerequisite: MIS 514 (offered in Interim session) or permission of the instructor. 
Emphasizes commercial business application of relational DBMS. Topics include semantic data modeling, normalization, process triggers, enterprise integrated, ODBC, n-tier architecture, e-business application, and performance tuning.

**MIS 542 Data Communication Design and Construction.** Three hours.
Prerequisite: MIS 514 (offered in Interim session) or permission of the instructor. 
Advanced data communication design and construction concepts are explored, emphasizing the interaction between DC and software applications including international protocols, e-business, and mobile applications.

**MIS 544 Systems Engineering Concepts.** Three hours.
Prerequisite: MIS 520 or permission of the instructor. 
Introduction to systems engineering best practices, including the foundations of architecture-based systems and component-based development.

**MIS 591 Independent Study in Management Information Systems.** Three hours.
**MIS 592 Internship in Management Information Systems.** Three hours.
**MIS 597 Special Topics in Management Information Systems.** Variable credit.
MIS 598 Research in Management Information Systems. Variable credit.
Open to students nearing completion of coursework for the master’s degree. A supervised study and investigation of specific problems in management and management information systems.


MIS 670 MIS Research Seminar I. Three hours.
Prerequisite: Must be a C&BA Ph.D. student.
The exploration of MIS research issues. Emphasis is placed on exploring the scientific method, theory building research, and methods of inquiry. Provides a framework for undertaking and evaluating MIS research.

MIS 680 MIS Research Seminar II. Three hours.
Prerequisite: MIS 670.
A continuation of MIS 670 designed to explore empirical testing research and methods.

MIS 685 MIS Research Seminar III. Three hours.
Prerequisite: MIS 680.
Examination of recent information systems development research. After reviewing current research in the area, participants will evaluate the state of IS development research and then draft a research proposal to address a critical research question of interest and merit.

MIS 698 Research in Management Information Systems. Three hours.
Open to students nearing completion of coursework for the Ph.D. degree. A supervised study and investigation of specific problems in management information systems.


MANAGEMENT SCIENCE (MGS)
Professor Edward R. Mansfield, Head
Office: 300 Alston Hall

MGS 400 Management Science I. Three hours.
Prerequisites: CS 102 and MATH 125.
Deterministic models in the decision-making process. Attention is given to the assumptions, development, and administrative implications of mathematical programming models and network models.

MGS 401 Management Science II. Three hours.
Prerequisite: MGS 400.
Probabilistic models in the decision-making process. Attention is given to the assumptions, development, and administrative implications of queuing, reliability, game theory, Markov, and decision models.

MGS 420 Computer Simulation (same as OM 420). Three hours.
Prerequisite: CS 102.
Development and use of systems models for simulating administrative decision-making processes.

MGS 491 Independent Study in Management Science. Three hours.
Students may earn degree credit for only one independent study course (491).

MGS 492 Internship. Three hours.
Prerequisites: Junior or senior standing and a GPA of 2.50 or higher.
Students may earn degree credit for only one internship (492). Students are selected through a competitive process for assignments in approved business or public-sector organizations. The internship is administered through the C&BA Office of Student Services.

MGS 497 Special Topics. Three hours.

MGS 500 Management Science I. Three hours.
Prerequisite: CS 110.
Corequisite: MATH 255.
Mathematical programming techniques in the decision-making process. Attention is given to the assumptions, development, and administrative implications of optimization models and network models.
MGS 501 Management Science II. Three hours.
Prerequisite: MGS 500.
Probabilistic models in the decision-making process. Attention is given to the assumptions, development, and administrative implications of queuing, Markov chains, and dynamic programming.

MGS 502 Management Science III. Three hours.
Prerequisite: MGS 500.
Nonlinear programs, multiple criteria, and inventory and simulation models.

Prerequisite: ST 509 or equivalent.
Operations research concepts and applications in decision making. Emphasis is on problem formulation and interpretation of results using computer-based solution procedures.

MGS 516 (M.B.A.) Production Management. Three hours.
Prerequisite: ST 509 or equivalent.
Analytical study of the management of processes that transform inputs to outputs, with concentration on designing, planning, directing, and controlling.

MGS 517 Production and Operations Management II. Three hours.
Prerequisite: MGS 516.
This course is a continuation of the coverage of production and operations management topics begun in MGS 516.

MGS 522 Production Scheduling Problems. Three hours.
Prerequisite: OM 300 or equivalent.
A broad investigation of a variety of scheduling activities in a production environment. Topics include aggregate scheduling, master planning, job-shop scheduling, lot-size scheduling in continuous shops, MRP, JIT/KANBAN systems, manpower scheduling, vehicle scheduling, and maintenance activity scheduling.

MGS 523 Inventory Management. Three hours.
Prerequisite: OM 300 or equivalent.
A thorough study of the problems and procedures involved in managing raw material, in-process, and finished goods inventory. Emphasis is on the formulation and use of quantitative models. Coverage includes reorder-point procedures, single-period problems, dynamic situations, material-requirements planning, and JIT supply.

MGS 524 Manufacturing Scheduling and Control Systems. Three hours.
Prerequisite: OM 300 or equivalent.
An in-depth, analytical study of the shop floor systems used in manufacturing planning and control. Alternative approaches used in practice (such as MRP, OPT, and KANBAN) are studied.

MGS 530 Linear Programming Models. Three hours.
Prerequisite: MATH 255 or permission of the instructor.
Theory and applications of linear programming models in decision making. Attention is given to primal and dual formulations, solution algorithms, sensitivity analysis, and special cases.

MGS 531 Multiple Criteria Decision Making. Three hours.
Prerequisite: MGS 500.
A survey of multiple-criteria decision-making concepts and methodologies used in business, including linear multi-objective programming, goal programming, compromise programming, and multidimensional risk and utility.

MGS 532 Integer Programming. Three hours.
Prerequisite: MGS 500 or equivalent.
The theoretical foundations of integer programming are outlined. Applications to management science problem areas are discussed. Solution procedures are developed.

MGS 534 Nonlinear Programming. Three hours.
Prerequisites: MATH 227 and MATH 255, or permission of the instructor.
Convex sets and functions, optimality conditions, Lagrangian duality, constrained and unconstrained optimization techniques, penalty and barrier functions, and methods of feasible directions and applications.
**MGS 536 Network Analysis and Dynamic Programming.** Three hours. 
Prerequisite: MGS 500.
Spanning tree, shortest-route, maximum flow, assignment, and transportation and transshipment problems in business administration and their generalizations. Multistage problem solving, decomposition, and recursive equations for final state and initial-final state optimization.

**MGS 540 Systems Simulation.** Three hours. 
Prerequisites: ST 509 or equivalent and permission of the instructor. 
A study of the management applications of stochastic and deterministic mathematical and computer models in systems design and analysis.

**MGS 542 Systems Simulation II.** Three hours. 
Prerequisite: ST 509 or equivalent.
Methodology of systems simulation, including modeling, model inputs, simulation mechanics, output analysis, validation, and design of simulation experiments.

**MGS 550 Production Management Methods.** Three hours. 
Prerequisite: MGS 520.
An analytical study of a specific production-management functional area’s support systems and databases (such as forecasting, scheduling, or manufacturing decision making). The particular topic will vary from semester to semester; consult department for scheduled topic.

**MGS 560 Knowledge-Based Systems Methods.** Three hours. 
Prerequisite: CS 226 or equivalent.
A consideration of expert systems methodology, including knowledge representation, inference, languages (LISP, PROLOG), and tools.

**MGS 562 Knowledge-Based Systems Development.** Three hours. 
Prerequisite: MGS 560 or permission of the instructor.
A study of the development process for expert systems, including domain selection, architecture specification knowledge acquisition, prototyping, and maintenance.

**MGS 591 Independent Study in Management Science.** Three hours.

**MGS 592 Internship in Management Science.** Three hours.

**MGS 597 Special Topics in Management Science.** Variable credit.

**MGS 598 Research in Management Science.** Variable credit.
Open to students nearing completion of coursework for the master’s degree. A supervised study and investigation of specific problems in management and management science.

**MGS 599 Thesis Research in Management Science.** Variable credit.

**MGS 620 Production Management Models.** Three hours. 
Prerequisite: MGS 500, MGS 516, or equivalent.
A quantitative study of models and procedures used in various decision problems addressed by production and operations managers.

**MGS 622 Theory of Production Scheduling.** Three hours. 
Prerequisites: MGS 501 and MGS 522, or equivalent.
Problems of scheduling several tasks over time. Topics include performance measures, single-machine sequencing, flowshop scheduling, the job shop problem, and priority dispatching.

**MGS 623 Inventory Theory.** Three hours. 
Prerequisites: MGS 501, MGS 523, and ST 550.
A rigorous, mathematical treatment of stochastic single- and multi-item inventory models. Models will be numerically solved using Excel and its powerful macro language.

**MGS 698 Research in Management Science.** Three hours. 
Open to students nearing completion of coursework for the Ph.D. degree. A supervised study and investigation of specific problems in management and management science.

**MGS 699 Dissertation Research.** Variable credit. Three-hour minimum.
MKT 410 Product Development. Three hours.
A systematic examination of product policy and of the major concepts, methods, and strategies involved in decision making in the course of developing new products. Techniques and criteria used to identify and implement new products and services are examined in depth. Consideration is given to issues and strategies involved in the management of mature products.

MKT 411 Supply Chain Management. Three hours.
This course examines the role of intermediaries in channel strategies and the scope, methods, problems, and opportunities of implementing distribution strategies. Topics include pricing, costing, contracting, negotiating, and inter-organization management.

MKT 422 Distribution Management. Three hours.
Logistics, or supply chain management, is a system-based concept requiring the effective coordination of the flow of materials and goods from their points of origin to their end users. This course explores the key marketing tasks necessary to achieve an efficient logistics network: transportation, warehousing and materials handling, inventory management, forecasting, information and order processing, and simulation/modeling.

MKT 427 Business-to-Business Marketing. Three hours.
Business-to-business marketing involves effective selling of items like computers, office supplies, machinery, biochemicals, plastics, steel, packaging, pollution-control equipment, and transportation services to business and organizational markets. To familiarize students with the technologies, problems, opportunities, and strategies of business-to-business marketing, this course combines lectures, case and company discussions, guests, and projects. The course is for students interested in industrial sales, purchasing, and marketing management.

MKT 446 Measuring Marketing Effectiveness. Three hours.
Analytical tools and techniques used to manage marketing activities are examined, with emphasis on the factors underlying differences in marketing efficiency and effectiveness. The following activities and measurements are examined: natural versus functional accounts; contribution and segmental analysis; planning, budgeting, and controlling marketing operations; monitoring product/customer market performance; developing standard costs and modular databases; direct product profitability (DPP); and financial measurement techniques such as ROI, RONW, net present value, forward buys, and inventory carry costs.

MKT 455 International Marketing. Three hours.
An examination of the various political, economic, legal, and cultural systems and their effects on the global marketing of products and services, with particular focus on product, promotion, pricing, and distribution decisions.

MKT 460 Export/Import Management (same as IBA 460). Three hours.
The course includes a thorough examination of export/import management processes, and highlights the importance of management in international business strategy.

MKT 473 Marketing Research. Three hours.
Prerequisite: ST 260.
The application of research techniques and procedures for measuring market opportunities. Specific attention, in addition to descriptive analysis, is given to techniques of and criteria for the identification and selection of market segments. Offered in summer school.

MKT 487 Strategic Marketing. Three hours.
Prerequisites: Senior standing , MKT 313, and MKT 473 (general management majors may substitute MGT 319 for MKT 473).
Analysis of marketing problems as related to the managerial functions of planning, organizing, and controlling marketing operations. Offered in summer school.
MKT 491 Independent Study. Three hours.

MKT 492 Internship. Three hours.
Prerequisites: Junior or senior standing and a 2.5 or higher grade point average.
Students are selected competitively for assignments in approved business or public-sector organizations. The internship is administered through the College’s Office of Student Services.

MKT 493 Special Topics in Marketing. Three hours.
The courses offer the faculty a chance to present material of interest to themselves and to marketing students.

MKT 510 Product Design and Management. Three hours.
An intensive investigation of the process of new product development, including its role in the organization, analysis of market opportunities, creative idea generation, concept screening, design, forecasting, manufacturing, and launch. Teaching emphasis is on processes, tools, and techniques. A group project provides real-world product development experience.

MKT 511 Supply Chain Management. Three hours.
Prerequisite: MKT 518 or equivalent.
MKT 511 is a graduate (master’s) level counterpart to MKT 411 Supply Chain Management. Its focus is on providing a managerial perspective of best practice supply chain management. The course encompasses the collaborative strategies and planning processes needed to build and manage supply chains for systemic effectiveness and efficiency. It will be offered coterminaly with MKT 411 during each spring semester. The target students for MKT 511 are M.B.A.’s with marketing concentrations and master of arts (M.A.) and master of science (M.S.C.) students in marketing. Graduate students in other degree programs may also enroll as an elective for graduate credit.

MKT 518 (M.B.A.) Survey of Marketing. Three hours.
A combination of lectures and cases is used to examine and analyze the marketing process. Emphasis is on decision making: the refinement of skills needed to recognize and solve marketing problems, and to effectively communicate recommendations both within and without the organization. The following components of the marketing mix are examined: product management, pricing, promotion, personal selling, buyer behavior, marketing channels, distribution, and segmentation.

MKT 521 Seminar in Retailing Management. Three hours.
A critical, decision-oriented seminar on the issues involved in retailing management. The focus is on current readings, case analyses, and guest speakers.

MKT 522 Strategic Logistics Management. Three hours.
Prerequisite: Permission of the instructor.
A study of the role of logistics in national and multinational business. Logistics-system elements and their interrelationships are reviewed, including trade-offs. A variety of analytical tools and techniques for solving logistical problems is presented, and the use of customer service to achieve differential advantage in the marketplace is explored. Students use case analyses, actual industry studies, and computer simulations to create practical solutions.

MKT 528 (M.B.A.) Measuring Marketing Effectiveness. Three hours.
Prerequisite: Proficiency in LOTUS 1-2-3 or its equivalent.
Tools and techniques of managing and measuring marketing activities are examined. Topics include contribution and segmental analysis; planning, budgeting, and controlling components in the marketing mix; monitoring product/customer market performance; developing analytical databases; and financial measurement techniques such as ROI, net present value, forward buying, and inventory carrying costs. Students use a computer-based decision support system (DSS) to analyze many concepts taught in this course.

MKT 530 Advanced Marketing Analysis. Six hours.
Prerequisite: MKT 518.
This advanced 6-hour course for marketing M.A.’s and second-year M.B.A. students concentrating in marketing examines various analytical concepts, tools, and techniques to manage marketing activities.
MKT 531 Services Marketing. Three hours.
An examination of how service firms achieve and maintain marketing excellence.

MKT 538 Sales Management. Three hours.
The purpose of the course is to familiarize students with the problems and tasks faced by sales managers, to present principles and applications of effective sales management, and to develop students' ability to critically analyze and provide solutions to problems of sales management. Offered fall semester.

MKT 544 Promotional Strategy Management. Three hours.
An analysis of the promotion mix and how it can be utilized to achieve managerial objectives.

MKT 555 Global Marketing Management (same as IBA 555). Three hours.
The objective of this course is to investigate the effects of cultural similarities and differences on marketing practices worldwide. Also examined are the effects of market idiosyncrasies on globally oriented product, promotion, pricing, and distribution strategies.

MKT 581 Project Management in Marketing. Three hours.
Prerequisites: MKT 518 and MKT 530.
Working with a client firm, students will apply in a practical setting the skills and knowledge they have acquired and build new skills in project management.

MKT 591 Independent Study in Marketing. Three hours.
Prerequisite: MKT 518 or equivalent or permission of the instructor.
A course that provides the student with an understanding of the principles, tools, and techniques of research in the fields of human resources management and marketing.

MKT 599 Thesis Supervision. Variable credit.

MKT 613 Behavioral Theory in Marketing. Three hours.
Prerequisite: MKT 518 or equivalent.
An application of behavioral science concepts to problems of understanding and influencing group and individual behavior. Offered spring semester, every other year.

MKT 627 Inter-Organizational Systems. Three hours.
Prerequisite: MKT 518 or equivalent.
An examination of inter-organizational distribution systems stressing the evolution of channel theory. Theoretical explanations of structural dynamics and the analysis of channel behavioral constructs (e.g., channel power, conflict, and leadership) are stressed. Offered every other year.

MKT 661 History of Marketing Thought. Three hours.
Prerequisite: MKT 518 or equivalent.
The study of the development of marketing ideas, concepts, and theories from 1900 to the present. The influence and contribution of individuals to marketing concepts will be stressed. Offered according to demand.

MKT 674 Measurement and Structural Equation Modeling. Three hours.
Prerequisite: ST 550.
A course that provides the student with basic information about measurement theory and how it is applied in scientific research. Offered spring semester.

MKT 679 Theory Development and Testing (same as MGT 679). Three hours.
Prerequisites: MKT 674, ST 550, and ST 551.
The course presents the causal models approach to theory construction. Emphasis is given to integrating verbal approaches to theory building with the construction of simultaneous equation mathematical models with causal interpretations. Offered fall semester.

MKT 685 Theory of Market Development. Three hours.
Prerequisite: MKT 518 or equivalent.
A study of the spatial and temporal dimensions of marketing activity, including a study of the location and development of markets, extent and shape of market areas, models of the location process, consumer spatial behavior, and probabilistic choice modeling.
MKT 688 Marketing Models. Three hours. 
Prerequisites: MKT 518 and ST 405 or equivalent, and permission of the instructor. 
Development of a basic framework for developing mathematical marketing models, 
designed to help managers make marketing-related decisions. Offered fall semester, 
every other year. 

MKT 690 Graduate Seminar in Marketing Theory. Three hours. 
Readings in the field of marketing, with an emphasis on theory and philosophy of science. 
Offered fall semester, every other year. 

MKT 691 Graduate Seminars in Marketing: Marketing Strategy. Three hours. 
Prerequisites: MKT 518 and MKT 528 or equivalents. 
Both theory-based and past empirical research articles are used to examine the various 
conceptual models, frameworks, and techniques used to develop, evaluate, and implement 
marketing strategies at the firm level. Offered fall semester, every other year. 

MKT 698 Research in Marketing. Three hours. 


STATISTICS (ST) 

Professor Edward R. Mansfield, Head 
Office: 300 Alston Hall 

ST 405 Mathematics for Quantitative Analysis. Three hours. 
Prerequisite: MATH 121. 
Differential and integral calculus, maxima, curve tracing, sequences and series, and 
vectors and matrices. 

ST 450 Statistical Methods for Applied Research I. Three hours. 
Development of fundamental concepts of organizing, exploring, and summarizing data; 
probability; common probability distributions; sampling and sampling distributions; estimation 
and hypothesis testing for means, proportions, and variances using parametric and 
nonparametric procedures; power analysis; goodness of fit; contingency tables. Statistical 
software packages are used extensively to facilitate valid analysis and interpretation 
of results. Emphasis is on methods and on selecting proper statistical techniques for 
analyzing real situations. 

ST 451 Statistical Methods for Applied Research II. Three hours. 
Prerequisite: One of the following — GES 400, GES 500, BER 540, CHS 425, CHS 
525, ST 450, ST 550. 
Analysis of variance and design of experiments, including randomization, replication, and 
blocking; multiple comparisons; correlation; simple and multiple regression techniques 
including variable selection, detection of outliers, and model diagnostics. Statistical 
software packages are used extensively to facilitate valid analysis and interpretation of 
results. Emphasis is on appropriate analysis of data in real situations. 

ST 465 Sampling Techniques. Three hours. 
Prerequisite: ST 251 or equivalent. 
Planning, execution, and evaluation of sample surveys. Simple, random, stratified, and 
cluster sampling; multistage and systematic sampling; questionnaire design; cost functions; 
and optimal designs. Teams will plan, perform, and analyze actual sample surveys. 

ST 475 Statistical Quality Control. Three hours. 
Prerequisite: ST 251 or equivalent. 
Statistical methods useful in control and improvement of manufactured products, including 
statistical process control with variables and attribute control charts, and process 
 improvement with designed experiments. Emphasis is placed on design, implementation, 
and interpretation of the techniques. 

ST 509 (M.B.A.) Statistics for Business Applications. Three hours. 
A broad elementary introduction to statistical and probabilistic methods useful for manage-
erial decision making. The course requires three hours of lecture and one hour of 
laboratory work per week. The laboratory is used to expose the student to computer 
software applications.
ST 521 Statistical Data Management. Three hours.
Introduction to the management of data using SAS. The collection and management of data from business or scientific research projects are emphasized.

ST 525 Statistics for Business Decisions. Three hours.
Prerequisite: ST 251 or equivalent.
Methods of classical and Bayesian statistics are applied to business decisions.

ST 531 Knowledge Discovery and Data Mining I. Three hours.
Prerequisite: ST 550 or ST 560 or equivalent.
Data mining is the process of selecting, exploring, and modeling large amounts of data to uncover previously unknown patterns of data. Techniques for accomplishing these tasks in a business setting will be discussed.

ST 535 Nonparametric Statistics. Three hours.
Prerequisite: ST 550 or equivalent.
Theory and applications of various nonparametric statistical methods are covered for one-sample, two-sample, and multi-sample problems. Goodness of fit techniques such as Chi-square and the Kolmogorov-Smirnov test are covered along with graphical analysis based on P-P and Q-Q plots. Computer software such as MINITAB, SAS, and STATXACT are used.

Development of fundamental concepts of organizing, exploring, and summarizing data; probability; common probability distributions; sampling and sampling distributions; estimation and hypothesis testing for means, proportions, and variances using parametric and nonparametric procedures; power analysis; goodness of fit; contingency tables. Statistical software packages are used extensively to facilitate valid analysis and interpretation of results. Emphasis is on methods and on selecting proper statistical techniques for analyzing real situations.

ST 551 Statistical Methods for Applied Research II. Three hours.
Prerequisite: One of the following — GES 400, GES 500, BER 540, CHS 425, CHS 525, ST 450, ST 550.
Analysis of variance and design of experiments, including randomization, replication, and blocking; multiple comparisons; correlation; simple and multiple regression techniques including variable selection, detection of outliers, and model diagnostics. Statistical software packages are used extensively to facilitate valid analysis and interpretation of results. Emphasis is on appropriate analysis of data in real situations.

ST 552 Applied Regression Analysis. Three hours.
Prerequisite: ST 451, ST 551, or ST 561.
Modeling issues for multiple linear regression are discussed in the context of data analysis. These include the use of residual plots, transformations, hypothesis tests, outlier diagnostics, analysis of covariance, variable selection techniques, weighted least squares and colinearity. The uses of multiple logistic regression are similarly discussed for dealing with binary-valued dependent variables.

ST 553 Applied Multivariate Analysis. Three hours.
Prerequisite: ST 451, ST 551, or ST 561.
Methods and business applications of multivariate analysis, discriminant analysis, canonical correlation, factor analysis, cluster analysis, and principal components.

ST 554 Mathematical Statistics I (same as MATH 554). Three hours.
Prerequisite: MATH 227.
Distributions of random variables, moments of random variables, probability distributions, joint distributions, and change of variable techniques.

ST 555 Mathematical Statistics II (same as MATH 555). Three hours.
Prerequisite: ST 554.
Theory of order statistics, asymptotic distributions, point estimation, interval estimating, and hypothesis testing.
ST 560 Statistical Methods in Research I. Three hours.
Prerequisite: MATH 126.
Statistical methods for summarizing data; probability; common probability distributions;
sampling and sampling distributions; estimation and hypothesis testing for means,
proportions, and variances using parametric and nonparametric procedures; power
analysis; goodness of fit; contingency tables; and simple regression and one-way
analysis of variance.

ST 561 Applied Design of Experiments. Three hours.
Prerequisite: One of the following — GES 400, GES 500, BER 540, CHS 425, CHS
525, ST 450, ST 550, ST 560.
An introduction to the design and analysis of experiments. Topics include factorial, frac-
tional factorial, block, incomplete block, and nested designs. Other methods discussed
include Taguchi Methods, response surface methods, and analysis of covariance.

ST 565 Sampling Techniques. Three hours.
Prerequisite: ST 251 or equivalent.
Planning, execution, and evaluation of sample surveys. Simple, random, stratified, and
cluster sampling; multistage and systematic sampling; questionnaire design; cost functions;
and optimal designs. Teams will plan, perform, and analyze actual sample surveys.

ST 570 Time Series Analysis. Three hours.
Prerequisite: ST 551, EC 671, or permission of the instructor.
Modeling of both stationary and non-stationary time series. Autoregressive (AR) pro-
cesses and moving average (MATH) processes, as well as mixed (ARMA) processes,
are discussed, along with model identification and estimation and forecasting procedures.
Computer software is used.

ST 575 Statistical Quality Control. Three hours.
Prerequisite: ST 251 or equivalent.
Statistical methods useful in control and improvement of manufactured products, includ-
ing statistical process control with variables and attribute control charts, and process
improvement with designed experiments. Emphasis is placed on design, implementa-
tion, and interpretation of the techniques.

ST 580 Analysis of Categorical-Level Data. Three hours.
Prerequisite: ST 451 or ST 560.
Logit and probit models, including dichotomous and multichotomous response functions;
discrete choice models; log-linear models for multi-way contingency tables; procedures
for analyzing ordinal-level data.

ST 591 Independent Study in Statistics. Three hours.

ST 592 Internship in Statistics. Three hours.

ST 597 Special Topics in Statistics. Variable credit.

ST 598 Research in Statistics. Variable credit.


ST 603 Advanced Inference. Three hours.
Prerequisite: ST 555 or equivalent.
A continuation of ST 555, with emphasis on the general theory of estimation and hy-
pothesis testing and large sample distribution theory.

ST 610 Linear Models. Three hours.
Prerequisite: ST 555 or equivalent.
Gauss-Markov Theorem, solution of linear systems of less than full rank, generalized
inverse of matrices, distributions of quadratic forms, and theory for estimation and infer-
ence for the general linear model.

ST 611 Design and Analysis of Experiments. Three hours.
Prerequisite: ST 610.
General theory for analysis of block designs, balanced and partially balanced incomplete
block designs. Latin/Graeco-Latin/Youden Squares, analysis of factorial treatments in
arbitrary block designs to include fractional factorials, confounding, and aliasing.
ST 615 Theory of Regression. Three hours.
Prerequisite: ST 610.
Theory of the general linear regression models and inference procedures, variable selection procedures, and alternate estimation methods including principal components regression, robust regression methods, ridge regression, and nonlinear regression.

ST 635 Multivariate Analysis. Three hours.
Prerequisite: ST 610 or equivalent.
Multivariate normal distributions, inference, multiple and partial correlation, classification, multivariate analysis of variance, principle components, factor analysis, and canonical analysis.

ST 640 Statistical Computing. Three hours.
Prerequisites: ST 552 or its equivalent; MATH 237 or its equivalent; and experience with a computer programming language such as FORTRAN, C, Pascal, or Basic; or permission of the instructor.
Topics include a survey of current statistical software, numerical methods for statistical computations, nonlinear optimization, statistical simulation, and recent advances in computer-intensive statistical methods.

ST 675 Advanced Statistical Quality Control. Three hours.
Prerequisite: ST 555, ST 575, or equivalent.
Theoretical approaches to statistical process control procedures and the design of experiments for quality improvement.

ST 698 Research in Statistics. Three hours.
Open only to graduate students nearing completion of coursework. Independent study and investigation of specific problems for advanced students of statistics.

COLLEGE OF COMMUNICATION AND INFORMATION SCIENCES

PROGRAM ADMINISTRATION

The graduate programs in the College of Communication and Information Sciences are administered by the associate dean for graduate studies and research, by various administrative divisions within the College, and by the Graduate School. The Ph.D. degree program is an interdisciplinary program that draws on all subdivisions of the College and is administered by the associate dean for graduate studies and research and by the graduate studies committee. The master of arts degree programs are administered by the associate dean, by divisional or department heads, and by department program directors.

All curricula offered by the College of Communication and Information Sciences have been accredited by regional associations. The undergraduate programs in communication are accredited by the Accrediting Council on Education in Journalism and Mass Communication.

FINANCIAL AID

All divisions of the College of Communication and Information Sciences offer a limited number of graduate assistantships to qualified students. The assistantships are awarded on a competitive basis to individuals who can best aid the institution in achieving its research and instructional missions. Students interested in graduate assistantships should apply to the appropriate departments by November 1 for spring semester applications and by February 15 for all fall semester applications. Other financial aid available from the University is described earlier in this catalog.

MASTER OF ARTS IN COMMUNICATION

The master of arts degree programs in the College of Communication and Information Sciences are designed to

- enable students to study communication from an individual, group, institutional, societal, or cultural perspective or combination thereof, using a variety of humanistic and social-scientific approaches
- enable students to begin or continue preparation for professional careers in media and media-related fields, teaching, research, governmental agencies, and industry
- enable students to specialize within one of the following academic departments: Advertising/Public Relations, Communication Studies, Journalism, or Telecommunication and Film
- prepare students to continue their studies at the doctoral level

Admission Requirements

Graduate students in the College of Communication and Information Sciences must meet the admission requirements of the Graduate School of The University of Alabama. Word processing proficiency is required in all writing and editing courses offered by the communication areas of the College (advertising/public relations, journalism, and telecommunication and film). Word processing proficiency is not a requirement for communication studies courses.

Each applicant must submit test scores from either the Graduate Record Examination general test or the Miller Analogies Test in support of the application. The Department of Advertising and Public Relations does not accept the Miller Analogies Test.

Applications for the fall semester should be submitted to the Graduate School by April 1. Applications for the spring semester should be submitted by November 1.
General Requirements for the M.A. Degree

In consultation with an adviser, the student selects a graduate major in one of the academic departments of the College. There are two options which students may choose for pursuing the master of arts degree.

Plan I, master's thesis. The student's curricular and research interests culminate in the completion of a traditional master’s thesis. Students must take a minimum of 30 hours of approved graduate courses, of which 6 are specifically for the thesis. See departmental sections below for required and recommended courses.

Plan II, non-thesis option. Students must take a minimum of 30 hours of approved graduate courses. See departmental sections below for the specific nature of this option and its requirements.

Regardless of the option selected, each student must satisfy the following requirements:

- MC 550 Communication Research Methods (3 hours) or department-approved equivalent
- MC 551 Seminar in Communication Theory (3 hours) or department-approved equivalent
- Written comprehensive examination or equivalent, as specified by the student’s departmental committee
- Final oral examination or equivalent, as specified by the student’s departmental committee

Master Programs in School of Library and Information Studies

Master of Library and Information Studies (M.L.I.S.)

The program leading to the master of library and information studies (M.L.I.S.) degree is a 36-credit-hour program, one of approximately fifty-five programs in the United States and Canada accredited by the American Library Association and the only ALA-accredited program in the state of Alabama. The degree prepares graduates to work in any type of library or information center — public, K–12, academic, or special — and in entrepreneurial and research environments, especially those using advanced information technologies.

Master of Fine Arts in the Book Arts (M.F.A.)

The program leading to the master of fine arts (M.F.A.) degree in the book arts is a 60-credit-hour course of study comprised of four areas: printing/publishing, bookbinding, papermaking, and the history of the book, with a program emphasis on the book as an integrated unit. Emphasis is placed on developing craft skills based on historical principles and techniques, as well as artistic expression.

Educational Objectives

The educational objectives of these graduate programs are as follows:

- Teaching. Provide students with the knowledge, skills, understanding, and diverse technologies to meet the changing informational and cultural needs of diverse populations and organizations. Foster leadership skills and abilities in all students, provide opportunities within the program for students with leadership potential to exercise their abilities, and encourage students as graduates to seek out and assume leadership roles. Improve and develop students’ critical and conceptual thinking skills.

- Research and creative activity. Augment and advance knowledge through basic research and improve professional practice through systematic inquiry into its nature, standards, and principles.

- Service. Apply the insights and knowledge gained through research and instruction in service to public- and private-sector organizations.
The master of arts programs in advertising and public relations are intended for those who wish to acquire advanced understanding of and skills in the development of highly effective persuasive communication. The programs focus on prevailing communication theories, current research findings, and advanced practical techniques. The faculty seeks to educate highly competent, focused students who will be recognized for their leadership qualities: the ability to discern issues both in the practice of their profession and in their role in society; the ability to develop and execute successful communication programs; and the ability to lead others effectively.

Two programs are offered: (1) a two-year thesis program with specialization in advertising or public relations (Plan I), and (2) a one-year professional program combining advertising and public relations (Plan II).

Admission Requirements

Admission to graduate work in advertising and public relations requires a 3.0 or higher undergraduate grade point average (on a 4.0 scale) and a combined score of at least 1000 on the verbal and quantitative portions of the Graduate Record Examination general test. The department also accepts the Graduate Management Admissions Test with prior approval. International students are required to obtain scores of 600 or better on the centrally administered version of the Test of English as a Foreign Language (TOEFL). Required supporting materials include a statement of career objectives and three letters of reference (at least two from academic sources).

Conditional admission may sometimes be granted for a student who falls below the minimum grade point average or test score requirements. Students admitted conditionally must earn at least a 3.0 grade point average for their first 12 credit hours.

Each student’s progress will be guided by an academic adviser or by the departmental director of graduate studies. Students in each program must maintain minimum grade point averages of 3.0 and may receive no more than two “C” grades to be eligible to continue.

Degree Requirements

Plan I, the Two-Year Research Program

The two-year master’s degree program is intended for students seeking a strong research emphasis in their study of advertising and public relations. The Plan I program focuses on important problems and questions, gathering evidence, and setting standards for inference. The program specifically prepares students in the areas of (a) mastering the body of scholarly knowledge of advertising and public relations, and (b) contributing to the advancement of knowledge in these fields through basic and applied research. Students may decide to continue their studies, pursuing doctorates in advertising or public relations. Students in the Plan I program specialize in either advertising or public relations, learn the concepts and methods involved in productive scholarship, and collaborate with faculty members in conducting research.

Plan I requirements. Plan I is normally a two-year program and requires (a) a minimum of 30 hours of approved graduate courses, (b) demonstration of proficiency in research skills, (c) passing of a comprehensive written examination, and (d) completion and successful defense of a master’s thesis. Students admitted to the program with little or no previous coursework in advertising or public relations may be required to take one or more undergraduate courses in the department to supplement their graduate studies.

All required graduate courses in the Plan I program are listed below; cognates and electives are chosen subject to the approval of the student's academic adviser.
Nine hours of this program are devoted to a cognate area, usually outside the College of Communication and Information Sciences. The cognate is intended to provide concentrated study in an area related to the student's career interests. The cognate typically consists of courses in one discipline, but it can consist of courses in several disciplines if the overall topic is unified and contributes to the student's objectives. Cognate examples include marketing, organizational communication, psychology, sociology, and political science.

Research proficiency can be demonstrated by successful completion of one or more statistics or computer science courses approved by the student's academic adviser, or by proficiency in the research methods appropriate to the student's master's thesis.

Following completion of all coursework, students are expected to pass a comprehensive examination.

The student must select a faculty member to chair the thesis committee. In concert with the thesis chairperson, the student chooses a three-member thesis committee. One member must be from outside the Department of Advertising and Public Relations. Working with this committee, the student identifies an appropriate thesis topic and research approach. A thesis proposal must be approved by the thesis committee before a student can start work on the thesis research. The completed thesis must be defended in an oral examination before the thesis committee.

Plan II, the One-Year Professional Program

The professional program is an intensive, professionally oriented one-year program that combines advertising and public relations. Recognizing the increasingly close links between the advertising and public relations professions, the Plan II program provides advanced preparation in both disciplines. The program provides intensive training to meet specific objectives. Graduates will be prepared to

• develop a thorough understanding of the institutions and processes involved in advertising and public relations, through a combined program of study
• use research both to generate communication strategies and to evaluate the success of communication programs
• write idea-driven persuasive communication
• plan, implement, and evaluate media plans for advertising and public relations programs and campaigns

The Plan II program is for recent college graduates who see the advantages of having advanced skills in advertising and public relations. The students will recognize that preparation in the liberal arts, business administration, or communication has provided them with important knowledge but has not sufficiently prepared them in the communication concepts and skills needed to be a leader.

Speaking and writing skills are emphasized in all courses, with frequent papers and presentations. One course each semester emphasizes writing skills involved in the advertising and public relations professions.
Plan II requirements. The one-year Plan II program requires (a) completion of a specific 33-hour program of graduate courses, (b) demonstration of proficiency in research skills, (c) passing of a comprehensive written examination, and (d) completion of a master’s project in the course APR 598 Communication Workshop. Students admitted to the program will receive a list of critical readings and will be expected to become familiar with these materials before beginning the program. The program starts with a series of orientation sessions aimed at evaluating each student’s grasp of the critical readings and ability to proceed with the program without further background study.

Plan II required courses are as follows (semester assignments are provided only as illustration):

**Fall semester**
- APR 570 Contemporary Advertising and Public Relations
- APR 572 Persuasive Communication
- APR 550 Advertising/Public Relations Communication Research Methods
- APR 551 Advertising/Public Relations Communication Theory

**Spring semester**
- APR 522 Media Planning*
- APR 582 Advertising and Public Relations Management
- APR 583 Research Applications in Advertising and Public Relations
- APR 592 Integrated Communication Project*

**Interim session**
- APR 590 Special Topics in Persuasive Communication**

**First summer session**
- APR 597 Communication Campaign Workshop I

**Second summer session**
- APR 598 Communication Campaign Workshop II

Research proficiency can be demonstrated by completion of MC 550 and APR 583 with grades of “B” or better, or by successful application of research methods appropriate to the student’s project.

The comprehensive examination will be conducted during the first week of the first summer term and may be attempted twice.

Each year the department faculty will identify faculty members who will serve on the project committee for the Plan II master’s degree program. Two members of this committee read each of the project reports submitted by students at the conclusion of APR 598, and a panel of faculty members attends the project presentations given by students at the end of this course.

*Depending on the student’s background, an elective course may be substituted for APR 522 or APR 592.

**Students will be directed to another course if APR 590 is not available. May be switched with a spring course.
The Department of Communication Studies offers programs leading to the master of arts degree.

Admission Requirements
The department reviews admission applications for both fall and spring admission. Applications submitted to the Graduate School by May 1 will be reviewed by the department for fall admission. Applicants must submit one of the following examination scores in support of the application: the Graduate Record Examination general test or the Miller Analogies Test. Subject to the approval of the department chairperson and the dean of the Graduate School, a maximum of 6 semester hours of graduate courses may be transferred from another institution. These hours must be in communication studies or in a closely allied subject and must contribute to the educational objectives of the student.

Graduate students in communication studies may choose their electives in such areas as rhetorical theory and criticism, political communication, human communication theory, interpersonal communication, and organizational communication. To apply for departmental graduate assistantships, which are usually awarded only in the spring for the following year, applicants must have been accepted for admission into the program, by the department, no later than March 1. A minimum of 24 graduate hours must be completed in communication studies.

Requirements for the M.A. Degree
The Department of Communication Studies uses a form of contract advising. Graduate students are required to plan contractual programs of study with their assigned advisers during the first semester of coursework. These contractual programs must be approved by the academic adviser and filed with the graduate program director by the end of the first semester of coursework. Each program must meet the minimum requirements of the Graduate School, the College of Communication and Information Sciences, and the Department of Communication Studies.

Degree Requirements
Graduate programs in communication studies require a minimum of 30 hours, including a core of courses (18 hours) and a minimum of 12 hours in electives:

**Core courses in rhetorical studies (9 hours):**
- COM 541 or MC 605 Seminar: Critical, Cultural, and Rhetorical Studies
- COM 545 Classical Rhetorical Theory
- COM 548 Seminar in Rhetorical Criticism

**Core courses in communication studies (9 hours):**
- COM 561 Human Communication Theory (replaces MC 551)
- MC 550 or MC 581 or BER 631 Research Methods
- An approved COM elective in communication and cultural diversity

**Elective options (12 hours):**
**Plan 1 — thesis option,** which includes 6 hours of thesis research (COM 599):
In addition to completing the courses specified above and electives stipulated by their plans of study, students who choose Plan 1 must successfully complete a master’s thesis, orally defend that thesis, and have the thesis accepted by the Graduate School.
Plan 2 — non-thesis option, which includes 6 hours of electives in the department: All students who choose Plan 2 must complete a minimum of 30 hours of graduate coursework, including the courses specified above and others stipulated by their approved plans of study, and give a departmental colloquium based on some aspect of their work. Students following the non-thesis option have a choice of two plans:

The comprehensive exam plan: Students who choose this plan must pass a comprehensive examination, to be taken no later than the semester in which the course requirements for the master's degree are to be completed. The examination is designed to reveal the knowledge gained by the candidate through both the core courses and the electives taken in the program, as well as the candidate's ability to express that knowledge in acceptable form. The questions will be formulated and evaluated by the comprehensive examination committee.

The written part of the exam will be administered during a two-day period and shall not exceed five hours in total writing time. During this testing period, students will be relieved of all departmental and area duties and responsibilities, including class attendance. The time and place of the exam will be set and publicized by the department graduate program director. The oral part of the exam will be scheduled by the student's adviser upon successful completion of the written exam.

The practicum plan: Students who are primarily pursuing professional interests or teaching requirements may choose this alternative plan. It provides students with an opportunity to include in their plans of study some type of practical application of their academic work. Students who choose to pursue this plan must secure permission to do so by submitting a formal practicum proposal to their academic advisers, no later than upon completion of 12 hours of graduate coursework. To complete the practicum, students will need to submit a final report, for the approval of their advisers, and do a department colloquium presentation based on the practicum final report.

The residence requirement for the master's degree is a minimum of two semesters. Application for admission to degree candidacy may be made after completing a minimum of 12 semester hours. Each graduate student must apply to the graduate program director for the Department of Communication Studies for admission to candidacy. The graduate program director will certify that the candidate has fulfilled the grade requirements and that undergraduate deficiencies have been or are in the process of being removed. The graduate program director will refer the names of students fulfilling these requirements to the faculty for approval of admission to candidacy.

DEPARTMENT OF JOURNALISM (JN)

L. Edward Mullins, Chairperson

The Department of Journalism offers the master of arts degree with a major in journalism. It is a flexible program designed to meet a broad range of educational objectives. Students work closely with a faculty that is highly trained, educated, and dedicated to the principles and practices of sound journalism and scholarly inquiry.

The program is especially designed for

- Students seeking to hone professional skills in writing, reporting, editing, and visual journalism to a high degree of competence and sophistication, while developing the conceptual knowledge, problem-solving skills, and personal qualities — the so-called “soft skills” — that make the difference in a career and in a life. These students usually, but not always, follow Plan II (see below).
- Students seeking in-depth knowledge and mastery of one or more of the subfields and methodologies of journalism and mass communication — for example, com-
The University of Alabama

communication history, communication law, or communication theory and methods. These students usually, but not always, pursue Plan I (see below).

The program is intended for the serious student with a recent bachelor’s degree, whether in journalism/mass communication or some other field. It is also open to serious professionals who want to deepen their knowledge.

Admission Requirements

Admission to graduate work in the Department of Journalism requires a 3.0 or higher undergraduate grade point average (on a 4.0 scale) and a score of at least 1000 on the Graduate Record Examination general test or a score of at least 50 on the Miller Analogies Test. Other evidence of the student’s capability for acceptable performance of graduate work must also be presented. Such supporting materials may include letters of recommendation, professional credentials, and a convincing statement of purpose. Conditional admission may sometimes be made if the student can persuade the faculty that other qualifications indicate that the student will perform well in the program despite failure to meet one of the criteria for admission.

Candidates with deficiencies in either their academic curricula or professional experience may be required to take up to 9 hours of undergraduate courses, as specified by the graduate faculty.

Degree Requirements

Each student entering the graduate program in journalism must complete 30 semester hours of credit, under Plan I or Plan II. Requirements for each plan are as follows:

Plan I, master’s thesis

<table>
<thead>
<tr>
<th>Required courses</th>
<th>Semester hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MC 551 Seminar in Communication Theory</td>
<td>3</td>
</tr>
<tr>
<td>MC 550 Communication Research Methods</td>
<td>3</td>
</tr>
<tr>
<td>Two master’s seminars from JN 525 to JN 563</td>
<td>6</td>
</tr>
<tr>
<td>JN 500 Orientation to Graduate Studies</td>
<td>0</td>
</tr>
<tr>
<td>JN 599 Thesis Research</td>
<td>6</td>
</tr>
<tr>
<td>Electives</td>
<td>12</td>
</tr>
</tbody>
</table>

Total: 30

Plan II, master’s project

<table>
<thead>
<tr>
<th>Required courses</th>
<th>Semester hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MC 551 Seminar in Communication Theory</td>
<td>3</td>
</tr>
<tr>
<td>MC 550 Communication Research Methods</td>
<td>3</td>
</tr>
<tr>
<td>JN 562 Contemporary Issues</td>
<td>3</td>
</tr>
<tr>
<td>JN 563 History of Journalism and the First Amendment</td>
<td>3</td>
</tr>
<tr>
<td>JN 500 Orientation to Graduate Studies</td>
<td>0</td>
</tr>
<tr>
<td>Journalism Cognate</td>
<td>12</td>
</tr>
<tr>
<td>Electives</td>
<td>3</td>
</tr>
<tr>
<td>JN 597 Master’s Project</td>
<td>3</td>
</tr>
</tbody>
</table>

Total: 30

All students must enroll in JN 500 Orientation to Graduate Studies each semester. The faculty encourages students to pursue their individual professional objectives through elective hours, the seminar choices, and the master’s thesis or master’s project.

All students are required to pass both a comprehensive examination, usually given during the last full semester in which the student is enrolled at the University, and an oral defense of the thesis or master’s project.
Each student must also demonstrate competency in a research skill before embarking on the thesis or master’s project.

The student’s work will be guided by an academic adviser who will represent the student before the department’s standing Graduate Committee. The Graduate Committee has final authority for the student’s work, reviews student progress each semester, and must approve all work taken at The University of Alabama. The committee may require that elective hours be taken in specific areas deemed important for the student’s career objectives.

A student who pursues a degree under Plan I will write a master’s thesis, while a student pursuing a degree under Plan II will complete a master’s project. In either case, the student will select a chairperson and a committee to supervise the work no later than the end of the first semester of enrollment at the University.

The chair of journalism shall appoint a graduate faculty member to represent the department in the master’s oral exam. That member will be expected to quiz the student on his or her course of study, especially in the core areas. The faculty member should be satisfied that the student has gained sufficient knowledge to qualify for the master’s degree.

The following applies to students pursuing a master’s degree under Plan II.

The purpose of the master’s project is to demonstrate that the student can apply what he or she has learned and can produce work worthy of publication. The energy and time devoted to the project should be the equivalent of three hours of graduate work. The project may be either academic or professional in nature. For example, a student may choose to write a paper on some historical topic, or the student may produce a lengthy article or series of articles for a newspaper or magazine.

No later than the beginning of the student’s final semester, he or she shall propose such a project in writing. The student shall describe how he or she intends to pursue the topic and what research methods will be appropriate. This proposal then shall be filed with the graduate coordinator, and he or she will circulate it among the graduate faculty.

Prior to the master’s exam, each student shall present his or her project to the faculty and its guests in a public event. The student shall also present an accompanying paper that provides a detailed description of methodology he or she used to complete the project. In turn, the student’s presentation and response to the faculty’s questions and comments will help guide the student’s project committee in deciding whether the student has performed in a satisfactory manner.

At the time of the master’s oral exam, each student under Plan II shall present a portfolio of his or her exemplary work while enrolled in the program. The portfolio should have sufficient entries to demonstrate that the student meets the committee’s expectations for performance. The master’s project shall be the first item in the portfolio, along with a description of the methodology used to complete the project. Afterward, a copy of the portfolio shall be placed in either the department’s files or the Reading Room for future reference.

SCHOOL OF LIBRARY AND INFORMATION STUDIES (LS)
Professor Joan Atkinson, Director

Mission and Goals
The School of Library and Information Studies includes three closely related degree programs: master of library and information studies (M.L.I.S.), and master of fine arts in book arts (M.F.A.). Information on the degree of doctor of philosophy in library and information studies (Ph.D.) may be found on p. 284 under the department of mass communication. The presence of these programs within the same school serves to enrich and to amplify each. Consequently, the mission and goals of the School pertain to all of these degree programs. However, the objectives of each program are specific to that program and more narrowly focused.

Mission statement. The mission of the School of Library and Information Studies is to advance the theory, art, and practice of professions specializing in the use of information and the creation of information in recorded form.
Goals:

- **Teaching.** Provide students with the knowledge, skills, understanding, and diverse technologies to meet the changing informational and cultural needs of diverse populations and organizations. Foster leadership skills and abilities in all students, provide opportunities within the program for students with leadership potential to exercise their abilities, and encourage students as graduates to seek out and assume leadership roles. Improve and develop students' critical and conceptual thinking skills.
- **Research and creative activity.** Augment and advance knowledge through basic research and improve professional practice through systematic inquiry into its nature, standards, and principles.
- **Service.** Apply the insights and knowledge gained through research and instruction in service to public- and private-sector organizations.

**Facilities.** The School is located on the fifth floor of the Amelia Gayle Gorgas Library. Two classrooms are designed for optimal use of multimedia and information technologies. Large monitors, capable of handling both digital and analog signals, are connected to a workstation and the campuswide network. One classroom also serves as a node on a compressed digital audio/video/data network. Both proprietary and standards-based connectivity to other sites worldwide can be achieved utilizing bandwidths from 128 Kbs to 1.54 Mbs. The Media Preparation Laboratory contains Macintosh workstations and 486 multimedia workstations linked to the School's LAN, scanners, and laser printers. Software for creating multimedia presentations is available on the workstations. The laboratory also houses a darkroom.

The Information Processing Laboratory includes a number of workstations connected to the School's LAN. A modem server is available for dial-out capabilities. Students have access to a wide variety of electronic bibliographic databases in CD-ROM and online formats, which are available to all stations via the network and Internet. Through the lab, regular instruction is provided to students in the use of the Internet, word processing, database applications, desktop publishing, and many other topics. The Media Preparation Laboratory contains state-of-the-art Macintosh and IBM workstations specifically for research in the areas of cataloging graphics and for the development of multimedia presentations, including the School's Web site: www.slis.ua.edu. Peripheral equipment includes a CD-ROM writer, color scanner, and video capture boards. Students can gain experience working in MS-DOS, UNIX, and Macintosh platforms.

A library reading room permits browsing in current periodicals and information files. This area contains a variety of workstations that provide access to both UNIX and MS-DOS–based model electronic information systems. Conveniently located for relaxation and refreshment is the student/faculty lounge. Offices, other laboratories, and the administrative suite complete the 13,000-square-foot complex.

**Academic Common Market.** Residents of the states of Arkansas, Georgia, Virginia, and West Virginia may attend the M.L.I.S. program of the School of Library and Information Studies without payment of out-of-state fees; residents of those states and residents of Kentucky, Louisiana, Mississippi, Texas, and South Carolina may attend the M.F.A. in book arts program, paying in-state tuition. This is due to the Academic Common Market, an agreement among Southern states to share academic programs. A number of departmental assistantships (which not only pay a stipend but also cover some out-of-state fees) and a number of scholarships are available each academic year.

**Cooperative Education Program.** The School of Library and Information Studies and several other institutions cooperatively provide students with professional experiences that enrich and supplement their graduate studies. Students interested in cooperative education should contact the director of the School of Library and Information Studies.
MASTER OF LIBRARY AND INFORMATION STUDIES (M.L.I.S.)
PROGRAM

Regular Admission Requirements
An applicant whose credentials meet the following minimum requirements may be considered for regular admission:

- a grade point average of at least 3.0 overall or 3.0 for the last 60 semester hours in a degree program, based on a 4.0 system
- an acceptable score on the entrance examination (minimum test scores: general test of the GRE verbal and quantitative — 1000 or MAT — 50)

Not every student whose credentials meet the stated quantitative standards is admitted. Information about the GRE is available from the Educational Testing Service, Princeton, NJ 08540. The MAT is given by the testing service of most colleges and universities and may be taken by appointment. Applicants should plan well in advance so that examination results are available when needed to support an application for admission. Braille editions of the GRE and the MAT can be obtained from The University of Alabama, Test Service, Box 870108, Tuscaloosa, AL 35487-0108.

Application materials, which must be submitted electronically, may be obtained from the Graduate School Web site at http://graduate.ua.edu. Applications for admission must be completed at least six weeks prior to the registration date for the term for which admission is sought.

Conditional Admission Requirements
An applicant whose credentials do not meet the stated requirements may be considered for conditional admission if the following minimum requirement is satisfied:

- a grade point average of at least 2.5 overall and a GRE or MAT score acceptable to the School and the Graduate School

A graduate student admitted conditionally removes the condition by earning an average of “B” or better for the first 12 semester hours of graduate-level work completed and by satisfying any other conditions specified by the School at the time of admission. If the 12 hours are completed in a term in which the total credits exceed 12, the evaluation is made on the basis of all graduate-level work completed at the end of that term of enrollment. Failure to remove the condition within the first 12 hours of graduate work will result in the student’s being dropped from the program. A student who satisfies the condition automatically assumes the status of a regularly admitted graduate student.

Non-Degree Admission Requirements
A student may be admitted as a non-degree student if that person has either a 3.0 undergraduate GPA or an acceptable test score: 50 on the MAT or 1000 on the GRE general test. No more than 12 hours may be taken as a non-degree student and applied to a degree.

Degree Requirements
Candidates for the M.L.I.S. degree must earn a minimum of 36 semester hours of credit, completing all work with a grade average of “B” or better. A thesis is not required. All M.L.I.S. students must complete, as part of the minimum 36 hours, the following 18 hours of required courses:

- LS 500 Organization of Information
- LS 501 Introduction to Library and Information Studies
- LS 502 Research Methods
- LS 507 Information Sources and Services
- LS 560 Information Technologies
And one of the following:
LS 508 Administration and Management
LS 530 Public Libraries
LS 531 Academic Libraries
LS 532 School Media Centers
LS 533 Special Libraries and Information Centers

Graduate credit may be transferred from another university or may be elected from the offerings of other departments. No more than 9 hours of credit can be applied toward the M.L.I.S. for graduate courses taken outside SLIS, directed research courses, and internships. These hours may be combined as follows:

1. Six hours of approved credit for graduate work taken outside SLIS and 3 hours of credit for a directed research course or internship; or
2. Six hours of credit for any combination of directed research courses and internships and 3 hours of approved credit for graduate work taken outside SLIS.

NOTE: No more than 20 percent of courses required for a degree may be taken on a pass/fail basis.

Objectives for the M.L.I.S.

Teaching. Upon completing the SLIS M.L.I.S. program, all students should

- have acquired a basic core of knowledge in the field: the creation and production, organization and access, selection and evaluation, preservation, dissemination and use of information
- understand the nature of professional ethics, display a committed professional attitude, value the role of professional associations, and be committed to individual professional development
- understand the opportunities and challenges of a variety of information settings, their functions, and the users they serve and be able to approach the design and management of services and systems
- value teaching and service as ways to advance the field
- have knowledge of current research, an understanding of research processes and methods, and an ability to analyze and critically evaluate research and apply it to professional duties
- understand the significance of concepts and contributions of other disciplines to library and information studies and the importance of library and information studies theories, principles, and concepts to other disciplines
- be aware of and sensitive to the impact of information practices, services, and programs on diverse, underserved and multicultural communities
- understand the appropriate technologies and their applications within particular contexts for the organization, retrieval, management, and dissemination of information
- be able to communicate cogently, clearly, and persuasively
- support the development and improvement of library and information services in general with special focus on the people of Alabama and the southeastern United States

Research and creative activities. The SLIS faculty

- publish papers and reports in journals, monographs, and other publications devoted to librarianship, information science, and related disciplines
- present the results of research, inquiry, and creative endeavors to peers at professional meetings and exhibitions
- undertake applied research projects including consulting assignments that augment and advance knowledge
Service. The SLIS faculty and staff provide advice and assistance to libraries and information centers (with particular emphasis on institutions in the state of Alabama) that help them to enhance the services they provide.

- The SLIS faculty and staff undertake consulting assignments.
- SLIS provides opportunities for faculty and students to participate in professional associations, to promote the profession, and to assume leadership and policy-making roles.
- SLIS faculty, staff, and students participate in the work of the University and the School through service on committees and working groups.

Class A Library-Media Certification. A candidate for the M.L.I.S. degree who seeks an Alabama Class A Library-Media Certificate must first have fulfilled the requirements for a teaching certificate at the baccalaureate level. Two years of successful teaching must also have been completed prior to receiving Class A certification as a library-media specialist. Certification may also be granted by the Alabama State Department of Education to a person who holds an M.L.I.S. degree, completes two years of successful teaching as a school library media specialist, and is recommended by the principal or superintendent who supervised the two years of work.

In addition to completing an approved program of studies, the candidate is required to earn a satisfactory score on a comprehensive examination administered by the School of Library and Information Studies. The approved program of studies for certification is as follows:

<table>
<thead>
<tr>
<th>Instructional support area</th>
<th>Semester hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>LS 500 Organization of Information</td>
<td>3</td>
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<tr>
<td>LS 501 Introduction to Library and Information Studies</td>
<td>3</td>
</tr>
<tr>
<td>LS 504 Media Production and Utilization</td>
<td>3</td>
</tr>
<tr>
<td>LS 507 Information Sources and Services</td>
<td>3</td>
</tr>
<tr>
<td>LS 532 School Media Centers</td>
<td>3</td>
</tr>
<tr>
<td>LS 542 Instructional Design and Development</td>
<td>3</td>
</tr>
<tr>
<td>LS 560 Information Technologies</td>
<td>3</td>
</tr>
<tr>
<td>LS 572 Internship in School Media Centers (requires a minimum of 300 clock hours)</td>
<td>3</td>
</tr>
</tbody>
</table>

Foundation of professional studies
Three semester hours are to be earned in courses that meet the foundation of professional studies requirement, as defined by the granting institution. Students who have not already completed a survey course in special education must also take SPE 500 Introduction to Exceptional Children and Youth (or its equivalent). Such students must complete a minimum of 39 semester hours for the degree. 3–6

Research
LS 502 Research Methods                                           | 3               |

Electives
LS 521 Materials and Services for Children                        | 3               |
LS 522 Materials and Services for Young Adults                    | 3               |

Total hours .............................................................................. 36–39

If courses equivalent to any of these required courses have been taken previously, substitutions may be made, with the approval of a faculty adviser.
MASTER OF FINE ARTS (M.F.A.) PROGRAM IN THE BOOK ARTS

The program leading to the M.F.A. in the book arts degree is a 60-credit-hour course of study comprised of four areas: printing and publishing, bookbinding, papermaking, and the history of the book, with a program emphasis on the book as an integrated unit. Students may pursue one of three concentrations: printing and publishing, bookbinding, or a fusion of the two, focusing on the whole book. Emphasis is placed on developing craft skills based on historical principles and techniques, as well as artistic expression. The M.F.A. in the book arts program develops professional-level book artists who have well-honed technical knowledge of the various facets of contemporary bookmaking, an intimate personal involvement with their specific areas of interest, and an understanding of the role of the book in society.

Admission Requirements

Applicants may submit either the general portion of the Graduate Record Examination or the Miller Analogies Test in support of the application for admission. Admission requirements for the M.F.A. program in the book arts are consistent with those for the M.L.I.S. degree program. A portfolio is not required; however, students are encouraged to submit one.

Degree Requirements

Candidates for the M.F.A. degree in the book arts must earn a minimum of 60 semester hours of credit, including at least 6 hours in the history of the book and 3 hours in a historical/theoretical course appropriate to the goals of the individual student; at least 33 hours in the book arts studio; and 12–18 hours of electives within or outside the book arts program. All coursework must be completed with a grade average of "B" or better. All students enter the program in the fall and spend four semesters in residence. All M.F.A. students must complete, as part of the 60 hours, the following required courses:

- BA 520 Printing I — Elements of Printing ................................................................. 3
- BA 521 Printing II — Printing and Typography ......................................................... 3
- BA 530 Binding I — Elements of Binding ................................................................. 3
- BA 531 Binding II — An Exploration of the Paper- and Cloth-Bound Book .... 3
- LS 655 History of the Book: Book as Artifact ........................................................... 3
- LS 654 History of the Book: Print Culture and Society ............................................. 3
- BA 592 Graduate Symposium ........................................................................................ 3
- BA 599 Creative Project Production, Thesis, and Exhibition .................... 9–12

NOTE: No more than 20 percent of courses required for a degree may be taken on a pass/fail basis.

Those students concentrating in printing and publishing must also complete the following:

- BA 522 Printing III — Printing and Parallel Editions .................................................. 6
- BA 523 Printing IV — Printing and Publishing ......................................................... 6

Those students concentrating in bookbinding must also complete the following:

- BA 532 Binding III — Leather Binding .......................................................................... 6
- BA 533 Binding IV — Binding Exploration ................................................................... 6

Those students concentrating on the whole book must also complete advanced coursework in both printing and binding. The configurations of advanced courses will be determined through discussion with the book arts faculty.
DEPARTMENT OF TELECOMMUNICATION AND FILM (TCF)
Professor Loy Singleton, Chairperson
Office: 484 Reese Phifer Hall

The master of arts degree program in telecommunication and film focuses on the electronic media and the cinema as informative, influential, and meaning-producing forms. The program emphasizes the study of these media in terms of law and policy, technological systems, economic and industrial infrastructures, news and public affairs, management leadership, individual and societal effects, history, and cultural criticism.

**Implementation.** The principal goals of the program are to develop students’ analytical and interpretive skills through thoughtful and informed consideration of the possibilities, limitations, and responsibilities of the telecommunication and film media. Our students study radio, television, film, the Internet, satellite communication, telephony, and other electronic media systems in an attempt to understand how they work and what influences they have upon individuals, societies, and the global community.

Specialized application of studies may culminate in a thesis or master’s project specific to one of the following: management leadership; law and policy; news and public affairs analysis; telecommunication and society; cinema and television critical studies; or another emphasis in which the student’s particular interests match appropriately qualified faculty members’, subject to the availability of resources necessary for the proposed study.

Courses are selected in consultation with the student’s graduate adviser and must be approved by the student’s program committee.

**Admission Requirements**

In addition to meeting all requirements of the University of Alabama Graduate School, the department requires applicants to provide at least two letters of reference or statements from academic sources who can attest to the applicant’s potential for graduate work. We encourage applicants to visit the department and become better acquainted with the program, the faculty, and the current students.

**Degree Requirements**

**Plan I, master’s thesis.** Students who write a master’s thesis must complete a minimum of 30 graduate credits, including the courses specified below and others stipulated by the student’s program committee. In addition, the student must do all of the following:

- pass a comprehensive written exam (typically eight hours long) and orally defend the answers
- successfully complete a master’s thesis (enrolling in TCF 599 Thesis Research for up to 6 credit hours) and orally defend that thesis
- deposit a bound copy of the master’s thesis in the department

**Plan II, nonthesis options.** Students who choose Plan II must complete a minimum of 30 hours of graduate coursework, including the courses specified below and others stipulated by the student’s program committee. Students following the nonthesis option have two plans from which to choose:

**Plan II, Project:** The student must do all of the following:

- pass a comprehensive written exam (typically eight hours long) and orally defend the answers
- successfully complete a master’s project (enrolling in TCF 598 Master’s Research Project for 3 credit hours) and orally defend that project
- deposit a bound copy of any written portion of the master’s project in the department

A student choosing this option will create a project appropriate to his or her interests
and approved by his or her program committee. Such projects will always include written justification for the undertaking, an explanation of the procedures involved, and a clear rationale for each decision. Substantive documentation to support observations and conclusions is expected.

**Plan II, Independent Research:** The student must do all of the following:

- pass a comprehensive written exam that is substantially longer than those taken in the other options (typically 12–16 hours long) and orally defend the answers
- successfully complete individual study with a faculty member (enrolling in TCF 597 Independent Research for 3 credit hours).
- deposit a bound copy of any written portion of the master’s project in the department

**Course requirements.** All College of Communication and Information Sciences master’s degree candidates must complete MC 550 Communication Research Methods and MC 551 Seminar in Communication Theory. Master’s degree candidates in telecommunication and film must also complete TCF 553 Seminar in Telecommunication or TCF 577 Cinema Seminar.

Remaining coursework will consist of thesis research (6 hours) and electives (15 hours) or master's project research/study (3 hours) and electives (18 hours), or independent research (3 hours) and electives (18 hours). The student may take no more than 9 hours of electives numbered TCF 500–549; with approval, up to 6 hours of electives outside the department may be taken (MC courses are not included in these 6 hours). The student must develop a curriculum plan, which must be approved by the student’s program committee. Sample curriculum plans might include the following courses:

<table>
<thead>
<tr>
<th>Management leadership</th>
<th>Semester hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCF 545 Telecommunication Media Management</td>
<td>3</td>
</tr>
<tr>
<td>TCF 547 Telecommunication History and Systems</td>
<td>3</td>
</tr>
<tr>
<td>TCF 553 Seminar in Telecommunication</td>
<td>3</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Law and policy</th>
<th>Semester hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MC 501 Mass Media Law and Regulation</td>
<td>3</td>
</tr>
<tr>
<td>TCF 533 Seminar in Telecommunication</td>
<td>3</td>
</tr>
<tr>
<td>TCF 547 Telecommunication History and Systems</td>
<td>3</td>
</tr>
<tr>
<td>TCF 548 Telecommunication Policy and Law</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>News and public affairs analysis</th>
<th>Semester hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCF 533 Broadcast News Analysis</td>
<td>3</td>
</tr>
<tr>
<td>TCF 541 The Documentary Form</td>
<td>3</td>
</tr>
<tr>
<td>TCF 553 Seminar in Telecommunication</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Telecommunication and society</th>
<th>Semester hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCF 520 Telecommunication Effects</td>
<td>3</td>
</tr>
<tr>
<td>TCF 553 Seminar in Telecommunication</td>
<td>3</td>
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<tr>
<td>MC 583 Media and Society Seminar</td>
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<table>
<thead>
<tr>
<th>Cinema and television critical studies</th>
<th>Semester hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCF 511 Seminar in Critical Studies in Television</td>
<td>3</td>
</tr>
<tr>
<td>TCF 540 Seminar in American Cinema</td>
<td>3</td>
</tr>
<tr>
<td>TCF 541 The Documentary Form</td>
<td>3</td>
</tr>
<tr>
<td>TCF 577 Cinema Seminar</td>
<td>3</td>
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</tbody>
</table>
The doctor of philosophy degree in the College of Communication and Information Sciences is designed to

• prepare communication scholars for positions of leadership in education, public service, the media, and other communication-related fields
• add to a student’s usable body of knowledge in a chosen area of specialization within the field of communication and information sciences
• develop each student’s research, teaching, and professional capabilities
• promote scholarly achievement and advancement of knowledge in the field, through basic and applied research

Specializations
• Mass Communication
• Information Studies
• Cultural, Critical, and Rhetorical Studies

Admission Requirements for the Ph.D. Program

Applicants to the doctoral program in communication must meet the admission requirements of the Graduate School of The University of Alabama and those stated below. Consideration for acceptance is based on having met these requirements, and on evidence of the capacity for success in communication studies at the doctoral level, in the form of clarity of expression and goals in the statement of purpose; letters from professors who can attest to an applicant’s potential for doctoral-level work; record of prior academic study (including the nature and academic standing of courses of study already completed and grades earned); satisfactory scores on the Graduate Record Examination; and other information that may illustrate ability, maturity, commitment, and sense of purpose or that may otherwise indicate an applicant’s potential to complete doctoral studies.

Normally, an applicant will have completed requirements for a master’s degree in the communication field. Consideration will be given to individuals with advanced degrees in other fields who make clear cases showing how their previous graduate work would apply to doctoral study in communication. Admission for study in master’s degree programs offered in the College of Communication and Information Sciences does not imply eligibility to work toward the doctoral degree. Admission to doctoral study in the College of Communication and Information Sciences requires completion of a separate application through the Graduate School.

An applicant whose credentials meet the following minimum requirements may be considered for admission to the Ph.D. program in communication:

• an undergraduate grade point average of 3.0 or higher overall (based on a 4.0 system) or a 3.0 or higher average for the last 60 semester hours of undergraduate study, and a graduate-level grade point average of at least 3.0
• a combined score of 1100 on the verbal and quantitative portions of the Graduate Record Examination general test, with no less than 400 on either the verbal or quantitative portion of the examination

Foreign applicants must score at least 600 on the Test of English as a Foreign Language (TOEFL) to be considered for admission.

An applicant who does not meet these requirements may be considered for conditional admission to the program if the following conditions are satisfied: an undergraduate grade point average of at least 3.0 overall (based on a 4.0 system) and a combined score of 1000 or higher on the verbal and quantitative portions of the Graduate Record Examination general test, with no less than 400 on either the verbal or quantitative portion of
the examination. A student admitted conditionally to the program removes the condition by earning a grade point average of 3.0 or better during the first 12 semester hours of graduate work attempted after admission to the doctoral program, and by satisfying any other conditions specified by the College of Communication and Information Sciences Graduate Studies Committee. If the 12 hours are completed in a term in which the total credits exceed 12, the evaluation is made on the basis of all graduate work completed at the end of that term of enrollment.

A student who removes the condition immediately assumes the status of a regularly admitted graduate student. Failure to remove the condition within the first 12 hours of graduate work will result in the student’s dismissal from the program. No student will be admitted to the program on any basis other than the two described above (regular and conditional admission to the Ph.D. program in communication).

Admission of a foreign student to the program may be contingent upon the successful completion of specified coursework in the English language offered by the English Language Institute of The University of Alabama. In such cases, the criteria for successful completion include earning at least a “B” grade in each course. Stipulated courses in the English Language Institute must be completed before the student is permitted to begin a course of study in the doctoral program.

Students who are admitted contingent upon the completion of preliminary courses specified by the Admissions Committee must complete these prerequisites during the first semester of study in the program if at all possible. Students will not be permitted to continue beyond the second semester of enrollment without having successfully completed the prescribed prerequisites. The prerequisite courses do not carry graduate credit.

The student’s adviser and/or advisory committee may also recommend specific, preliminary, noncredit coursework to be completed during the first or second semester of study if deficiencies in a specific area are determined. These requirements must be approved by the associate dean for graduate studies and research of the College of Communication and Information Sciences.

General Requirements for the Ph.D. Degree

Coursework
1. **Number of hours required in the program:** 48–60 hours as determined by a student’s program committee. Plus 24 hours of dissertation research, usually following admission to candidacy. Plus a research tool.

2. **Specialization:** 18–30 hours are required in the student’s area of specialization, from one of the following three specializations: mass communication, information studies, or cultural, critical, and rhetorical studies. Faculty advisory committees determine which specific courses a student would be required to take.

3. **Cognate:** 9–15 hours are required in the student’s cognate area approved by the student’s advisory committee. Normally students take their cognate in courses outside the College of Communication and Information Sciences. If the cognate is taken within the College, it must be in an area outside the specialization.

4. **Core requirements (courses required of every student)**
   (a) **12 hours required in six courses:**
   3 hours of the following:
   - MC 600 Proseminar in Communication and Information Sciences (no credit)
   - MC 601 Proseminar in Pedagogy (no credit)
   - MC 602 Colloquium in Communication and Information Sciences. (MC 600 and MC 601 are prerequisites for MC 602.) Three hours’ credit. (NOTE: A student would get three hours’ credit for these three courses; but, for administrative reasons, the hours would be given officially only in connection with MC 602.)
   (b) **6 hours in theory. The student’s program committee may choose from the following (3 hours must be in the student’s area of specialization):**
   - MC 604 Mass Communication Theory
   - MC 605 Cultural, Critical, and Rhetorical Theory
   - MC 606 Knowledge and Information Theory
   - MC 607 Theory Construction and Epistemology
(c) 3 hours in research methods:
MC 603 Communication Research Methods
Additionally, the student must demonstrate proficiency in the research methodology
to be used in the dissertation through coursework beyond MC 603 before taking the
comprehensive examinations. Students taking coursework that requires quantitative
research and/or doing a dissertation using quantitative research must complete a
statistics course.

5. Electives (additional courses): 0–21 hours. These courses may be in the Special-
ization, Cognate, or other areas that the student’s program committee may
direct.

SUMMARY

<table>
<thead>
<tr>
<th>Area</th>
<th>Semester hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total program</td>
<td>48–60</td>
</tr>
<tr>
<td>Specialization</td>
<td>18–30</td>
</tr>
<tr>
<td>Cognate</td>
<td>9–15</td>
</tr>
<tr>
<td>Core</td>
<td>12</td>
</tr>
<tr>
<td>Additional/ elective</td>
<td>0–21</td>
</tr>
</tbody>
</table>
| Also (Graduate School require-
ments):                      |                |
| Research tool               | 6              |
| Dissertation                | 24             |

6. Other requirements

• A minimum of 36 hours of coursework must be completed after enrollment in the
CCIS doctoral program.
• A minimum of 24 hours of coursework must be at the 600 level. The remainder
of hours of approved graduate course credit must be at the 500 or 600 level. No
cross-listed 400/500-level course may be taken in the doctoral degree program.
A maximum of 6 hours of 400- or 400/500-level credit may be transferred from a
master’s degree program.
• Each student must complete a minimum of four seminars at the level of 650 or above
from the College’s curriculum.
• Twelve of those hours may be transferred from a student’s masters program if ap-
proved by the student’s advisory committee and the associate dean for graduate
studies. Credits so approved must have been earned within a period of up to six
years prior to admission.

Students admitted to the doctoral program may be required to complete additional
coursework to be prepared for doctoral-level (600-level) study and research in com-
munication and information sciences, at the discretion of the Advisory Committee and the
associate dean for graduate studies.

All degree requirements must be completed within seven years after first enrollment in
the program. Entering doctoral students with incomplete master’s theses must complete
these during the first year of doctoral study. Students must provide official transcripts
of their master’s degree work as evidence that their degrees have been granted. If a
student fails to provide the transcript, the College may refuse to administer the Ph.D.
preliminary examination and/or may withdraw financial support.

Scholastic requirements. Students must maintain cumulative grade point averages
of at least 3.00 on a 4.00 scale for graduate courses undertaken following admission
to the doctoral program. A doctoral student whose grade point average falls below 3.00
at any time after 6 semester hours have been completed will be placed on probation
by the College of Communication and Information Sciences. Earning a “C” grade at
any time will automatically place a student on academic probation within the College.
A student on probation will not be permitted to apply for admission to candidacy and may not hold an assistantship. Probationary status must be removed (by raising the overall average to 3.00 or higher) within the next 9 hours of graduate work following the period of probation. Failure to remove probationary status will result in the student’s dismissal from the program. Additionally, a student who earns a grade below “B” in more than two courses will be dismissed from the program.

Students who are dismissed from the program may petition the College of Communication and Information Sciences Graduate Studies Committee for readmission. The committee may in turn make a special request to the dean of the Graduate School for approval of the student’s readmission.

Residency requirement. The minimum period in which the doctoral degree can be earned is three full academic years of graduate study. The student must spend an academic year in continuous residence as a full-time student (9–12 hours of coursework) in the Graduate School of The University of Alabama (or, if specifically approved by the faculty concerned, one full summer consisting of two terms, preceded or followed by one regular semester). This requirement can be satisfied only by enrolling in coursework; dissertation research cannot be used.

Language requirement (research tool competency). Before admission to candidacy, each student in the Ph.D. program in communication must demonstrate a research tool competency that is appropriate to the student’s research emphasis. Any coursework involved in satisfying this requirement is beyond the 48 hours of coursework required for the degree.

The College of Communication and Information Sciences recognizes several means for meeting the research tool requirement:

(1) A student may satisfy the requirement by earning at least a “B” average in a sequence of two courses prescribed by the University department offering coursework in a chosen foreign language. Alternatively, the student may satisfy the requirement by earning a score of at least 550 on the Educational Testing Service Foreign Language Examination. The demonstration of competency in the following foreign languages is accepted: Chinese, Dutch, French, German, Italian, Japanese, Korean, Portuguese, Russian, and Spanish.

(2) A student may satisfy the requirement by earning at least a “B” average in a sequence of two courses in statistics chosen by the student’s program advisory committee from a list of courses approved by the College of Communication and Information Sciences (available in the College’s Office for Graduate Studies).

(3) A student may satisfy the requirement by earning at least a “B” average in a sequence of two courses prescribed and approved by the Department of Computer Science of the College of Engineering. MC 690 Directed Research should not be assigned.

Preliminary examination. The examination is given after the foreign language or research tool requirements are met and all required coursework prescribed by the student’s advisory committee is completed. The examination must be completed at least three months before the degree is awarded.

The student demonstrates, through written and oral examinations, a capacity to understand, synthesize, and apply communication theory and research techniques in the communication and information sciences, and knowledge of the pertinent literature, issues, and recent advances in the student’s area of specialization and cognate area of study. The examination covers the communication theory and research methodology core, as well as the student’s specialization and cognate areas. The written examination is administered by the student’s program advisory committee, which may call on other faculty members associated with the student’s coursework for assistance in preparing the examination. Sixteen hours are set aside for the examination — four hours for each division (theory, methods, specialization, and cognate). The examination is to be completed within a two-week period.

The oral portion of the examination (required) will be scheduled as quickly as possible following the written examination. Immediately following the oral examination, the examination committee will convene to determine whether the student has passed, must perform additional work to demonstrate competency in one or more areas, or has failed
the examination. In the latter case, the re-examination must take place after six months and before twelve months have elapsed. Each of the four portions of the preliminary examination may be taken only twice. The examination committees will rule either pass or fail on the second examination in toto.

**Admission to candidacy.** A student is certified by the dean of the Graduate School for admission to candidacy for the Ph.D. in communication after meeting the following requirements:

- completion of the program of coursework and the language (research tool) requirements prescribed by the student’s program advisory committee and approved by the College of Communication and Information Sciences associate dean for graduate studies and research
- demonstration, by passing the preliminary examination, of competence in the Ph.D. core, research methods, the specialization, and the cognate
- a successful defense of a dissertation proposal

**Dissertation committee.** Each student eligible for dissertation research must form a dissertation committee. This committee evaluates the dissertation proposal and the dissertation proper. Both the proposal and the completed dissertation must be defended before the committee. The successful defense of a proposal grants the student candidacy for the degree and entitles him or her to conduct dissertation research. The successful dissertation defense is the last formal step to receiving the Ph.D. degree.

The dissertation committee is composed of a chair from within the College of Communication and Information Sciences, three members from within the College, and one member from outside the College. The committee chair must be a full member of the College’s graduate faculty. One member must also be a full member. All the other members may be associate members. One may be a temporary member. Appointment of the outside member is at the discretion of the Graduate School.

**Dissertation.** At the time of the preliminary examination, or immediately following, the student completes a written proposal for dissertation research, in consultation with the dissertation chair. The proposal describes the importance of the proposed topic, outlines the major theses to be advanced, provides an overview of major relevant literature, defines the methodology to be used, and lays out a timetable for completion of the project. The dissertation must make a significant original contribution to the field of communication and must demonstrate the candidate’s ability to report that research in writing in a clear, comprehensive, and scholarly manner.

The defense of the dissertation proposal must precede the defense of the dissertation itself by at least 30 days. Furthermore, the student must submit the proposal, and later the dissertation, to the committee at least 14 days prior to the defense. After the proposal has been circulated among the members, the student’s dissertation committee meets for the student’s oral defense of the proposal. The candidate must complete the dissertation within seven years of the date of admission to the doctoral program.

**Final examination.** The candidate must present a copy of the final draft of the dissertation to each committee member at least two weeks before the scheduled date of the final examination. After the dissertation has been completed and accepted by the candidate’s dissertation committee for purposes of the examination, the candidate will be given a final oral examination by the dissertation committee.

The final examination is primarily concerned with the research embodied in the dissertation and with the field in which the dissertation lies, but it may extend over the student’s entire primary field of study. The final oral examination is governed by the rules of the Graduate School of The University of Alabama. All graduate faculty of the College of Communication and Information Sciences are invited to attend. A bound copy of the dissertation must be deposited in the Office for Graduate Studies after a successful defense.
Ph.D. in Library and Information Studies

The Ph.D. in library and information studies is a research-oriented degree providing opportunities for advanced study and creation of knowledge. In the program students have opportunities to work with faculty and other doctoral students to broaden their understanding of the field, while pursuing study in a chosen specialization in depth. An individualized program of study is created for each student.

Admission Requirements

See admission requirements for the Ph.D. program on p. 279.

Degree Requirements

See general requirements for the Ph.D. degree on p. 280.

Objectives

The library and information studies specialization has the following objectives:

• to promote basic and applied research that will contribute to the advancement of librarianship as a profession and enrich the literature of the discipline
• to provide a context for advanced study that will relate the contributions of allied fields, such as communications, computer science, management, etc., to librarianship
• to assist each future practitioner and teacher in developing the requisite theoretical base for solving today’s problems in librarianship, and anticipating those of tomorrow

Course Descriptions

ADVERTISING AND PUBLIC RELATIONS (APR)

APR 522 Media Planning. Three hours. Development of media objectives, strategies, and budgets and implementation of media plans for advertising and public relations. Each student prepares and presents a media plan.

APR 550 Advertising/Public Relations Communication Research Methods. Three hours. A survey of qualitative and quantitative methods in communication research.

APR 551 Advertising/Public Relations Communication Theory. Three hours. A study of the development of selected mass communication theories as related to advertising and public relations.

APR 560 International Public Relations. Three hours. Prerequisites: Graduate standing and permission of the academic adviser and instructor. Corequisite: APR 590. Integration of public relations theory and techniques into complete campaigns. Research and analysis of topics related to international corporate communication, with particular emphasis on the public relations industry in Europe, especially Britain. Offered spring semester, with a field trip to Europe during summer session.

APR 570 Contemporary Advertising and Public Relations. Three hours. An advanced survey of the academic and professional literature underlying the contemporary practice of advertising and public relations.

APR 572 Persuasive Communication. Three hours. The practice of creating, writing, editing, and producing persuasive communication for advertising and public relations. Writing skills are exercised extensively in this course.

APR 582 Advertising and Public Relations Management. Three hours. Problems and decision-making processes involved in the management of advertising and public relations programs and organizations.
APR 583 Research Applications in Advertising and Public Relations. Three hours. Prerequisite: MC 550. Application of research methods and procedures for problem solving and impact assessment in advertising and public relations programs.

APR 590 Special Topics in Persuasive Communication. Three hours. A specialized course in the planning and execution of advertising and public relations programs. Topics vary.

APR 592 Integrated Communication Project. Three hours. A message-oriented course. Students conceptualize and execute integrated communication programs. Topics vary.

APR 596 Independent Study or Research. One to three hours. Prerequisite: permission of the academic adviser and instructor.

APR 597 Communication Campaign Workshop I. Three hours. Research to develop an advertising and public relations campaign for a specific organization. This is the preparation stage for the major case study prepared by the student in APR 598.

APR 598 Communication Campaign Workshop II (Master's Project). Three hours. Development and presentation of a complete advertising and public relations plan and proposal for the specific organization studied in APR 597. Integration of theory, concepts, and techniques in a complete communication program.

APR 599 Thesis Research. Three hours. Prerequisite: permission of the academic adviser.

BOOK ARTS (BA)

Printing/Publishing

BA 520 Printing I: Elements of Printing. Three hours. Craft skills used in fine letterpress printing are introduced in a studio environment. Through a number of printing/publishing experiments and projects, students gain an understanding of the nature and interaction of printing types with inks and papers; learn fundamental terminology; and gain familiarity with the equipment. The emphasis is on setting type, letterpress printing, and basic typographic design. Miller.

BA 521 Printing II: Typography and Printing. Three hours. Prerequisite: BA 520. Explores contemporary attitudes and innovations in fine printing and fine press publishing through individual printing/publishing projects, as well as a collaborative project. The focus is on typographic design, editorial decision making, color and image integration, and press work. Miller.

BA 522 Printing III: Parallel Editions and Printing. Three or six* hours. Prerequisite: BA 521. Students initiate and produce an edition of a relatively extensive book. Emphasis is on production, with manuscript selection and editing being critical aspects. Photopolymer platemaking processes are introduced in a desktop publishing environment adapted to historic tools and media. Such subjects as marketing and distribution of limited-edition books are covered. For those students taking the 6-hour option, a Parallel Editions book may be produced. Miller.


*Required for students with concentrations in either printing/publishing or bookbinding.
The University of Alabama

Binding

BA 530 Binding I: Elements of Binding. Three hours.
Drawing upon both the historic and contemporary Western bookbinding traditions, this course is an initiation into fundamental binding forms, techniques, materials, and design. A series of cloth and paper bindings will be designed and made. While design and innovation will be stressed, the primary focus of the course will be upon learning technical skills.

BA 531 Binding II: An Exploration of the Paper- and Cloth-Bound Book. Three hours.
Prerequisite: BA 530.
Students will continue to hone their fundamental binding skills and acquire new ones while also experimenting with the possibilities that the paper and cloth case binding forms offer, both one-of-a-kind and multiples. The examination and use of nontraditional materials and of innovative binding design are encouraged.

BA 532 Binding III: Leather Binding. Three or six* hours.
Prerequisite: BA 531.
A concentrated study of the use of leather as a binding cover material. Various binding styles and structures appropriate to leather treatment are studied. Familiarity with the preparation and application of leather in bookbinding is achieved through a series of assigned projects culminating in a final project. Though not the primary focus of the course, binding design and innovation will be studied and explored.

BA 533 Binding IV: Advanced Binding Exploration. Three or six* hours.
Prerequisite: BA 532.
An exploration of bound books as expressive forms. Students will further refine their leather-working and binding skills while developing their own binding styles. Emphasis will be placed upon personal binding interpretation of printed texts using traditional and nontraditional techniques and materials.

BA 534 Boxmaking. Three hours.
Prerequisite: BA 530.
Traditional and experimental forms of boxes and other protective enclosures for books. The use of paper, cloth, and leather, as well as other nontraditional materials, will be explored.

BA 535 Edition Binding/Parallel Editions. Three hours.
Prerequisite: BA 531.
Exploration, design, and creation of appropriate enclosures for books that amplify and enhance the typographic content of the fine limited edition.

Papermaking

BA 541 Hand Papermaking. Three hours.
Provides hands-on experience in the fundamentals of making traditional Western-style handmade papers using a variety of fibers. The objective is to produce reference samples of various kinds of sheets, as well as edition sheets of papers for book or art-making purposes. Miller.

BA 542 Decorated Papers. Three hours.
Introduction to decorative techniques, including experiences in the decoration of papers for binding and printing in a variety of techniques: Turkish watercolor marbling (ebru-su), Swedish oil-base marbling, Japanese suminagashi, paste papers, printed papers, and stenciling.

BA 543 Eastern and Alternative Fiber Papermaking. Three hours.
Introduction to the mysteries of Eastern-style papers handmade from natural fibers. We will also produce papers from plant fibers native or naturalized to the American landscape. The objective will be to make papers suitable for printing or bookbinding purposes, as well as substrate for artistic media. Miller.

*Required for students with concentrations in either printing/publishing or bookbinding.
Additional Courses

**BA 590 Book Design and Production.** Three hours.
Studies the theoretical and practical aspects of book design and production. Emphasis is on the aesthetic principles of bookmaking; the preparation of layouts; and the selection of type faces, papers, and binding materials. Miller.

**BA 592 Graduate Symposium.** Three hours.
Prerequisites: Fourth-semester standing.
Discuss professional standards, professional presentation and portfolio building, creative project research, exhibition design, management of a small business, marketing, and other topics. Six meetings during the course of the semester.

**BA 593 Workshops in the Book Arts.** One to twelve hours.
Workshops covering all subjects in the book arts, held both on and off campus.

**BA 594 Practicum in Teaching the Book Arts.** Three or six hours.
Prerequisite: Second-year standing.
Practical experience teaching introductory courses in printing, binding, and other appropriate book arts.

**BA 595 Independent Project.** One to six hours.
Provides an opportunity for the student to pursue independently a project in the book arts.

**BA 596 Directed Research in the Book Arts.** One to six hours.
Provides an opportunity for an intensive investigation of both historical and technical studies of a book-arts craft.

**BA 597 Internship.** One to six hours.
Prerequisites: Second-year standing and permission of the faculty.
A direct learning experience in a studio of a professional book artist.

**BA 599 Creative Project Production, Thesis, and Exhibition.** Nine to twelve hours.
The capping experience of the M.F.A. in the book arts program is the creative project, thesis, and exhibition. Working with a faculty adviser, the candidate develops a project that demonstrates a deep understanding of the craft and the aesthetic, historic, and critical contexts of the book; to establish technical expertise; and to work independently. The thesis paper provides the student a formal means in which to articulate the aesthetic, historic, and critical contexts of his or her work as well as the scope and merits of the creative project. The exhibit, which is publicly presented in the Book Arts Gallery, provides the student with an opportunity to showcase both artistic and technical skills and to contextualize the body of work produced during the course of the program. A public defense with a slide presentation is also required.

**COMMUNICATION STUDIES (COM)**

**COM 500 Introduction to Graduate Studies.** No hours.
The primary goal is to orient new graduate students to the expectations and procedures of graduate study in the department. Topics covered include developing the plan of study, thesis prospectus, comprehensive examination, and choosing advisers and committees.

**COM 501 Introduction to Teaching Public Speaking.** No hours.
This course is open to graduate students with at least 18 hours of coursework in the department. The primary goal is to facilitate the instruction of COM 123 Public Speaking. Students enrolled in this course will provide lesson plans for public speaking classes and discuss options for improving classroom learning.

**COM 513 Communication and Diversity.** Three hours.
Study and analysis of issues of diversity as they relate to groups in society and in communication fields. Emphasis is on the media’s treatment of various groups in society. Approved as a communication and cultural diversity elective.

**COM 521 Political Communication.** Three hours.
An exploration of rhetorical, media, and cross-disciplinary theories related to political communication.
COM 532 Political Campaign Management. Three hours.
The study of communication management in the context of political campaigns. Topics include audience analysis, candidate and electoral context analysis, strategic planning and assessment, leadership and campaign management styles, and database management.

COM 536 Independent Study. Three hours.
Prerequisite: Written permission. A formal request must be approved by the graduate program director or faculty adviser.

COM 541 Contemporary Rhetorical Theory. Three hours.
A survey of major contributions to rhetorical theory from the 20th century up to the present.

COM 545 Classical Rhetorical Theory. Three hours.
A systematic inquiry into the development of Greek and Roman rhetorical theory during the classical period (ca. 480 B.C.E.–400 C.E.).

COM 548 Seminar in Rhetorical Criticism. Three hours.
An examination of various methodological perspectives of rhetorical criticism. Specifically, the course aims to familiarize students with both traditional and alternative critical methods and to encourage students to perceive the rhetorical dimensions of all manner of public discourse, ranging from speeches, advertising, film, popular music to discursive forms in new media and the Internet.

COM 549 Seminar: Persuasion and Social Influence. Three hours.
The course emphasizes social-scientific approaches to the study of social influence and persuasion (primarily as exemplified by speech communication research, mass media research, and psychology).

COM 560 Group Leadership. Three hours.
An advanced study of small-group behavior, examining in detail theories of leadership as they relate to problem solving in group situations.

COM 561 Human Communication Theory. Three hours.
A detailed review of selected theories of speech communication with a focus on the critical examination of the foundation of social scientific theories.

COM 562 Theories of Persuasion. Three hours.
A critical review of social-influence theories in the area of persuasion and human action.

COM 563 Seminar in Interpersonal Communication. Three hours.
Prerequisite: COM 220 or permission of the instructor.
Focused investigation of selected approaches to interpersonal communication with an emphasis on recent conceptual and theoretical developments.

COM 566 Seminar in Political Communication Theory. Three hours.
Prerequisite: COM 341, COM 342, COM 465, COM 467, or permission of the instructor.
An examination of current problems and issues in political communication and their underlying theoretical dimensions. Topics may vary.

COM 567 Seminar: Public Address. Three hours.
A topical consideration of individual case studies from public discourse, designed to probe problems of the nature of the audience, the ethics of persuasion, and the power of public advocacy in mass society.

COM 569 Communication and Gender. Three hours.
Explores the role of communication in the construction of gender. Covers feminist theoretical approaches in communication and other disciplines, the intersections of gender with other marginalities, and the role of gender in various communication contexts. Approved as a communication and cultural diversity elective.

COM 570 Intercultural/Interracial Communication. Three hours.
A critical examination of interpersonal communication within and across U.S. ethnic cultures and in encounters between U.S. Americans and members of other national cultures. Exploration of the ways cultural and intercultural communication are influenced by other forms of social diversity, particularly gender and class. Emphasizes cultural histories, identity, power, adaptation, and communication strategies for satisfying intergroup relations. Approved as a communication and diversity elective.
COM 571 Seminar in Organizational Communication I. Three hours.
An introductory examination of historical and contemporary issues in organizational communication scholarship from a variety of theoretical and methodological perspectives.

COM 572 Seminar in Organizational Communication II: Advanced. Three hours.
Prerequisite: COM 571 or permission of the instructor.
Advanced study in organizational communication, focusing on such areas as communication climate, technology and communication, communication research in organizations, and communication consulting.

COM 590 Internship in Communication Studies. One to three hours.
Prerequisite: Written permission.
Supervised field experience in communication studies.

COM 595 Special Topics. Three hours.

COM 598 Research Not Related to Thesis. Three hours.

COM 599 Thesis Research. One to three hours.

JOURNALISM (JN)

JN 500 Orientation to Graduate Studies. No credit.
Required each semester. Introduces students to the program and program requirements and provides a forum for presentation and discussion of faculty and student research.

JN 511 Depth and Investigative Reporting. Three hours.
Researching and writing major, multiple-source articles, series, and projects for newspapers and magazines.

JN 512 Opinion Writing. Three hours.
Study of the role, function, and construction of editorials and other persuasive writing, historical and contemporary issues in organizational communication scholarship from a variety of theoretical and methodological perspectives.

JN 515 Magazine Writing and Editing. Three hours.
Writing and marketing of magazine articles. Study of technical, industrial, employee, and general-circulation magazines.

JN 516 School Publications. Three hours.
For advisers of student newspapers and yearbooks. Role of publications as related to faculty, students, and community; methods and procedures of producing student publications.

JN 520 Advanced Editing and Design of Publications. Three hours.
Lecture and laboratory. Study, research, applications, and production of traditional and online newspapers, magazines, and related media, including managing and organizing newsrooms, graphics departments, and production departments. Demographics and research of audiences for different news and information products; formulation of policy.

JN 525 Literary Journalism I. Three hours.
Studies in nonfiction. Includes extensive writing in this genre.

JN 526 Literary Journalism II. Three hours.
Studies in nonfiction. Includes extensive writing in this genre.

JN 536 Teaching of Journalism. Three hours.
Curriculum development, bibliography, and relation of academic instruction to student publications.

JN 561 Special Topics. Three hours.
Studies in specialized topics ranging from the theoretical to the practical. May be repeated for credit when the topic varies.

JN 562 Contemporary Issues. Three hours.
Examines current issues facing the news media, ranging from professional problems to the human, social, and other consequences of news, news practices, and news technology.

JN 563 History of Journalism and the First Amendment. Three hours.
Study of the history of the principles and practices of American journalism, with particular attention to the First Amendment and freedom of the press.

JN 590:591 Special Problems in Journalism. One to three hours (each).
Independent study as arranged.
Library and Information Studies (LS)

Introductory — Conceptualization

**LS 500 Organization of Information.** Three hours. Required course introducing the principles of organizing bibliographies, library catalogs, and collections. Examines the content of bibliographic records in printed and machine-readable form, choice and form of access points, authority control, verbal and classified systems of subject access, and the impact of new technologies. An introduction to OCLC searching is included. The course objective is to enable the student to understand and use catalogs and bibliographies. Students interested in becoming catalogers should follow LS 500 with LS 506 Cataloging and Classification. MacCall.

**LS 501 Introduction to Library and Information Studies.** Three hours. Required course designed to provide the student with a broad background in library and information studies. Must be taken during the first 12 hours of a student’s program. Through a variety of instructional methods, this course examines three interrelated themes: the nature of the library and information profession; issues of intellectual freedom and access to information; and the impact of technology upon society and the profession. Coleman, Stephens.

Introductory — Methodological

**LS 502 Research Methods.** Three hours. Required course introducing research design and statistical techniques used in library, media, and information science. At the conclusion of the course, the student should be able to comprehend and utilize research reports in these fields and to design and carry out basic research projects. Brown.

**LS 503 Systems Analysis.** Three hours. Investigation of the concepts of systems analysis; investigation and use of the techniques of systems analysis; and study of applications of systems analysis in library and information systems.

Introductory — Operational

**LS 504 Media Production and Utilization.** Three hours. Instructional modules that introduce the student to basic skills in the preparation and utilization of educational media.

**LS 505 Collection Development.** Three hours. Explores principles and issues involved in developing library collections. Aspects such as community analysis, policy development, selection and acquisitions, resource sharing, evaluation, weeding, and preservation are examined. Stephens, Osburn.

**LS 506 Cataloging and Classification.** Three hours. Prerequisite: LS 500. Explores problems of descriptive cataloging of print and non-print materials; subject access using Library of Congress subject headings, LC classification, and Dewey decimal classification; OCLC searching, record modification, and inputting; and contemporary issues in bibliographic control.


**LS 508 Administration and Management.** Three hours. Designed to introduce students to the theory and practice of modern management by studying the management aspects of authority, communications, decision making, delegation, leadership, personnel, planning, budgeting, and motivation. Use is made of case studies and simulations.
Information Resources

**LS 510 Information Resources: Humanities.** Three hours.
Prerequisite or corequisite: LS 507.
Surveys and evaluates the major informational and bibliographical resources in literature, mythology, religion, philosophy, history, and the visual and performing arts. Stephens.

**LS 511 Information Resources: Social Sciences.** Three hours.
Prerequisite or corequisite: LS 507.
Surveys scholarly communication and the use of information in the social sciences. The use of reference sources in psychology, sociology, economics, anthropology, and political science is taught. Dalton.

**LS 512 Information Resources: Sciences.** Three hours.
Prerequisite or corequisite: LS 507.
Surveys scientific and technical communication, the bibliographic structure of science and technology, and information services for scientists and technologists. In-depth study of the major information sources in biology, chemistry, physics, mathematics, engineering, and geology is included.

**LS 513 Information Resources: Government Publications.** Three hours.
Prerequisite or corequisite: LS 507.
Explores the nature, use, and organization of local, state, federal, and international documents.

**LS 514 Sources of Business Information.** Three hours.
Prerequisite or corequisite: LS 507.
Surveys and evaluates the major informational and bibliographical resources in business librarianship.

**LS 515 Advanced Information Sources and Services.** Three hours.
Prerequisite: LS 507.

Special Clienteles

**LS 521 Materials and Services for Children.** Three hours.
Explores materials (print and non-print) and programs appropriate for children ages 3 to 12. Atkinson.

**LS 522 Materials and Services for Young Adults.** Three hours.
Explores materials (print and non-print) and programs appropriate for teenagers. Atkinson.

**LS 523 Materials and Services for Adults.** Three hours.
Examines services, programming, and popular materials provided to adult users of public libraries. Stephens.

Environments

**LS 530 Public Libraries.** Three hours.
Examination of public library development, purpose, governance, and services and exploration of issues and concepts involved in managing public libraries. Stephens.

**LS 531 Academic Libraries.** Three hours.
Study of the role of library service in higher education. Osburn, Dalton.

**LS 532 School Media Centers.** Three hours.
Develops a philosophical and functional background of the school-media program as an integral part of the teaching-learning process. Coleman.

**LS 533 Special Libraries and Information Centers.** Three hours.
Philosophy, environment, and unique aspects of the services, operation, and management of special libraries and information centers are covered. Provides considerable opportunity for study of topics of interest to individual students.
LS 534 Medical Librarianship. Three hours.
Prerequisite or corequisite: LS 507 or permission of the instructor.
Introduction to medical librarianship and the environment in which it operates. Orientation to the health care field, operation and administration of health sciences libraries, and basic information sources and services for the health sciences is included. MacCall.

LS 535 Records Management. Three hours.
Introduces the fundamentals of information and records management. Content includes (a) inventory, scheduling, and auditing records; (b) active and inactive information maintenance; (c) organizing and administering a records center; and (d) applications for information systems — computer, microform, paper.

LS 536 Archives. Three hours.
Survey of archival resources and special collections, with attention to their organization, administration, and service problems.

LS 537 Music Librarianship. Three hours.
Introduces the concepts of music librarianship: collection development and management, and sources for music research.

LS 538 Law Libraries and Legal Resources. Three hours.
Introduces the concepts of law library management and the techniques and materials of legal research.

Educational Media

LS 540 Advanced Media Production and Utilization. Three hours.
Prerequisite: LS 504.
Instructional modules that advance the student to the more complex skills in the preparation and utilization of educational media.

LS 541 Media Services. Three hours.
Explores the function and organization of educational media services in a variety of institutional contexts. Emphasis is placed on the administration of a media services program.

LS 542 Instructional Design and Development. Three hours.
Comprises a series of modules that cover the basic skills required to undertake instructional development. Materials needed to plan and prepare instruction, as well as exercises designed to upgrade interpersonal skills, are included. Designed for library-media specialists, supervisors, administrators, and others who assist teachers in the development of instruction.

Historical and Conservation Studies

LS 554 Conservation and Collection Management. Three hours.
Provides an introduction to the forensic examination of manuscripts and books as artifacts, and acquaints students with their materials and structures, manufacturing technology, and historical development as media. Emphasis is on papers, leathers, synthetics, binding structure, and methods of conservation treatment, with particular attention to conservation concerns in developing collection-management and disaster-prevention policies.

LS 651 History of Libraries. Three hours.
Covers the history of the institutions that preserve and disseminate the records of intellectual progress. Dalton.

LS 653 Descriptive Bibliography. Three hours.
Examines the intellectual objectives served by descriptive bibliographies and introduces the methods and problems of bibliographical description of printed books of the hand- and machine-press periods. Emphasis is on the examination and historical analysis of books as physical objects. Primarily for students interested in the history of books, special collections, rare book cataloging, and humanities reference work.
LS 654 History of the Book: Print Culture and Society. Three hours.
Examines the book as a cultural artifact and explores the impact of print culture on communication and knowledge/information production in Europe and the United States. Topics include orality and literacy, reading, authorship, copyright, markets and distribution, and the future of books in a digital age.

LS 655 History of the Book: Book as Artifact. Three hours.
Examines the book as a physical artifact, as the material embodiment of text. Topics include the transitions between hand production and mechanical production, methods of bookmaking, printers and publishers, the alphabetic code, paratext, letterforms and typography, paper, page formats and layouts, illustrations, bindings, and other semiotic systems and bibliographic signifiers, as well as the purpose of the book with special emphasis on the relationships between meaning and physical form and the complex conventions of the book.

LS 659 Special Topics in the History of the Book. Three hours.
Studies in specialized topics.

Information Studies
LS 560 Information Technologies. Three hours.
A required course. Topics in information technology, applications of automation to library procedures, planning for and implementing an automated library system, and the library of the future. Malinconico.

Includes selected topics centered on the study of information needs, uses, and access. Covers methods for identifying the information needs of diverse populations, how people seek and use information, and methods for evaluating the effectiveness of traditional and computerized systems in helping people deal with their information-related problems. Explores the changing roles of traditional information sciences methods and tools (e.g. indexing, user studies, cognitive studies) in these matters. MacCall.

LS 562 Computer-Based Information Systems. Three hours.
Prerequisite: LS 500, LS 507.
Emphasizes database design and searching at the advanced level, selective dissemination of information, and the evaluation of information systems. Dalton.

LS 563 Indexing and Abstracting. Three hours.
Traditional and computerized approaches to indexing, abstracting, and thesaurus construction and maintenance are examined. Deals with classification systems, indexing and abstracting typologies, measures of relevance and system effectiveness, vocabulary control vs. free-text searching, and applications of cognitive-science research. Evaluation of abstracting and indexing services and organizations, as well as current and emerging standards, is conducted.

LS 564 Unix-Based Information Systems. Three hours.
Design and operation of information systems in a Unix environment. Special emphasis on distributed/networked databases.

LS 565 Economics of Information. Three hours.
Explores applications of economic principles to information and knowledge systems. Examines information as an economic good; methods for valuing information; characteristics and trends of the information economy; pricing of information products and services; and techniques for performing and evaluating cost-benefit analyses of information systems. Relationships between information economics, federal and state information policies, and social equity are explored.

LS 567 Computerized Community Information Systems. Three hours.
Introduction to computerized community information systems, covering needs assessment, policy, economics, and structure and operation of CIS’s. Includes an examination of social equity aspects, exploration of available online services, and conceptual design of a system. Letter grade. MacCall.
LS 568 Managing Network Information Resources. Three hours.
Introduces the technical and conceptual skills needed to comprehend the phenomenon of
the World Wide Web; to understand its potential; to be able to create and maintain Web
sites and intranets of modest scope and complexity; and to undertake further training in
the technologies used to create and maintain Web sites and intranets. Malinconico.

Internships

Internships require a minimum of 150 clock hours, except for LS 572, which requires
300 clock hours. Internships are to be taken during the last 12 hours of the student's
program.

LS 570 Internship. Three hours.
Prerequisite: Permission of the adviser.

LS 572 Internship in School Media Centers. Three hours.
Prerequisites or corequisites: LS 532 and permission of the adviser.

Advanced Electives

Prerequisite: Sixth-year status or permission of the instructor.

LS 590 Issues in Librarianship. Three hours.
Explores societal problems and professional developments that have, or are likely to
have, an impact on the practice of librarianship. May be taken more than once.

Students pursue specialized study in a variety of subjects in library and information
studies.

LS 594 Introduction to Philanthropy and Institutional Advancement. Three hours.
Designed to provide a broad overview to the field of philanthropy and institutional ad-
vancement. Especially suited for those who may assume administrative positions in a
wide variety of nonprofit or not-for-profit services or cultural agencies. Coleman.

LS 598 Directed Research in Library and Information Studies. One to six hours.
Pass/fail.
Prerequisites: LS 502 and permission of the instructor.
Provides the opportunity for an intensive investigation of a special aspect of library and
information studies, under the supervision of an appropriate faculty member.

LS 608 Advanced Topics in Library Management. Three hours.
Prerequisite: LS 508 or permission of the instructor.
Thorough study of all aspects of the organization and administration of libraries and
information centers.

Study of the major issues in library education. Among the topics considered are theories
of education, the university environment, special characteristics of education for the
professions, library school faculty, students, and curricula. Dalton.

LS 620 Advanced Materials and Programming for Youth. Three hours.
Prerequisite: LS 521 or LS 522.
Special topics in materials, programs, and services for children and young adults. At-
kinson. May be taken more than once.

LS 632 School Media Centers. Three hours.
Develops a philosophical and functional background of the school media program as
an integral part of the teaching-learning process. Coleman.

LS 642 Advanced Instructional Design. Three hours.
Prerequisite: LS 542.
Thorough study of the human and environmental factors that impinge upon the instruc-
tional design consultation process. Selected steps in the instructional design process
are emphasized.
LS 656 Electronic and Contemporary Publishing. Three hours. Focuses on both scholarly and commercial networked digital publishing within the context of the information cycle and information chain from the vantages of contemporary publishing and communication. The course is concerned with the numerous and varied problems/ opportunities of electronic publishing and the accompanying paradigm shifts.

LS 660 Database Analysis and Design. Three hours. In-depth coverage of database design techniques. Topics include requirement specifications, data models, schemas, and implementation considerations.

LS 666 Information Policy. Three hours. Explores key federal information policies and related legislative/regulatory activities. Focuses on relationships between public policy evolution and the spread of information technologies, emphasizing social, economic, and equity impacts and mitigating circumstances.

LS 690 Practicum in Teaching Library and Information Studies. Three hours. Designed to give doctoral students interested in a teaching career extensive teaching experience under the direct supervision of one or more faculty members. The goal is to have the responsibilities for a course. Cannot be applied to the minimum 48-hour course requirement. Coleman.


LS 699 Dissertation Research. Three to twelve hours. Pass/fail. Prerequisite: Admission to candidacy for the Ph.D. degree. Design, research, and/or analytical investigation of a topic in librarianship to satisfy dissertation requirements.

MASS COMMUNICATION (MC)

*Ph.D. program core course

MC 501 Mass Media Law and Regulation. Three hours. A study of the laws affecting the media, decisions, and case histories that act as guides for the media. Independent readings and papers are required.

MC 505 Social Responsibility of the Mass Media. Three hours. Interrelationships of government, the public, and the media. Independent readings and papers are required.

MC 509 History of Mass Communication. Three hours. An intensive study of the historical development of the media. Independent readings and papers are required.

MC 511 International Mass Communication. Three hours. A survey of communication systems and theories operative in the world. Independent readings and papers are required.

MC 513 Communication and Diversity. Three hours. Study and analysis of issues of diversity as they relate to groups in society and in communication fields. Emphasis is on the media’s treatment of various groups in society.

MC 517 Mass Communication and Public Opinion. Three hours. Nature, development, formation, and distribution of politically relevant attitudes and opinions; role of leadership, persuasion, and communication in opinion-policy process. Emphasis on the role of the media in the formation of public opinion and on how the media are influenced in turn by public opinion.

MC 521 Political Communication. Three hours. The purpose of this course is to explore the general character and dimensions of the cross-disciplinary field of political communication. The principal aim is to familiarize each participant with the literature and propositions surrounding key approaches, methods, and substantive areas of inquiry in political communication.
MC 550 Communication Research Methods. Three hours.
A survey of qualitative and quantitative methods in communication research.

MC 551 Seminar in Communication Theory. Three hours.
A study of the development of selected theories of communication as they pertain to interpersonal, public, and mass communication.

MC 581 Media Analysis Seminar. Three hours.
A study of media content and its effects on society.

MC 582 History of Communication Seminar. Three hours.
Research and study in the historical development of the media, particularly in the United States.

MC 583 Media and Society Seminar. Three hours.
Research and study in society’s expectations of the media and the response of the media.

MC 584 International Communication Seminar. Three hours.
Research and study in specific media, press systems, and theories outside the United States.

MC 585 Communication Law Seminar. Three hours.
Research in and study of specific laws and regulations related to the media.

MC 600 Proseminar in Communication and Information Sciences. Required.
The course is part of orientation for all students in the Ph.D. program. It must be taken during the first semester of study. As an introduction to relevant research and teaching practices, this course allows students to hear presentations by faculty and advanced doctoral students.

MC 601 Proseminar in Pedagogy. Required.
The course is part of orientation for all students in the Ph.D. program. It must be taken during the second semester of study. It introduces the students to teaching techniques in Communication & Information Studies.

MC 602 Colloquium in Communication and Information Sciences. Three hours.
Prerequisites: MC 600 and MC 601.
The course is part of orientation for all students in the Ph.D. program. It must be taken during the third semester of study. The course is designed to allow doctoral students to learn about research being conducted within the College and to make formal presentations of their own research.

MC 603 Communication Research Methods*. Three hours.
The course is a Ph.D. core requirement. Topics are a survey of quantitative and qualitative methods in communication and information sciences. The course provides detailed study of research methods appropriate to the Ph.D. specializations.

MC 604 Mass Communication Theory*. Three hours.
This course is a Ph.D. core requirement for students specializing in Mass Communication. The course is a survey of the development of theories of mass communication and provides a detailed study of the theoretical foundation of each student’s specialization.

MC 605 Cultural, Critical, and Rhetorical Theory. Three hours.
This is a Ph.D. core requirement for students specializing in Cultural, Critical and Rhetorical studies. The course is a survey of the development of theory development in these areas.

MC 606 Knowledge and Information Theory. Three hours.
This is a Ph.D. core requirement for students specializing in Information Studies. The course is a survey of theoretical developments in the study of knowledge and information.

MC 607 Theory Construction and Epistemology. Three hours.
This course is designed to provide detailed study of the philosophical foundations of theory construction and current issues in theories of the nature of knowledge.

MC 650 Seminar in Mass Communication. Three hours.
Topics vary but may be research in broadcast news, libel and privacy, communication management, organizational communication, international communication, or another area appropriate for advanced study and original research. Emphasis is on specific topics outside the main topic areas, but the course supports the Ph.D. specializations and
coincides with the research needs of students and the expertise of the directing faculty member. Depending on the interests of participants and on the topic of the seminar, students may conduct research individually or may work together on research projects. May be repeated.

**MC 690 Directed Research.** Variable credit.
Original research not related to the dissertation, conducted under the direction of a graduate faculty member.

**MC 699 Doctoral Dissertation.** Variable credit. Three-hour minimum.

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**TELECOMMUNICATION AND FILM (TCF)**

**TCF 511 Seminar in Critical Studies in Television.** Three hours.
Advanced study of selected topics in television criticism.

**TCF 520 Telecommunication Effects.** Three hours.
Study of individual and social effects of audio and visual mass media, with emphasis on research results.

**TCF 533 Broadcast News Analysis.** Three hours.
Historical and critical analysis of broadcast news and public-affairs programs in the United States; research methodology used in the assessment of news programming.

**TCF 540 Seminar in American Cinema.** Three hours.
Study of selected topics in American film genre, authorship, and the star system.

**TCF 541 The Documentary Form.** Three hours.
The documentary presentation in cinema and telecommunication as an informative and persuasive means of communication. Analysis and discussion of selected documentaries.

**TCF 544 Seminar in Telecommunication/Film Topics.** Three hours.
Analysis of contemporary issues in broadcasting, cable, and/or motion-picture industries. Topics vary with instructor.

**TCF 545 Telecommunication Media Management.** Three hours.
Study of station, cable TV, and network organization; decision making; and research techniques.

**TCF 547 Telecommunication History and Systems.** Three hours.
The development of the global information infrastructure since the middle of the 19th century, a comparative review of national legal and regulatory systems, international decision-making mechanisms and effects, the evolution of new forms of governance for the World Wide Web environment, and current issues.

**TCF 548 Telecommunication Policy and Law.** Three hours.
Organizational structures and processes that formulate and apply laws and regulations shaping broadcast, cable, satellite, and “new technology” operations; analysis of national policies and standards and their relationship to regional and international controls and practices.

**TCF 553 Seminar in Telecommunication.** Three hours.
Topics and instructors change with each offering. Individual research is emphasized. May be repeated, with permission of the instructor (6-hour limit).

**TCF 575 Cable Television and New Technologies.** Three hours.
Study of the history of the cable TV industry and operation of contemporary cable systems and selected other electronic media systems, such as communication satellites, wireless cable, cellular telephones, and high-definition video.

**TCF 577 Cinema Seminar.** Three hours.
Study of special topics in the history and theory of the cinema. May be repeated with permission of the instructor (6-hour limit).

**TCF 579 Independent Research.** Variable credit.
Prerequisites: Permission of the instructor and approval of the student’s program committee.
May be repeated with permission of the instructor and approval of the program committee (6-hour limit).

**TCF 598 Master’s Research Project.** One to three hours.

**TCF 599 Thesis Research.** One to six hours.
The College of Community Health Sciences (CCHS) is committed to the education of students in the health sciences. CCHS provides the last two years of clinical training for a portion of the medical students enrolled at the University of Alabama School of Medicine, and it operates a three-year family practice residency program.

CCHS welcomes students from disciplines other than medicine. A variety of graduate-level courses are offered, as are internship and research opportunities for students in nursing, health care management, nutrition, psychology, education, social work, and other disciplines.

Admission Requirements

The College of Community Health Sciences does not offer a degree, and students taking courses offered by CCHS are enrolled in other Graduate School programs or the University of Alabama School of Medicine (medical students). Admission requirements for these programs are given elsewhere. For more information, contact the registrar in the Dean's Office, College of Community Health Sciences, Box 870326, Tuscaloosa, AL 35487-0326; e-mail pmurphy@cchs.ua.edu.

Graduate minor in community health sciences. The aim of the graduate minor in community health sciences is to provide the student with an understanding of health and disease as processes influenced by a wide range of factors, from the molecular to the sociocultural. The minor emphasizes the concepts and tools of epidemiology, community and family medicine, and behavioral sciences. To obtain a graduate minor, the student must successfully complete 12 hours in community health sciences (CHS) courses. The following three courses are required:

<table>
<thead>
<tr>
<th>Required courses</th>
<th>Semester hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHS 520 Basic Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>CHS 527 Health Policy and Planning</td>
<td>3</td>
</tr>
<tr>
<td>CHS 610 Special Problems in Medical Behavioral Science</td>
<td>3</td>
</tr>
</tbody>
</table>

In addition, students must take 3 credit hours of their choice from other graduate CHS offerings.

It is anticipated that the entering student will have a sufficient background in quantitative methods. If not, the student will be required to take CHS 525 Biostatistics prior to the other required coursework; CHS 525 will complete the student's required 12 credit hours.

Course Descriptions (CHS)

The courses listed below are open to qualified graduate students. Medical school and family practice residency curricula are published separately from this catalog.

CHS 500 Rural Environment/Occupational Health. Three hours. Prerequisite: Standing as a Rural Medical Scholar or permission of the instructor.

The goal of the course is to help the student recognize environmental and occupational health hazards in the rural setting, the effects of exposure to these hazards, and preventive measures that should be taken to avoid them.

CHS 520 Basic Epidemiology. Three hours. Prerequisite: CHS 425 or equivalent.

A course for students in health-related fields. The basic epidemiologic approach is developed; principles and methods are learned through readings (text and published studies), lectures, discussions, and the preparation of a research design by each student.
CHS 522 Community Clinical Process. Three hours.
Prerequisite: Standing as a Rural Medical Scholar or permission of the instructor.
A combination of scheduled sessions and fieldwork activities. The fieldwork will consist
of visiting with an assigned rural adviser, completing a rural community assessment,
and assisting with community health screenings and education programs.

CHS 525 Biostatistics. Three hours.
A course in statistical methods and concepts particularly appropriate for biomedical
research and health-related subjects. Topics include descriptive statistics, probability,
parametric and nonparametric procedures for one-group and two-group problems, con-
tingency tables, and computer applications.

CHS 526 Advanced Biostatistics. Three hours.
An advanced course in statistical methods and concepts particularly appropriate for
biomedical research and health-related subjects. Topics include simple and multiple
regression, analysis of variance, and analysis of covariance.

CHS 527 Health Policy and Planning. Three hours.
Designed to assist the student in understanding the planning process and factors that
influence and determine policy decisions.

CHS 532 Community Clinical Process II. Three hours.
Prerequisite: CHS 522 or equivalent.
A continuation of studies from CHS 522 that will include an introduction to basic physical
assessment techniques and continuation of a community project.

CHS 560 Introduction to Medical Science. Three hours.
Prerequisite: Second-year standing in social work or graduate standing in a health- or
mental-health-related discipline.
Introduces social workers and other allied health professionals to the basic processes
and components of the health care system; the major structures and characteristics of
human body systems; the common or characteristic pathophysiological processes as-
associated with these body systems; and the implications of illness and wellness for the
individual, the family, and the community.

CHS 610 Special Problems in Medical Behavioral Science. One to three hours.
Open to graduate students in the social and behavioral sciences by permission of the
instructor. Research or directed reading in behavioral science.

CHS 620 Independent Study in Preventive/Community Medicine. One to three
hours.
Research or directed reading in community medicine topics, including health care delivery,
preventive medicine, and health policy aspects of other related topics.

CHS 622 Directed Research in Community Health. One to three hours.
An advanced applied-research course designed to develop skills in the analysis and
evaluation of health problems of community interest.

CHS 627 Multivariate Methods of Health Statistics. Three hours.
Prerequisite: CHS 526 or equivalent.
Emphasis is on application and interpretation of statistical software that performs tech-
niques such as multivariate analysis of variance, discriminant analysis, logistic regression,
log-linear modeling, and factor analysis.
COLLEGE OF EDUCATION

The College of Education offers graduate programs leading to the master of arts, the educational specialist, the doctor of education, and the doctor of philosophy degrees.

General Admission Requirements

To be considered for regular admission to a graduate program in the College of Education, a student must satisfy both of the following admission requirements:

- An entrance examination score no lower than the 50th percentile. Either of the following examinations may be used if acceptable to the department to which admission is sought: the Miller Analogies Test and the Graduate Record Examination general test.
- An undergraduate grade point average of 3.0 on a 4.0 scale, a 3.0 average for the last 60 semester hours in a degree program, or a 3.0 or higher in a completed graduate degree program.

An applicant whose credentials do not meet the above requirements may be considered for conditional admission, if one of the following minimum requirements is satisfied:

- an overall grade point average of 2.75 (2.5 kinesiology)
- an entrance examination score no lower than the 40th percentile on the entrance examination required by the department

Admission to graduate programs is competitive. Meeting minimum requirements does not guarantee admission, only that students will be reviewed for admission. Applications are reviewed by departmental screening committees with consideration given to such factors as academic and professional backgrounds, test scores, personal traits, physical and mental health, professional goals and aspirations, and other factors that pertain to the ability to complete the program successfully and continue a productive career.

An applicant to a College of Education program that leads to professional certification must submit references from current and former professors and supervisory personnel knowledgeable of the applicant’s academic and professional capabilities.

Additional admission requirements may be outlined in the individual department descriptions in this catalog.

MASTER’S DEGREE PROGRAMS

The College of Education offers graduate work for the master of arts degree in counselor education (school counseling, community counseling, and rehabilitation counseling); early childhood education; educational leadership; higher education administration; educational psychology; general educational psychology; educational psychology: school psychometry; elementary education; human performance; music education; (choral, general, and instrumental); secondary education; and special education.

The rules of the University of Alabama Graduate School pertaining to transfer of credit, academic progress, graduation requirements, admission to candidacy, and time limits apply to all students in College of Education master’s degree programs (see “Academic Policies” earlier in this catalog).

Master’s programs prerequisites. The prerequisites for programs leading to the master of arts degree in education include (a) the completion of an appropriate baccalaureate curriculum, and in most programs, (b) professional teacher certification. For a student in college and community counseling or higher education, the completion of a bachelor’s degree in an approved program is required. For a student in music education, audition, ensemble performance or teaching sample, and music history and music theory testing are required prior to or during the first 12 hours of graduate study.

For a student in educational leadership, the completion of a professional teacher certification program and two years of satisfactory teaching experience, including at
least one year of P–12 teaching experience, is required. This should be completed by
the end of the first year of graduate study. In addition, students preparing for positions
in educational leadership are required to complete screening procedures, including
special tests.

Master’s degree requirements. There are two study plans available to students pur-
suing the master of arts degree. Candidates for the master’s degree under Plan I must
earn a minimum of 24 semester hours of credit in coursework and must write a thesis. Candidates for the master’s degree under Plan II must earn a minimum of 30 semester hours of credit; a thesis is not required.

Master’s degree programs leading to professional certification normally require a
minimum of 30 semester hours. Nontraditional, alternative certification programs re-
quirements vary; however, they normally require 39–45 graduate hours in addition to
any of the applicant’s undergraduate deficiencies.

Under each plan (including the nontraditional, alternative program) the student must
pass a comprehensive examination in the field(s) of study at an appropriate time toward
the close of the student’s work.

Additional degree requirements may be outlined in the individual program descrip-
tions in this catalog.

Nontraditional, alternative initial teacher certification program. The College of
Education has been approved by the state board of education to offer special programs
of study leading to the master’s degree for degree holders who have not previously com-
pleted a teacher-education program. Admission to these programs requires a passing
score on either the Graduate Record Examination general test or Miller Analogies Test
appropriate for admission to the Graduate School; and a minimum 3.00 grade point
average for all previous college-level work attempted. Individuals applying for alternative
initial teacher certification programs must meet the minimum qualifications that are ex-
pected of candidates entering and completing undergraduate (Class B) certification in the
same discipline. This usually means minimum GPA requirements in the core curriculum
as well as minimum GPA requirements within the disciplines in which the applicant is
seeking certification. Other requirements, such as completion of writing tests and other
screening associated with undergraduate certification, must be completed before formal
admission to the alternative certification program. Some additional undergraduate work
may also be required for admission. In addition to admission to the Graduate School,
each prospective student must secure an appropriate evaluation letter from personnel
in the Office of Student Services and Certification, 104 Carmichael Hall.

Nontraditional, alternative certification programs are available in early childhood educa-
tion, elementary education, music education, physical education, secondary education
(most fields), and interdisciplinary teacher education (collaborative, early childhood
special education, and multiple abilities).

To graduate, students in these programs must complete the required semester hours in
specific graduate courses. Upon completion of the program, the student is eligible to be
recommended for an Alabama Class A Professional Certificate. For most programs, no
more than 12 semester hours of graduate courses may be completed in a nontraditional,
alternative program before the removal of all admission deficiencies, unless special
permission is granted by department heads in conjunction with personnel in the Office
of Student Services and Certification, 104 Carmichael Hall. A student with a master’s
or higher degree in a secondary teaching field (or N–12 in music) generally may apply
12 semester hours from that degree to the fulfillment of teaching field requirements.
This allows the completion of up to 12 additional graduate hours in the program while
meeting admission deficiencies and requirements.

Clinical placements. All clinical placements in the College of Education are coordinated
through the Office of Clinical Experiences. These placements are in the greater Tuscaloosa
area (with the exception of music education) in order to facilitate supervision of students.
For students in the educational leadership program, internships are coordinated through
the Department of Educational Leadership, Policy, and Technology Studies.

Professional liability. Students enrolled in College of Education courses that re-
quire a clinical placement are required to provide proof of professional liability insur-
ance before being allowed to participate in a clinical placement. Professional liability
insurance may be purchased through an independent insurer or is available to students who are members of the Student Alabama Education Association (SAEA), the Council for Exceptional Children (CEC), or Collegiate Music Educators National Conference (CMENC). Further information and membership applications may be obtained from the Office of Clinical Experiences.

**Internship requirements.** The teaching internship (formerly called student teaching) is one of the most important experiences College of Education students have. It is generally regarded as the culminating activity of one’s preparation to become a teacher. At The University of Alabama, the internship is a full-semester, full-time assignment and must be taken in residence. Students enrolled for an internship must not expect to be enrolled in other courses while interning.

Both alternative (nontraditional, fifth-year) and graduate students must file internship applications with the Office of Clinical Experiences in 105 Graves Hall during the semester preceding the semester of the planned internship. The application process begins by attending a mandatory application session, which is held the first Wednesday in October for spring-semester interns and the first Wednesday in March for fall-semester interns. The time, date, and place of the application session are announced at the beginning of each semester. The deadline for filing applications for a spring-semester internship is October 31; for a fall-semester internship the deadline is March 31.

Students may apply to enroll for an internship if they meet the following criteria:

- The student must have completed all courses in the major or majors, or must secure written permission to enroll for an internship from the appropriate department head.
- The student must have achieved a minimum grade point average of 3.0, both for all University of Alabama courses attempted and for all University of Alabama courses and transfer courses combined.
- The student must have achieved a minimum grade point average of 2.75 in each major, both for University of Alabama courses in each major and for combined University of Alabama courses and transfer courses in each major.
- The student must have achieved a minimum grade point average of 2.75 for professional education coursework.
- The student must have completed all methods courses and appropriate professional coursework with grades of “C” or better.
- The student must have removed from the transcript any grade of incomplete (“I”) recorded in required courses; grades of incomplete are treated as grades of “F.”

**Registration for internship credit hours.** Graduate students are required to register for the number of internship credit hours specified by their program. In some programs, graduate students may be allowed to choose a 6-hour registration or a 9-hour registration; course requirements are the same whether 6 hours or 9 hours are taken. Graduate students whose program requires two internship placements should register for two sections of internship (3 hours per section or 4.5 hours per section). Students enrolled for internship must not expect to be enrolled in other courses while interning.

**Policy on internship placements.** All internship placements are coordinated by the College of Education Office of Clinical Experience. Placement sites are selected so as to ensure the quality of the internship experience and of the supervision provided by the cooperating teacher. All internship placements are in the greater Tuscaloosa area with the exception of music education), in order to facilitate supervision of students by University of Alabama faculty or other designees of the department heads. Placements outside the greater Tuscaloosa area are made only if the director of clinical experiences and/or the department head determines that an appropriate local placement is unavailable.

Students may apply for overseas internships if they meet certain criteria and if appropriate placements can be coordinated by the Consortium for Overseas Student Teaching (COST) and/or The University of Alabama. Applications for overseas internships are taken during January for placements for the next fall semester, and in May for placements the succeeding spring semester. Contact the Office of Clinical Experiences in 105 Graves Hall for additional information.
Internship assignments

- **Elementary education (K–6)** interns will receive two internship assignments: half in grade K, 1, 2, or 3; and half in grade 4, 5, or 6.
- **Secondary education (6–12 or 7–12)** interns with a comprehensive major may receive one or two internship assignments; students with two secondary majors will receive a split internship assignment; half in each major.
- **Special education–CTP (K–6 or 6–12)** interns will receive a split internship assignment: half in a severe and profound setting and half in a mild to moderate setting. The placements will be divided according to their certification grade levels.
- **Special education–early childhood (birth–age 8)** interns will receive a split internship assignment: half in a special education preschool setting and half in a kindergarten through 2nd grade setting. These placements will be in a public school setting where a child has been identified with a disability.
- **MAP (K–6)** interns will receive two internship assignments: one 12 week semester placement will be in a general education classroom (K-6) and the other 12 week semester placement will be in a special education setting (K-6).
- **P–12 programs in physical education, foreign language, or music education** interns should expect to have a split internship assignment between an elementary and a secondary school.
- **English as a second language (ESL)** interns should expect to have a split internship assignment between an elementary and a secondary school if ESL interns are employed full-time as an ESL teacher in a public school setting, they may complete one semester of internship in their own classroom under the supervision of their building principal and a first-term summer semester of internship in an ESL summer program coordinated by the Office of Clinical Experiences under the supervision of an University of Alabama ESL faculty member.

Summer internship. Summer internships are rarely available and then only to persons who hold an undergraduate degree and certification and have one or two years of successful teaching experience at the level and in the subject for which they are seeking certification (with approval from the department head). In addition, summer internship assignments are allowed only if an appropriate placement can be secured in the Tuscaloosa area and appropriate supervision can be provided. These conditions also apply to those seeking to update or renew their certification or add an additional endorsement to a current certificate. To apply for a summer internship, file an appropriate application with the Office of Clinical Experiences in 105 Graves Hall by March 31 of that year.

PROFESSIONAL CERTIFICATION

**Alabama Class A Professional Certificate.** Following a review by the Alabama State Board of Education, the Class A Professional Certificate is granted to the student who (a) has applied for and has been recommended for certification by the College of Education, and (b) has completed a preplanned graduate program, approved by the state board of education, that includes a master’s degree. It is important to remember that the awarding of a master’s or higher degree does not necessarily imply that the student is eligible for Class A certification. Applicants for the certificate must also present to the Alabama Department of Education evidence of successful and appropriate teaching experience, as follows: for certification as a library/media specialist, two years; as a counselor or psychometrist, two years; as an educational administrator, three years.

The Class A certificate is valid for five years and may be renewed according to regulations of the Alabama State Board of Education.

**Alabama Class AA Professional Certificate.** Following a review by the Alabama State Board of Education, the Class AA Professional Certificate is granted to students who (a) have applied for and are recommended for certification by the College of Education, and (b) have completed a preplanned graduate program, approved by the state board of education. Students seeking Class AA professional certification must enroll in and complete the Ed.S. (or doctoral) degree program in the desired certification area in order to obtain the University’s recommendation for Class AA professional certification.
Courses used to qualify for a lower-level supporting certificate may not be used again as part of a higher-level certification program.

A cumulative grade point average of not less than 3.25 is required for all graduate work attempted after the master’s degree, and a final comprehensive examination is required. A maximum of 15 semester hours of appropriate post-master’s-degree credit earned through an institution approved to offer graduate programs beyond the master’s level in the field of study in which the credits were earned may, with approval by the department head or his or her designee, be applied toward the Class AA Professional Certificate. It is important to remember that the awarding of a graduate degree does not necessarily imply that the student is eligible for Alabama certification.

A student completing requirements for a master’s degree during a semester or summer session who does not need a full class load to meet those requirements may, with approval of the adviser and department head, register for additional courses toward a Class AA Professional Certificate, not to exceed the maximum prescribed class load.

**Strengthened Subject Matter Option (SSMO).** In family and consumer sciences, graduate students may opt to complete the Class A certification program with the Strengthened Subject Matter Option, or SSMO. Generally, SSMO programs require a master’s or higher degree in the teaching field, with appropriate courses completed for lower-level certification or as an additional part of the graduate program (e.g., general survey in exceptional childhood education). Since SSMO is not available in all fields, consult the appropriate department head or personnel in the Office of Student Services and Certification, 104 Carmichael Hall.

**Alternative approaches to certification.** In addition to “regular” certification programs, the Alabama State Board of Education offers five alternative approaches to certification. These are as follows: (a) alternative baccalaureate-level approach (not available at The University of Alabama); (b) alternative fifth-year-level approach (see information in this catalog); (c) speech- and language-impaired approach; (d) nationally certified school psychologist approach; and (e) National Board for Professional Teaching Standards approach. Further information regarding these alternative approaches is available via the Office of Student Services and Certification, 104 Carmichael Hall.

**Policies for out-of-state students at fifth-year (Class A) and sixth-year (Class AA) levels for any area except educational administration.** Admission requirements for fifth-year (Class A) programs for teachers include “eligibility for Class B certification in the teaching field(s) in which Class A certification is sought,” except in a few specified fields.

Admission requirements for sixth-year (Class AA) programs for teachers include “eligibility for Class A certification in the teaching field(s) in which Class A certification is sought,” except in a few specified fields.

Out-of-state students who do not meet the above admission requirements to enroll in courses at the respective levels may be recommended to other state departments of education based only on completion of coursework, not completion of approved programs. Thus, these students will not be eligible for Alabama certification and, if and when the students wish to receive Alabama certification and teach in Alabama, they must present verification of eligibility for an appropriate prerequisite Alabama certificate before being recommended for Alabama certification.

**Policy for fifth-year level educational administration.** All students (not just Alabama students) must meet all admission requirements for the Class A Educational Administration Program before enrolling in the program.

**Changes in certification requirements.** The programs listed in this catalog that lead to Alabama Class A and Class AA professional certificates for service in the public schools may be altered to meet certification standards adopted by the state board of education. Check with the appropriate department head for information.

Coursework and/or a degree accepted from institutions outside the United States shall be substantiated by an evaluation of the foreign credentials from a state, federal, or private foreign credential evaluation service recognized by the Teacher Education and Certification Office.
EDUCATIONAL SPECIALIST DEGREE

The College of Education offers graduate work for the educational specialist (Ed.S.) degree in counselor education, educational leadership, educational psychology: general educational psychology, educational psychology: educational research, educational psychology: school psychology, elementary education, music education, secondary education, and special education.

The College of Education conducts its Ed.S. programs in accordance with the rules of the University of Alabama Graduate School; see the section “Academic Policies” earlier in this catalog for regulations.

Graduate students seeking AA certification at The University of Alabama must enroll in and complete the Ed.S. (or doctoral) program in that certification area in order to obtain University of Alabama recommendation for AA certification.

DOCTORAL PROGRAMS

Programs leading to the doctor of philosophy (Ph.D.) degree are offered in counselor education, educational administration, higher education administration, educational psychology, educational research, elementary education, human performance, instructional leadership, school psychology, secondary education, and special education. Programs leading to the doctor of education (Ed.D.) degree are offered in counselor education, educational administration, higher education administration, educational psychology, elementary education, music education, school psychology, secondary education, and special education. The doctoral programs are designed for school personnel and others engaged in educational service and leadership.

A master’s degree from an accredited institution is required for admission into any Ed.D. or Ph.D. program in the College of Education. Other objective and subjective criteria are employed to select students whose success can be reasonably predicted. Some doctoral programs have further prerequisites for admission, such as a professional teaching certificate and/or certain experience in teaching or a related activity. Those who wish to pursue doctoral study in the College of Education should communicate directly with the head of the department in which they wish to work.

In planning a program, doctoral students should follow these steps:

Declaration of intent. Before establishing a doctoral committee, students must successfully complete a screening process in the department in which they wish to study. The applicant initiates the screening process by filing a declaration of intent form with the appropriate department head. The forms are available in the departmental offices.

Preliminary conference. As part of the screening process, appropriate faculty members review information the applicant has supplied and interview the applicant. In this preliminary conference, consideration is given to factors such as the applicant’s academic and professional background, test scores, personal traits, physical and mental health, professional goals and aspirations, and other factors that pertain to the ability to complete the program successfully and continue a productive career. The applicant is notified of the decision of the screening committee by the department head within a few days following the preliminary conference. The department head notifies the College of Education Office of Student Services of the decision by returning the appropriately marked declaration of intent form.

Appointment of adviser and doctoral program advisory committee. Students accepted for doctoral study will be asked to confer with the appropriate department head regarding the appointment of advisers and program advisory committees. Nominations for appointment to these committees are made by the program chairperson through the department head to the dean of the College.

Ed.D. program advisory committees usually consist of a minimum of three members of the graduate faculty: a chairperson who represents the student’s major area of study and who will be the major adviser for the student in program planning and research, and two members (one from outside the department of the College in which the student is majoring) who can also be of assistance in their areas of expertise.

Ph.D. program advisory committees must have at least five members: a chairperson, who is drawn from the graduate faculty and who represents the student’s major area of
study (the chairperson serves as the major adviser in program planning and research); two members, each representing one of the student’s minor areas of study; and two additional members. One member of the committee must be from outside the department of the student’s major.

**Program planning.** As soon as possible after the appointment of the doctoral program advisory committee, but no later than the end of the first semester of doctoral study, the student and the major adviser should convene a meeting of the program advisory committee. At this program-planning meeting, the student provides each member with a formal written summary of graduate study to date. The student and the committee then plan a program of study to meet the academic and professional needs of the student and fulfill all requirements of the program, the College, and the Graduate School. Program planning forms for both doctoral degrees may be obtained in the departmental offices.

Official copies of the plan agreed upon by the student and the committee shall be dated, signed by the committee members and the department head, and distributed to the Office of the Graduate School, to the student’s program office for inclusion in the student’s program file, to the dean, and to the committee members. Any deviation from the plan must be approved by the committee and noted by the chairperson on the student’s official record and communicated to the Graduate School.

The program advisory committee continues to assist the student in program planning and advisement until the student satisfactorily completes all major and minor comprehensive examinations.

**Degree requirements.** Requirements for the Ph.D. degree are a minimum of 24 semester hours in a major field of study; a minimum of 12 semester hours in courses in foundations of professional studies; and a minimum of 24 hours of dissertation research, and, if required by the department, any hours associated with minors, although there is no longer a College-wide requirement for minors. The total minimum course credit hours for the Ph.D. is 48.

For the Ed.D. degree, 60 semester hours beyond the master’s degree, or a minimum of 90 semester hours including the master’s degree, are required, although some programs may require more. Programs must include a broad field of study in a major area of specialization; a minimum of 12 semester hours in courses in foundations of professional studies; and a minimum of 12 semester hours of dissertation research. With the approval of the student’s program advisory committee, up to 6 semester hours of dissertation research credit may be included in the 60 (or 90) required hours, in such cases making the minimum number of hours 66 (or 96).

Most doctoral students must complete a 3-hour graduate course in the history and/or philosophy of education. Further, all students must take an additional 9 graduate hours of courses in foundations of education, or they must take work outside the College in disciplines that are foundational to the major. These courses are identified on the doctoral program planning form and require the approval of the student’s program planning advisory committee, program chairperson, and department head. A 12- to 15-semester-hour research/statistics competency is required in all Ph.D. and Ed.D. programs.

**Major and minor examinations.** Each Ph.D. candidate must demonstrate competence in his or her major fields (and minor fields, if required by the department). Each Ed.D. student must demonstrate competence in the broad area of knowledge and any areas of specialization specified in his or her program of study. Written comprehensive examinations are required to determine competence in the student’s major (Ph.D.) or broad area of knowledge (Ed.D.). A student who fails a major or minor examination may repeat it only once.

A student may apply to take the comprehensive examination in the major after filing a program of study, completing at least one semester in residence, and obtaining approval of the department head (or the department head’s designee) to take the examination. An examination application should be filed with the appropriate department head at least four weeks in advance of the scheduled testing date.

Comprehensive examinations in minor fields or areas of specialization can be taken after the student has completed all coursework in the minor field. The chairperson of the program or department offering the minor or area of specialization may establish evaluating procedures other than a written comprehensive examination.

**Dissertation committee.** The dissertation committee is responsible for assisting the doctoral student in developing and conducting dissertation research. Once the disser-
tation committee is formed, the student’s program planning committee is disbanded. To form the dissertation committee, the student meets with the chairperson of the program advisory committee to discuss a potential dissertation topic and identify faculty with relevant expertise who by virtue of full membership in the graduate education faculty may chair the dissertation committee. The student then requests such a faculty member to chair the dissertation committee, and together they recommend at least four additional members of the committee, at least one of whom is from outside the department that includes the student’s major field of study.

Selection of the committee chairperson and members should be based on the relationship between the expertise and scholarly interests of the faculty members and the student’s proposed dissertation topic. The student and committee chairperson recommend the committee to the program chairperson who recommends the committee to the department head, who in turn recommends the committee to the dean of the College of Education.

The dissertation committee chairperson provides intense counsel in selecting the dissertation problem, developing the proposal, coordinating input from committee members, chairing committee meetings, guiding the student’s dissertation research, guiding the writing of the dissertation, and chairing the oral defense of the dissertation. The dissertation committee assists the student in developing the proposal, conducting dissertation research, and writing the dissertation; and judges the adequacy of the student’s dissertation defense. Close cooperation and involvement of all committee members are expected at all stages of the dissertation process, from the development of the proposal to successful oral defense of the dissertation. The student, in consultation with the chairperson of the committee, is responsible for the scheduling of committee meetings.

**Dissertation proposal.** The dissertation is a contribution to research and literature in a field. It represents the student’s ability to identify a problem, develop an understanding of the relevant literature and previous research in an area of inquiry, formulate cogent research questions or hypotheses, report and discuss results of investigation, and derive conclusions, implications, and recommendations from results. The dissertation proposal is the first major step in this process.

The topic of the dissertation should evolve from the student’s academic and professional interests. The topic will not be accepted until the dissertation committee formally meets and approves a comprehensive dissertation proposal. While a student may present a brief prospectus to the committee informally, the acceptance of the complete dissertation proposal is necessary before the student has approval from the committee to pursue the dissertation, and before the student is admitted to candidacy for the doctoral degree.

The dissertation proposal will include an introduction to the problem, a statement of the problem, research questions or hypotheses, a comprehensive review of literature and related research, a description of the methods of inquiry or research methods to be employed in investigation, and the results of pilot studies (where appropriate). It is expected that the information presented in the proposal will be comprehensive and will include discussion of the areas just mentioned in a form that is essentially the same as the final dissertation. Some departments require a formal prospectus prior to the dissertation proposal.

Prior to the formal proposal meeting of the dissertation committee, the student should confer with all committee members. The written dissertation proposal must be provided to members of the committee at least 10 working days prior to the proposal meeting. The Graduate School policy on article-style dissertations may be found in the “Academic Policies” section of this catalog under “Dissertation.”

Upon acceptance of the dissertation proposal, including completion of any changes recommended by the committee, each committee member will sign the acceptance page of the dissertation proposal. One copy of the signed proposal will be filed with the chairperson of the dissertation committee, and one copy will be forwarded to the program chairperson and department head for the student’s permanent file. The student is then eligible for admission to candidacy for the degree; the application for admission to candidacy for degree must be completed. The dissertation proposal will be maintained in the program and departmental office until the student completes and successfully defends the dissertation.
Typically, the student’s major adviser (chairperson of the dissertation committee) will serve as the chief adviser for the dissertation research and preparation of the dissertation. However, another adviser may be selected if the choice of topic warrants such action. Such a change must be approved by the program chairperson and department head, in consultation with the student. In addition, more than five faculty members may serve on the dissertation committee. Students are encouraged to seek advice and assistance with their research from any member of the dissertation committee and from staff members in the College of Education Research Assistance Laboratory.

The length of work on dissertation research will vary. In no case shall the student be allowed to take an oral examination on the dissertation before having been admitted to candidacy.

**Admission to candidacy.** After approval of the dissertation proposal, and completion of all major and minor examinations, the student is eligible for admission to candidacy for the degree. The Graduate School provides the form application for admission to candidacy for the Ph.D. or Ed.D. degree. The student completes the form; obtains the signatures of the dissertation committee, department head, and other appropriate officials; and has the form forwarded to the dean of the College of Education for signature. Copies of the form are then distributed per instructions on the form.

The department head reports the results of all comprehensive examinations to the College’s Office of Student Services and Certification. The student’s doctoral program advisory committee is no longer necessary at this point and is disbanded.

No student may be admitted to candidacy in a program requiring teaching experience before completing the minimum number of years of appropriate teaching or other experience acceptable to the dissertation committee. A statement of experience from previous employers may be required.

**Oral examination.** Since the dissertation research results from the acceptance of the proposal, a minimum of two semesters normally is anticipated prior to oral defense of the dissertation. This time frame ensures adequate attention to discussion of results, their implications for the field, and recommendations for future scholarship.

When all requirements have been met and the dissertation is completed, the student shall arrange a meeting of the dissertation advisory committee; the student shall distribute copies of the dissertation to the members at least 10 working days prior to this meeting.

At least 10 working days prior to defending the dissertation, the student must send an abstract of the dissertation to all faculty in the College of Education, along with an invitation to attend the defense that indicates time and place of the defense. The student must defend the dissertation satisfactorily in that meeting and must pass any other examinations considered appropriate. The record of the student’s performance on the final defense of the dissertation will be noted on the proper forms, in accordance with requirements of the Graduate School. These forms will be signed by committee members.

It is the responsibility of the student to submit to the Office of the Graduate School, six weeks prior to graduation, two copies of the dissertation and the abstract in the final, approved form. Further changes or corrections may be suggested by the Graduate School at this time, and these must be completed or reconciled before graduation.

**Time limits for doctoral study.** Doctoral programs of study may include appropriate coursework that has been earned six years prior to the date of the student’s admission to the doctoral program. All degree requirements must be completed within seven years of the date of the student’s admission to and enrollment in the doctoral program. For example, a student being admitted to and enrolled in the 2003 fall semester may utilize appropriate coursework earned during the 1997 fall semester, and may also utilize appropriate coursework earned through the 2010 summer semester.

**Time limits extension request.** Under unusual circumstances, a student may petition for a one-semester extension to the seven-year time limit that, if recommended by the department head and approved by the graduate dean, will not require the student to validate any out-of-date courses. Validation of out-of-date courses is not an option in the College of Education. If a student fails to complete all degree requirements within seven years of his or her admission to the doctoral program, the student will be dropped from the doctoral program and must reapply for admission.
Repeating courses when given an extension. When requests are made for extension of Graduate School deadlines, and it is deemed that an out-of-date course is integral to the degree program, the Dean of the College of Education may request permission of the Graduate School for the course to be repeated. In such instances, both grades shall be used in calculation of the GPA.

Residence requirements for doctoral study. A minimum of two academic years of graduate study beyond the master’s degree is required for completion of Ed.D. and Ph.D. programs in the College of Education. At least one academic year of doctoral study (or its equivalent, as noted below) must be spent in continuous residence as a full-time student on the campus of The University of Alabama.

Doctoral program advisory committees may approve either of the following alternatives for meeting residence requirements:

- one full summer term and the following fall semester engaged in coursework on a full-time basis on the campus
- a spring semester and the following full summer term engaged in coursework on a full-time basis on the campus

Students in the elementary education, secondary education, and educational leadership Ed.D. (not Ph.D.) programs have the option to meet the doctoral residency requirement by following an alternative policy that is on file with the Graduate School. Contact the Graduate School for details.

Students at the Gadsden Center may fulfill Ed.D. residency by completing 24 graduate hours while continuously enrolled for a period of 24 months.

Transfer credit. Appropriate graduate credit beyond the master’s degree that was earned in other accredited institutions may be transferred and applied to doctoral requirements, but in no case can the amount of transferred credit exceed one-half of the hours required for the degree. In calculating the number of transferable hours, dissertation-research credit hours are subtracted from the total degree requirements.

Additional degree requirements may be outlined in the individual program descriptions in this catalog.

DEPARTMENT OF EDUCATIONAL LEADERSHIP, POLICY, AND TECHNOLOGY STUDIES (AEL, AHE, AIL, BEF, CAT)
Professor Dave Dagley, Department Head
Office: 213 Wilson Hall

The mission of the program in educational leadership, policy, and technology is to prepare and develop educational practitioners, researchers, scholars, and reflective decision makers through teaching, research, and outreach in the areas of educational leadership, policy, curriculum, and supervision. The department strives to promote the values, knowledge, and skills needed to renew and improve education.

Educational leadership requires knowledge of curricular, instructional, supervisory, and administrative processes, as well as an awareness of and sensitivity to the ever-changing social, philosophical, historical, political, cultural, legal, moral, and economic contexts of education. Programs offered through the department emphasize practical problem-solving perspectives, reflective decision making, and professional expertise. The department aspires to develop ethical and reflective practitioners and professors who respect diversity, honor difference, and promote social justice. The department also seeks to develop and maintain an ongoing, open dialogue about school improvement through its association with various federal, state, and local educational agencies and professional organizations.

Graduate programs in educational leadership and policy studies are designed to prepare professional personnel for positions as superintendents, associate superintendents, assistant superintendents, principals, curriculum directors, instructional supervisors, specialists in educational programs, and other education-related positions. Programs are also designed to prepare personnel for university-level teaching and research positions in educational leadership.
Students enrolled in internship, practicum, and clinically related activities are encouraged and will be required, in some instances, to show proof that they have liability insurance before being allowed to engage in these activities.

Admission and degree requirements are outlined in an earlier section of this catalog.

**COMPUTERS AND APPLIED TECHNOLOGY**

Professor Margaret Rice  
Office: 204 Wilson Hall

Professor Vivian Wright  
Office: 207 Graves Hall

The program in computers and applied technology provides supporting coursework in computer technology for students throughout the College and also offers a doctoral minor and coursework to fulfill the Ph.D. Detailed information about the coursework or the minor may be obtained from the department head.

**EDUCATIONAL LEADERSHIP AND POLICY STUDIES**

These programs provide learning opportunities for educators who hold or aspire to leadership responsibilities in educational settings. Courses in these programs are designed to provide students with technical, interpersonal, and conceptual skills essential to theory and practice.

Degrees offered by the programs include the M.A. and the Ed.S. in educational leadership, the Ed.D. and the Ph.D. in educational administration, and the Ed.D. and Ph.D. in instructional leadership. In addition, study options are available to provide eligibility for both Class A and Class AA certification application. Admission and degree requirements for the Graduate School and for the College of Education are detailed in an earlier section of this catalog.

All these programs of study are based on a cohort approach to instruction. Cohorts are established annually for June admission. Applications to each degree and/or certification program should be submitted to the program in educational leadership in January to assure consideration for that year’s cohort. Admission forms and requirements, specific program parameters, and departmental policies are available through the office of the departmental chair.

The program in instructional leadership provides learning opportunities for educators who hold or aspire to leadership responsibilities for planning, implementing, and evaluating programs in schools and other agencies. Courses in the program are designed to provide the technical, human, and conceptual skills essential to theory and practice.

The staff-development component is concerned with promoting human relationship skills among educators and laypersons who have responsibilities for programs, and with increasing the effectiveness of the teaching-learning process. The program-development component is concerned with schools, school change, and curriculum as a field of study.

The program in instructional leadership offers the doctor of education and the doctor of philosophy degree in instructional leadership. The program provides a doctoral minor in staff development and supervision, a doctoral minor in curriculum and schooling, and a doctoral minor in policy and politics of education.

Students interested in a supervisory position must have earned Class A professional certification in principalship or other appropriate field prior to enrolling in the educational leadership program, or by obtaining a master’s degree in educational leadership after teaching with a Class B teaching certificate. By obtaining the educational leadership certificate along with appropriate educational experience, the student may be certified to be a principal, supervisor, and/or superintendent.

Students who earned initial credit toward Class AA professional certification during the fall semester of 1992 or later must enroll in and complete the Ed.S. degree program. Courses used to qualify for a lower-level supporting certificate may not be used again in a higher-level certification program.
Admission and degree requirements for the Graduate School and for the College of Education are detailed in an earlier section of this catalog.

Local, state, federal, and private agencies are utilized in cooperative ways in order to establish reality-oriented programs. Officials of various government agencies and bodies are actively sought to assist extensively in the development and implementation of course offerings. Field studies are regularly generated and utilized in addition to research conducted by faculty and advanced students. As is the case throughout the College, this research is augmented by publication of position papers, policy statements, and studies conducted by the College’s Educational Policy Center.

Students must meet criteria for admission to enter any of the programs at any level. Admission to the Graduate School does not ensure admission to the doctoral program. Upon admission, each student must complete 9–12 semester hours of coursework with appropriate faculty. The student is then eligible to submit the declaration of intent, which is a formal request to enter a doctoral program. A personal interview and submission of a writing sample are also required; the results are reviewed by the program faculty. Based on the student’s performance in classes, an interview, and a writing sample, the request to enter a doctoral program is approved or denied.

**HIGHER EDUCATION ADMINISTRATION**

The exclusively graduate-level program in higher education administration, through its varied course offerings and structured learning experiences, meaningfully serves a broad clientele, especially current and future administrators in viable roles in the administration of two- and four-year colleges and universities. Course offerings are designed primarily to train, sensitize, and broaden the information base of administrators and personnel already affiliated with institutions of higher learning, and to prepare others for employment with institutions of higher learning in Alabama and the Southeast. The program offerings also complement other courses of study undertaken by graduate students pursuing other majors within the area, the College, and the University. The program in higher education administration offers the following degrees: the M.A., Ed.D, and Ph.D.

Admission and degree requirements for the Graduate School and for the College of Education are detailed in an earlier section of this catalog.

**SOCIAL FOUNDATIONS OF EDUCATION**

Foundations of education course offerings include basic support courses for undergraduate and graduate teacher education programs throughout the College of Education, and for programs in other units of the College and University. Students pursuing a Ph.D. in instructional leadership may choose a concentration in foundations of education. Students in foundations of education complete coursework in the areas of educational policy, social theory, philosophy, and history. Special emphasis is placed on critical examination of the relationships between education and social justice in both U.S. and global contexts.

**DEPARTMENT OF EDUCATIONAL LEADERSHIP, POLICY, AND TECHNOLOGY STUDIES COURSES**

**Course Descriptions (CAT)**

**CAT 520 Computer Graphics Education.** Three hours.

Prerequisite: CAT 531 or CAT 532.

Application course dealing with the use of graphics in learning, including implications for designing materials for education and training applications. Core of course is student’s individual product development and research.
CAT 531 Computer-Based Instructional Technologies. Three hours. 
An introductory course for teacher educators in the fundamentals of computer applications for educational use. It covers historical and social contexts of computer development, fundamentals in computer systems, Macintosh and DOS, configuring hardware, and the use of word-processing, database, and spreadsheet software applications for personal productivity and educational uses.

CAT 532 Current and Emerging Instructional Technologies. Three hours. 
Prerequisite: CAT 531.
The course focuses on the educational applications of emerging chronologies, including Internet, fax, bulletin boards, voice mail, and networks. Students will use electronic mail and transfer files through Internet. Production skills are required in desktop publishing and use of graphics, including draw and paint programs and animation. A significant part of the course concerns production in hypermedia software. Also, students will engage in the uses of telecommunications other than computer, such as one-way interactive satellite class, two-way video phone course sequence transmission, and two-way IITS instructional event.

CAT 533 Curriculum Integration of Technology. Three hours. 
Prerequisite: CAT 532.
This course is a culminating course that will involve the production of technological pieces and uses of existing technologies for the development of learning activities appropriate for the student's grade level and subject matter.

CAT 534 Issues and Trends in Educational Technology. Three hours. 
Study of current issues and trends affecting educational computing. Examines emerging technologies; legal, social, and ethical issues affecting technology; technology funding and grants; technology planning; professional development; and multicultural issues.

CAT 589 Practicum Research Educational Computer Technology. Three hours. 
Prerequisites: CAT 531, and either CAT 532 or CAT 533.
Students pursue individual research in educational computer technology; they are required to implement, analyze, and report findings in APA format.

CAT 689 Practicum in Educational Computer Technology. Three to six hours. 
Prerequisites: CAT 531, and either CAT 532 or CAT 533.
Students pursue individual research in the program in educational computer technology; they are required to implement, analyze, and report findings in APA format.

Course Descriptions (AEL)

AEL 500 Introduction to Educational Organization and Administration. Three hours. 
An analysis of the general concepts and issues of organization, administration, and leadership in education.

AEL 505 The Educational Leader. Three hours. 
An exploration of the relationship between leadership theory and the roles, functions, and tasks of school leaders. Emphasis on developing competencies required for leadership in the N–12 educational setting.

AEL 510 Principles of Curriculum and Instruction. Three hours.
An examination of foundations, principles, and concepts inherent in the field of curriculum. Focuses on knowledge of and understanding about learning, and methods and strategies for program planning, design, implementation, and evaluation. The fit between the needs of the learner, a planned program of instruction, and an implemented program of instruction is examined critically.

AEL 552 Foundations of Instructional Supervision. Three hours.
Prerequisites: Either AEL 500, AEL 505, and AEL 600, or permission of the instructor.
A comprehensive study of basic concepts of effective supervision, including supervisory roles and functions, communicative interaction, and formative and summative strategies for improving instruction. Focuses on practical application of approaches to, organization of, and techniques of supervision for use with individuals and groups to facilitate continued professional development and contributions to the educational enterprise.
AEL 581 Educational Policy and Reform. Three hours.
A focus on the relation of the public school to the state, on the principles of education, and on the possibilities for reform.

AEL 599 Thesis Research. Variable credit.
Directed thesis research in the field of educational leadership. Enrollment is subject to program regulations and consent of the student's program committee.

AEL 600 Introduction to Educational Law. Three hours.
An introduction to how legal methods and kinds of laws, such as torts, contracts, agency, equity, and constitutional law, apply to educational situations. Students will be exposed to research and will be tested on state and federal statutes, state and federal administrative law, and case law.

AEL 602 Educational Leadership and School Restructuring. Three hours.
Prerequisite: AEL 500, AEL 505, or permission of the instructor.
An inquiry into identification, analysis, and application of leadership theories and interpersonal dynamics and the relationship of leadership theories to other disciplines. Implications of these for school restructuring and change for the improvement of instruction are emphasized.

AEL 605 Internship in Educational Leadership. Three hours.
The application of theory, knowledge, and skills in authentic educational settings. Students are required to complete two consecutive semesters of internship for a total of 6 hours of credit.

AEL 608 Educational Finance: Theory and Practice. Three hours.
A study of litigation, legislation, and implementation of public-school finance programs in the 50 states. Concentrates on four aspects of equity: resource equity, input equity, output equity, and tax equity.

AEL 610 Personnel Administration: Theory and Practice. Three hours.
A comprehensive analysis of personnel functions in educational administration, including dimensions of personnel needs, fulfillment of those needs, and the maintenance and improvement of personnel services.

AEL 611 Superintendency and the Leadership Team. Three hours.
An inquiry — utilizing the perspectives of effective delegation and participation — into the nature of the superintendency and the development of a leadership team.

AEL 612 Instructional Supervision and Mentoring: Theory and Practice. Three hours.
Prerequisite: AEL 552 or permission of the instructor.
A comprehensive critical examination of advanced philosophy, theory, and research of instructional supervision, including an interdisciplinary focus on forces impinging upon instruction. Implications of these findings for individual and group development and the improvement of instruction and the instructional environment are emphasized.

AEL 616 Operational and Strategic Planning: Theory and Practice. Three hours.
A focus on the major strategies and tactics of long-term and short-term planning for education and other organizations. Integration of various planning functions is stressed. The course includes 6 hours of field experience.

AEL 618 Advanced Educational Law. Three hours.
Prerequisite: AEL 600 or permission of the instructor.
Emphasizes original legal research by the student. After reviewing general principles of educational law, each student selects a topic for intense research. With the instructor's assistance, each student will prepare a publishable article on some area of educational law. Proper use of legal notations, forms, and research methods is stressed.

AEL 619 Politics of Education. Three hours.
Prerequisite: Advanced graduate standing.
Study of politics as it relates to educational decision making, with emphasis on political theory, history of politics in education, and the legislative process. Offered once during the academic year.
AEL 620 Curriculum: Theory and Practice. Three hours.  
Prerequisite: AEL 510 or permission of the instructor.  
Presents a synoptic overview of historical and contemporary discourses necessary to understand curriculum as a synergetic field of study and an area of professional practice. Emphasis is placed on the contributions of individual scholars and the 1970s shift in the field from traditionalist to reconceptualist perspectives. Applications to practice are explored.

AEL 624 Practicum in Educational Leadership. Six hours (three hours of credit for each of two consecutive semesters).  
Prerequisite: Completion of all AEL required courses.  
Directed opportunities to use educational leadership knowledge and skills to design projects and solve problems. Students develop a field-based project that includes the identification and analysis of a local school or district problem and the implementation and evaluation of a solution to the identified problem.

AEL 639 Educational Theory and Policy. Three hours.  
A critique of educational theory-learning, curricular, instructional, administrative-and its implications for policy making.

AEL 649 Advanced Research. Variable credit.  
Directed research activities related to educational leadership topics. Enrollment is subject to program regulations and permission of the student's program committee. Credit is based on the nature and degree of student involvement.

AEL 650 Organizational Theory. Three hours.  
An exploration of the relationship among concepts, generalizations, and theoretical models found in the behavioral and social sciences. The application of these to administrative practice in educational settings is addressed.

Prerequisite: AEL 610 or permission of the instructor.  
An analysis of the major functions involved in administering a staff personnel program. Stresses the interrelationship of functions and focuses on the administrative level and the organizational development/human resource development relationship.

AEL 661 Major Issues and Trends. Three hours.  
An advanced analysis of current issues and trends impacting educational organizations and the leaders of those organizations.

AEL 664 The Dynamics of Change. Three hours.  
Components of change will be identified and theories of social and personal dynamics will be adapted and applied to planned programs of change in education.

AEL 666 Educational Facilities Planning and Utilization. Three hours.  
Emphasis on the practical applications of planning building programs for school districts. Includes bond issues, educational specifications, architectural specifics, and construction.

AEL 667 Multicultural and Social Education for Leadership Personnel. Three hours.  
An advanced inquiry into contemporary social and cultural dimensions of education and their relationships to leadership. Includes issues of diversity, gender, ethnicity, pluralism, and equality.

AEL 669 Curriculum and the Study of Schooling. Three hours.  
Prerequisite: AEL 620 or permission of the instructor.  
An inquiry into the curriculum of schooling. Critical analysis of the relationship of curricular decision making to social and political systems and other school context variables is emphasized. Application is made to contemporary issues and problems in school leadership and restructuring.

AEL 671 Survey of Instructional Supervision. Three hours.  
Prerequisite: AEL 612 or permission of the instructor.  
A critical examination, interpretation, and evaluation of significant current and classical writings in the field of instructional supervision with particular emphasis on research findings, the emergence of instructional trends and issues across the literature, and applications for effective leadership of instructional supervision.
AEL 681 Ethics and Education. Three hours.
Doctoral core course. An exploration and examination of traditional and contemporary ethical issues confronting educational leaders, managers, and teachers at all levels of the educational process. Emphasis on an interdisciplinary approach to foundations in ethical theory and establishing a conceptual framework for the resolution of moral and ethical questions prevalent across the education spectrum.

AEL 682 Leadership and Organizations: Theory and Applications. Three hours.
Prerequisite: AEL 602 or permission of the instructor.
Doctoral core course. An examination of historical and contemporary theories, models, concepts, and practices for effective and efficient approaches to leadership within organizations and how these apply to educational settings.

AEL 683 Contemporary Political and Economic Issues in Education. Three hours.
Doctoral core course. An exploration of contemporary economic and political dimensions of education and their relationships to leadership. Includes issues related to issues of democracy, governance, power, equity, and choice.

AEL 694 Clinical Research Project Dissertation. Variable credit.
Twelve semester hours (Ed.D.) or 24 semester hours (Ph.D.) required. Research for and preparation of Ed.D. clinical research project dissertation designed to address a policy or problem of practice. Student must maintain continuous enrollment for a minimum of 3 semester hours per semester until dissertation is completed. Enrollment is subject to program regulations and permission of the student’s dissertation committee.

AEL 695 Seminar in Curriculum Leadership. Three hours.
An advanced seminar for students to explore, discuss, and interpret contemporary curriculum practice and research. Provides students with opportunities for critical inquiry into an area of specialized need and interest.

AEL 696 Seminar in Administration and Planning. Three hours.
An advanced seminar for students to explore, discuss, and interpret contemporary curriculum practice and research in leadership for administration and planning. Provides students with opportunities for critical inquiry into an area of specialized need and interest.

AEL 697 Seminar in Instructional Leadership. Three hours.
An advanced seminar for students to explore, discuss, and interpret contemporary curriculum practice and research in instructional leadership. Provides students with opportunities for critical inquiry into an area of specialized need and interest.

AEL 698 Dissertation Seminar in Educational Leadership. One hour.
Prerequisite: Admission to doctoral study.
Analysis and discussion of current research topics, effective research approaches, and exemplary research practices and programs related to educational leadership. Outlines expectations for graduate work, explores possible areas of investigation for doctoral dissertations, examines research designs and proposals, and provides opportunities for refinement of student manuscripts prior to formal presentation. A minimum total of 3 semester hours of credit is required.

Twelve semester hours (Ed.D.) or 24 semester hours (Ph.D.) required. Directed dissertation research in the area of educational leadership. Student must maintain continuous enrollment for a minimum of 3 semester hours per semester until the dissertation is completed. Enrollment is subject to program regulations and permission of the student’s dissertation committee.

Course Descriptions (AHE)

AHE 500 Perspectives on Higher Education Administration. Three hours.
How higher education has been shaped by the major trends in American society, how it has contributed to the development of this country, and what may be expected of higher education in the future. Higher education is also viewed in institutional and conceptual forms from the perspective of students, faculty, and administrators.

AHE 510 The Community and Junior College. Three hours.
An overview of the development, format, issues, and purposes of the contemporary community and junior college.
AHE 511 Orientation in Higher Education. Three hours. 
Introduction to structure, processes, and study of higher education organizations, including community colleges, technical schools, and universities.

AHE 520 The Student in Higher Education. Three hours.
A survey of the needs, characteristics, and cultures of the American college student within various types of higher education institutions.

AHE 530 Law in Higher Education. Three hours.
Investigates and explicates the structure and background of law and equity in higher education, with emphasis on how statutory law, administrative law, and case law respond to and affect faculty, students, administrators, and trustees. Constitutional law, contracts, torts, the law of private associations, civil rights statutes, executive orders, injunctions, specific performance, corporate and partnership law, law of agency, and laws on liability are studied as they apply to higher education.

AHE 540 Organization and Administration of Higher Education. Three hours.
Overview of the organization, administrative roles and positions, administrative process, and administrator relationships within various institutions of higher learning.

AHE 550 Finance and Business Affairs in Higher Education. Three hours.
An overview of the budgeting processes, sources of revenue, types of expenditures, and issues and innovations in financing various types of contemporary institutions of higher education. Also a survey of the various business and planning operations vital to the operation of colleges and universities.

AHE 560 Comparative Higher Education. Three hours.
This course is designed to provide a cross-cultural perspective on issues related to higher education throughout the world. The course will focus on topics such as reform, students and student activism, internal and external governance of universities, unions, and the academic profession in key world regions.

AHE 590 Independent Study in Higher Education. Three hours.
Prerequisite: Permission of the instructor.
Directed independent study in the literature of higher education, designed for the student seeking a minor or pursuing master’s work in the program in higher education (AHE).

AHE 591 Seminar in Higher Education. Three hours.
A topical seminar on a current issue or problem in higher or postsecondary education. On occasion, the seminar involves travel or on-site visitations to institutions or oversight bodies.

AHE 599 Thesis Research. Three to six hours.
Directed thesis research.

AHE 600 Student Development Theory I. Three hours.
Introduction to the theoretical basis for the delivery of services through organizational student development, and a study of the research basis for student development.

AHE 601 Professional Seminar in Higher Education. Three hours.
This course is designed for students newly admitted to the doctoral program in higher education administration. As such, the seminar concentrates on issues and concerns that arise as part of the doctoral experience. Course activities and experiences may vary according to the professional experience and academic background of course participants.

AHE 602 Problems in Higher Education. Three hours.
Seminar studying the current issues and trends related to higher education.

AHE 603 College and University Teaching. Three hours.
An intensive graduate seminar that provides an overview of the issues, principles, and practices associated with effective college teaching. Topics include learning and diversity; teaching models and strategies; teacher and student behaviors and learning outcomes; and instructional improvement strategies.

AHE 607 Student Development Theory II. Three hours.
Provides a comprehensive study of student growth and development during the college years. The course is designed to address professionals in student affairs and higher education administration.
AHE 610 Academic Cultures and Learning in Academe. Three hours. 
An intensive examination of the student, faculty, and administrative cultures in higher education environments. The impact of various internal and external factors on institutional culture and behavior will also be studied, particularly as they relate to teaching, learning, research, and service.

AHE 620 Power, Politics, and Change in Higher Education Systems. Three hours. 
A study of higher education institutions as complex organizations within a framework of local, state, and federal domains. Attention is focused on the institution as a dynamic political entity that continually undergoes change. State-level coordination and systems behavior are also examined.

AHE 632 Affirmative Action Law. Three hours. 
An examination of anti-discrimination legislation and litigation and their impact on the university, especially in light of the judicial revolution in interpretation of the 11th Amendment.

AHE 635 Seminar in Continuing Education. Three hours. 
AHE 636 Continuing Education Operations. Three hours. 
The course addresses the programmatic operations of continuing education as it relates to mission, clientele, marketing, program planning, facilities, and delivery.

AHE 641 Personnel and Human Resource Management in Higher Education. Three hours. 
Need for and types of personnel; recruitment, advancement, and security of personnel; salaries, wages, and benefits; and problems peculiar to college personnel.

AHE 642 Institutional Research and Assessment in Higher Education. Three hours. 
An overview of the institutional research and analysis techniques utilized in contemporary higher education. The course is configured for those with an interest in conducting institutional research and/or working in offices of institutional research on the campus, system, and/or state level.

AHE 643 Grant Writing and Contract Management. Three hours. 
Prerequisite: AHE 630 or permission of the instructor. 
An introduction to the legal principles of contracts and grants in higher education, including how to identify funding sources, make the proposal, and manage the project. Statutory, administrative, and case law will be studied as they relate to making the proposal and managing the project.

AHE 644 Academic Program Development and Evaluation in Higher Education. Three hours. 
Design and management of academic programs; study of institutional structures for academic affairs; practice in program review for instructional improvement; and overview of graduate programs (general and liberal education, as well as occupational and professional education).

AHE 690 Directed Doctoral Study in Higher Education. Two to six hours. 
Prerequisites: Permission of the instructor and prior approval of study topic. 
Directed individual study and analysis of a problem confronting higher education. Note: Frequently, special one-time-only seminars focusing on a particular aspect of higher education are offered by program faculty under this course number.

AHE 699 Dissertation Research. Three to twelve hours. 
Directed dissertation research in the field of higher education. Enrollment is subject to program regulations and permission of the student’s dissertation committee chairperson. Also offered in summer school.

Course Descriptions (AIL)

AIL 600 Integration of Technology in Education and Training. Three hours. 
An examination of advanced applications of current and emerging instructional technological applications in a variety of settings and in the context of various fields of study and job environments. Technologies and applications addressed in current course include computers, the Internet, presentation media, and multimedia. Cognitive, product, and skill competencies are included. Cognitive competencies are integrated into product
and skills evaluations. Products are required to reflect some competencies, while skills competencies are either observed directly or inferred from the products.

AIL 601 Theories of Learning Applied to Technological Instruction. Three hours. Advanced theory and applications of educational technology. Including the effects of technology on thinking and learning, and the effects of technology in problem solving and other higher-level thinking skills, the course examines current research on computerized learning (CAI, simulation, and tutorials) and other relevant topics such as virtual reality, games and gaming theory, hypertext (design and comprehension), presentation software, groupware for cooperative learning, and telecommunications (distant and/or distributed learning).

AIL 602 Electronic Instructional Design. Three hours. Designed to develop basic knowledge and skills for electronic instructional design — analysis, design, production, evaluation, and revision — for specific electronic projects.

AIL 603 Telecommunications and Networking. Three hours. Designed to explore design, layout, and installation of local and wide area networks. Addresses topologies, ethernet standards, physical layer, network operating software, data-link layer, file server, network cards, hubs, peripherals, routers, and other network operations.

AIL 604 Distance Technologies. Three hours. Prepares students with knowledge and skills in methods of distance education, which incorporates telecommunications and computer technology to instruct students at remote locations or to serve as an adjunct to classroom instruction. The technology used includes telephony, cable television, satellite communications, videocassettes, videoconferencing, computer-mediated instruction, and/or online computer communication via the Internet.

AIL 605 Interactive Multimedia Process. Three hours. Prepares students with knowledge and skills in modeling, simulation, testing, or analysis or training in real-world contexts using interactive multimedia processes.

AIL 606 Software Technology. Three hours. Intended for students who have had some prior programming experience; otherwise, students will need to develop competencies prior to taking this course. Issues include matching the capabilities of the medium to the intellectual structure of the subject, who directs the interaction between human and computer; the size of the intellectual field; and pedagogical concerns in choosing the operations of a software environment. Students are expected to design and complete a project at the end of the course.

Course Descriptions (BEF)

BEF 503 History of American Education. Three hours. An interpretive history of the educational and social movements and conflicts leading to understanding contemporary issues of educational aims, curriculum, teaching methodology, administrative policy, and the professionalization of teaching. Offered in alternate semesters and in summer school.

BEF 504 Philosophy of Education. Three hours. An examination into the meaning and purpose of education in light of major philosophical problems of knowledge, value, and reality. Offered in alternate semesters and in summer school.

BEF 507 Sociology of Education. Three hours. A sociological emphasis on cultural factors (such as ethnic background; socioeconomic status; family, peers, and community; and sex-role stereotyping) that influence education in a pluralistic society.

BEF 510 Social and Philosophical Foundations of Education. Three hours. Prerequisite: Admission to an alternative certification program or permission of the instructor.

Education is necessarily concerned with issues of value, knowledge, and reality — philosophy. Yet these concerns are always understood from the vantage point of cultures in transition within the framework of a social tradition — sociology and history. This course
examines the development of the public school in relation to the social, cultural, and intellectual makeup of the nation as a whole.

**BEF 512 Church, State, and the School.** Three hours.
A critical interpretation of the First Amendment and the separation of church and state in American education.

**BEF 534 Multicultural Education.** Three hours.
Selected aspects of the anthropological and sociological foundations of education, with a critical evaluation of their relevance for increasing and/or enhancing multicultural understanding.

**BEF 575 Foundations of Education through Film.** Three hours.
One of the most powerful media for awakening and reflecting on ideas is film. This course uses various films with educational themes to examine social and philosophical issues in education.

**BEF 581 Educational Policy and Reform.** Three hours.
A focus on the relation of the public school to the state, on the principles of education, and on the possibilities for reform.

**BEF 585 Language Politics and Education.** Three hours.
Course covers the history and politics behind the English-only movement and its effect on education policy for language minority students. Informed by international comparisons, second language acquisition theory, and effectiveness studies, the pros/cons of bilingual and English-only policies are analyzed.

**BEF 598 Nonthesis Research.** Variable credit.
Individual research in history, philosophy, or sociology of education.

**BEF 599 Thesis Research.** Three to six hours.

**BEF 607 Readings in Sociology of Education.** Three hours.
Individualized readings in the sociology of education, with a focus on the educator as reflective practitioner and facilitator of learning.

**BEF 639 Educational Theory and Policy.** Three hours.
A critique of educational theory — learning, curricular, instructional, administrative — and its implications for policy making.

**BEF 640 Studies in the History of Education.** Three hours.
A critical examination of significant events, movements, or individuals in the history of education.

**BEF 641 Studies in the Social Foundations of Education.** Three hours.
A special topics course providing an in-depth analysis of important individuals, theories, and contemporary issues in the social foundations of education.

**BEF 642 Studies in the Philosophy of Education.** Three hours.
This course provides in-depth analyses of important individuals, ideas, or concepts that have helped to develop, expand, or shed light on our philosophical understandings of the myriad and contested purposes, policies, and practices of schooling.

**BEF 644 Philosophy of Science and Its Relation to Educational Research.** Three hours.
An inquiry into the basic assumptions and principles underlying scientific research in education. Offered spring semester.

**BEF 653 History of American Higher Education.** Three hours.
A critical interpretation of the institutional development of American higher education and its cultural and intellectual roots.

**BEF 654 Philosophy and American Higher Education.** Three hours.
An analysis of the language, concepts, and value judgments embedded in higher-education policy issues.

**BEF 667 Multicultural and Social Educations for Leadership Personnel.** Three hours.
An advanced inquiry into contemporary social and cultural dimensions of education and their relationships to leadership. Includes issues of diversity, gender, ethnicity, pluralism, and equality.
BEF 681 Ethics and Education. Three hours.
An exploration and examination of traditional and contemporary ethical issues con-
fronting educational leaders, managers, and teachers at all levels of the educational
process. Emphasis on an interdisciplinary approach to foundations in ethical theory and
establishing a conceptual framework for the resolution of moral and ethical questions
prevalent across the educational spectrum.

DEPARTMENT OF EDUCATIONAL STUDIES IN
PSYCHOLOGY, RESEARCH METHODOLOGY, AND
COUNSELING (BCE, BEP, BER, BSP)

Professor Rodney W. Roth, Department Head
Office: 315 Carmichael Hall

COUNSELOR EDUCATION
(School Counseling, Rehabilitation Counseling, and Community
Counseling)

Professor S. Allen Wilcoxon III, Community Counseling
Office: 318 Graves Hall
and Counselor Education

Three study options in counselor education lead to the M.A. and Ed.S. degree and
provide the professional preparation necessary for work in schools, colleges, rehabilitation,
and other agency and community settings. The Ed.D. and Ph.D. are also offered in coun-
selor education. Certification programs for school counselors are available at the Class
A and Class AA levels. Students who earned initial credit toward Class AA professional
certification during the fall semester of 1992 or later must enroll in and complete the
Ed.S. degree program. Courses used to qualify for a lower-level supporting certificate
may not be used again in a higher-level certification program.

Because of the necessarily heavy emphasis at the entry level upon practicum and
internship experiences, the M.A. programs in school counseling and rehabilitation coun-
seling require a minimum of 48 semester hours of study. The community counseling
master’s option requires a minimum of 60 semester hours. No thesis is required in any
of the M.A. programs.

The Council for Accreditation of Counseling and Related Programs (CACREP), a
specialized accrediting body recognized by the Commission on Higher Education Ac-
creditation (CHEA), has conferred accreditation on the following: community counseling
(M.A.), school counseling (M.A.), and counselor education (Ed.D. and Ph.D.). The Council
on Rehabilitation Education, also recognized by CHEA, has conferred accreditation for
rehabilitation counseling (M.A.).

Admission and degree requirements for the Graduate School and for the College of
Education are detailed in an earlier section of this catalog. Cohort admission decisions
are made twice annually (November and April). Admission and degree requirements
specific to the program and in addition to those of the Graduate School, College, and
department include the following:

Admission for master’s degrees. Admission to pursue a master’s degree in any
track within the program in counselor education is based upon success in admission
for graduate study with the Graduate School. No additional program requirements are
expected beyond these minimum standards.

Admission for educational specialist degree. Admission to pursue an educational
specialist degree in counselor education is based upon success in admission for graduate
study with the Graduate School as well as the following requirements: (a) completion of
a master’s degree in counseling, and (b) two years of experience in the school setting.

Admission for doctoral degrees. Admission to pursue a doctoral degree in counselor
education is a two-step procedure. Unconditional admission by the Graduate School is
only the initial step for those seeking the doctoral degree. Within this step, students are
engaged in post-master’s study and are subject to scrutiny and review by program faculty
for their suitability for doctoral study. An applicant for doctoral study must (a) possess
a completed master’s degree in counselor education; (b) when necessary, complete
supplemental master’s-equivalency courses to comply with the CACREP-accredited course of study for the master’s degree; and (c) successfully complete the doctoral screening interview for formal pursuit of the doctoral degree in counselor education. Course credit in post-master’s study prior to the screening interview may be used to fulfill doctoral degree requirements only after supplemental master’s-equivalency study is completed and a successful screening interview is conducted.

**Degree requirements.** Degree requirements are noted on the official program planning record for the various degrees/tracks. These documents are available from the chairperson or administrative staff for the department.

**EDUCATIONAL PSYCHOLOGY**
Professor Rodney Roth
Office: 315 Carmichael Hall

The educational psychology program is designed to provide the highest-quality graduate education for exemplary professional development in the field of educational psychology. The program is ideal for individuals aspiring to develop expertise in theory, research, application, and practice related to learning, development, motivation, and reflective problem solving for functional well being of people of all ages. The student-centered program views educational psychology not as a static body of pre-existing knowledge to be internalized by the students, but as an evolving system of problems and solutions, a scientific system of problem solving, a living system of communication, and an ethical system for personal and professional conduct. Students are encouraged to uncover their own hidden potentials, interests, and strengths and to develop these maximally by participating in all aspects of the program. The program invites applications from all potential students, especially those in underrepresented populations.

Four educational psychology degrees are offered: M.A., Ed.S., Ed.D., and Ph.D. in educational psychology. The M.A. has thesis and nonthesis options and a focus on general educational psychology. There is also an option for an M.A. focus on program evaluation (no thesis), in collaboration with the program in educational research. Ph.D. students may choose specializations in (a) learning, motivation, and instruction or (b) interdisciplinary educational science. The educational psychology program offers a third specialization in (c) human development, through a collaborative arrangement with the Department of Human Development and Family Studies in the College of Human Environmental Sciences.

The program offers several options for doctoral minors for Ph.D. students in the College of Education and other divisions.

**Admission requirements.** Statement of purpose and letters of recommendation consistent with goals of the program, scores above the 50th percentile on the GRE or MAT, and a GPA of 3.0 on a 4.0 scale are needed for unconditional admission. Conditional admission will be granted in some circumstances. Prospective students are encouraged to complete their applications by January 15 for admission the following fall.

**Degree requirements.** Master’s degrees require 30–33 graduate credit hours. Ed.S. degrees require 30–33 hours beyond the master’s. Doctoral degrees require 60 or more hours beyond the master’s.

**RESEARCH METHODOLOGY**
Professor Rodney W. Roth
Office: 315 Carmichael Hall

The program in educational research offers the Ph.D. in educational research and Ed.S. in educational psychology: educational research. The degrees require coursework in educational statistics, assessment/measurement, program evaluation, and qualitative research. A student may choose to specialize in educational statistics, program evaluation, assessment/measurement, research methodology, or qualitative research. Practical experience is a required part of the program. A doctoral minor is also offered in educational research. Admission and degree requirements for the Graduate School and for the College of Education are detailed in an earlier section of this catalog.
The school psychology program is designed to provide exemplary graduate training in research, application, and practice related to learning, development, and mental health of people of all ages. The program also serves graduate students and faculty throughout the College of Education and other colleges by providing coursework, consultation, and doctoral minors.

The degrees from the school psychology program may lead to state and national credentials. The M.A. degree in educational psychology: school psychometry is approved for Alabama A Certification in School Psychometry if the following prerequisites are met: (a) certification in a teaching field and (b) two years of appropriate teaching experience, at least one of which must be in teaching. The Ed.S. in educational psychology: school psychology and the Ph.D. and Ed.D. degrees in school psychology are approved for the Alabama AA Certification in School Psychology if (a) the graduate obtains the National Certification in School Psychology (NCSP), (b) the graduate has been certified as a school psychologist in another state, or (c) the following prerequisites are met: completion of a basic program in teacher education, eligibility for certification as a school psychologist, and two years of appropriate teaching experience, at least one of which must be in teaching. The Ed.S. and doctoral degrees are approved by the National Association of School Psychologists. Students who obtain these degrees are eligible for the NCSP, following successful completion of the national school psychology examination. Requirements for certification and licensure in school psychology vary from state to state. Students are expected to determine the requirements in the state or states in which they are interested in practicing before beginning the program. The student's program may then be designed to meet any particular requirements of specific states.

For a student handbook and specific degree requirements, call or write: Chairperson, School Psychology, The University of Alabama, College of Education, Box 870231, Tuscaloosa, AL 35487-0231; phone (205) 348-7575; fax (205) 348-0683; program office, 306 Carmichael Hall.

DEPARTMENT OF EDUCATIONAL STUDIES IN PSYCHOLOGY, RESEARCH METHODOLOGY, AND COUNSELING COURSES

Course Descriptions (BCE)

BCE 411 Guidance for Teachers. Three hours.
Prerequisite: Junior standing or higher.
No credit to majors in the program. The sociological, psychological, and philosophical bases for guidance in schools. Appropriate for both elementary and secondary teachers. Offered only through the Office of Independent Study.

BCE 510 Elementary School Guidance. Three hours.
Providing an overview of counseling and guidance activities in the elementary school, this is the basic introductory course for individuals seeking to become elementary counselors. Various aspects of individual and group counseling, consultation, and program management are examined.

BCE 511 Principles of Guidance. Three hours.
Explores the rationale for guidance by examining human development and sociological, psychological, and philosophical bases for guidance. Provides awareness of services by surveying components of guidance programs.

Introduction to counseling, counseling theories, and the counseling relationship; and an overview of the counseling process.

BCE 513 Career Development. Three hours.
An introduction for counselors and teachers to career development concepts, labor force information, and other resources needed to help persons with career planning and decision making.
BCE 514 Prepracticum in Counseling. Three hours.
An experiential course involving applied elements of theoretical models and customary helping skills to orient and prepare students for their initial supervised work with counseling clients. Offered fall and spring semesters.

BCE 515 Practicum in Counseling I. Three hours.
Prerequisite: BCE 514 and permission of the faculty.
Laboratory training in attending, listening, and influencing skills. Supervised experience in counseling. Offered fall and spring semesters.

BCE 516 Practicum in Counseling II. Three hours.
Prerequisites: BCE 515 and permission of the faculty.
Supervised practice in counseling. Offered fall and spring semesters.

BCE 518 Introduction to Community Counseling. Three hours.
Seminar and fieldwork designed to acquaint the student with the functions and roles of the counselor in various community and agency settings. Offered fall semester.

BCE 519 Student Personnel Work in Higher Education I. Three hours.
Historical, philosophical, and practical aspects of personnel services for colleges; services are reviewed in relation to each other and to the overall educational endeavor. Offered fall semester.

BCE 520 Student Personnel Work in Higher Education II. Three hours.
Prerequisite: BCE 519.
An expansion of the experiential base of the introductory course through in-depth exploration of typical student personnel programs.

BCE 521 Group Procedures in Counseling and Guidance. Three hours.
Prerequisite: Permission of the faculty.
Background in group methods, including group guidance, group counseling, and group dynamics. One-half of class time is spent in a laboratory experience during which each student is provided an opportunity to function in a group. Offered fall and spring semesters and in summer school.

BCE 522 Individual and Group Appraisal. Three hours.
Prerequisite: BER 540.
An overview of measurement methods, practice in administration and interpretation of standardized tests, and evaluation of tests and testing programs for counseling and guidance. Offered spring semester and in summer school.

BCE 523 Program Development and Management. Three hours.
An examination of the organization and implementation of the guidance functions of schools and the guidance responsibilities of counselors, teachers, and administrators. Offered in spring semester and in summer school.

BCE 525 Internship in School Counseling and Community Counseling. Three to twelve hours.
Prerequisite: Permission of the faculty.
Supervised field experience in an appropriate job setting.

BCE 528 Advanced Seminar in Community Counseling. Three hours.
Prerequisite: BCE 518.
Advanced study and discussion of a variety of agency-specific issues and topics. Offered summer semester.

BCE 540 Introduction to Rehabilitation Counseling. Three hours.
Philosophical, social, psychological, and legislative bases of rehabilitation; the nature and scope of the rehabilitation process and the functions of the rehabilitation counselor; and study of the individual. Offered fall semester.

BCE 541 Principles and Practices of Rehabilitation Counseling. Three hours.
Prerequisite for nonmajors: Permission of the instructor.
Supervised experiences in selected rehabilitation and agency settings to provide an opportunity to integrate theory and practice early and to do selected independent field studies. Offered spring semester.
BCE 542 Medical Aspects of Rehabilitation. Three hours. Orientation to the medical profession and related rehabilitation professions. Survey of body systems, their functions and malfunctions, and the most common diagnostic and treatment procedures. Implications for educational, social, and vocational development. Offered fall semester.

BCE 543 Psychological and Sociological Aspects of Disability. Three hours. Psychological and sociological attitudes, adjustment problems, sexuality, rehabilitation techniques, placement, family and social systems implications, programs, and facilities; emphasis on severely disabled individuals. Offered spring semester.

BCE 544 Job Development/Placement in Rehabilitation Counseling. Three hours. Provides an overview of job development and placement, as well as theories of work adjustment. Emphasizes the development of job placement techniques and strategies to enhance employment outcomes for people with disabilities.

BCE 545 Seminar in Rehabilitation Counseling. Three to six hours. Helps integrate prior course and field experiences and serves as a forum to cover evolving legislation, practices, and consumer populations. Offered fall semester.

BCE 546 Practicum in Rehabilitation Counseling. Three to six hours. Prerequisite: Permission of the faculty. Supervised practice in rehabilitation counseling. Offered fall and spring semesters.

BCE 547 Internship in Rehabilitation Counseling. Three to twelve hours. Prerequisite: Permission of the faculty. Supervised field experience in a rehabilitation setting.

BCE 548 Cognitive Disabilities in Rehabilitation. Three hours. A study of medical, psychosocial, and rehabilitation considerations surrounding cognitive disabilities arising from brain trauma, mental illness, and addictions.

BCE 615 Field Experiences in Counselor Education. Three hours. Prerequisite: BCE 512, admission to specialist/doctoral study, and/or permission of the faculty; for majors only. Supervised field experiences in counseling to supplement accredited, advanced-level internships. Offered annually.

BCE 616 Internship in Counseling. Three to nine hours. Prerequisites: Six hours from BCE 515, BCE 516, BCE 610, and BCE 546, and permission of the faculty. Supervised practice in counseling for advanced majors. Offered fall and spring semesters.

BCE 617 Internship in Group Counseling and Guidance. Three hours. Prerequisites: BCE 521 and permission of the faculty. Supervised practice in group guidance techniques with clients in a variety of settings.

BCE 618 Advanced Theories of Counseling. Three hours. Historical and current approaches to individual counseling, and the theories of personality structure and individual behavior from which these approaches are derived. Offered fall semester.

BCE 619 Internship in Supervision of Counseling. Three to six hours. Prerequisite: Permission of the faculty. Supervision of practicum students.

BCE 625 Advanced Internship in Counselor Education. Six to twelve hours. Prerequisite: Permission of the faculty. Supervised field experiences in counseling and counselor education for advanced students.

BCE 626 Readings in Counseling. Three hours. Prerequisite: Permission of the faculty. Review of selected writings in the fields of counseling, guidance, and student personnel services.

BCE 630 Individual Testing in the Educational Program. Three hours. Prerequisite: Permission of the faculty. Principles of psychological evaluation and skills in administering, scoring, and interpreting selected psychological tests. Offered spring semester.
BCE 631 Consultation in Educational and Agency Settings. Three hours. 
Prerequisite: BCE 512. 
Study of consultation with teachers, administrators, parents, and various community 
agencies, emphasizing behavioral, ecological, mental health, and organized models 
and appropriate interventions to be planned with consultees. 

BCE 632 Advanced Seminar in Testing. Three hours. 
Prerequisites: BCE 522, BCE 630, BEP 565, a minimum of 6 hours of counseling practi-
cum, and permission of the faculty. 
Application of the dynamic approach to individual assessment; study and practice in the 
use of assessment materials as structured interviews with children, adolescents, and 
adults. Offered alternate fall semesters. 

BCE 633 Advanced Seminar in Counselor Education. Three hours. 
Prerequisite: Permission of the faculty. 
Individual readings, conferences, group discussions, and reports focusing on areas of 
interest in counseling and guidance. 

BCE 650 Counseling Strategies for Family Relationships. Three hours. 
Prerequisite: BCE 512 or permission of the instructor. 
Examination of theoretical and applied elements of systemic intervention with troubled 
families. Offered fall semester only. 

BCE 651 Counseling Strategies for Couple Relationships. Three hours. 
Prerequisite: BCE 512 or permission of the instructor. 
Examination of theoretical and applied elements of intervention with distressed couples. 
Offered spring semester only. 

BCE 652 Counseling Strategies for Adult-Child Relationships. Three hours. 
Prerequisite: BCE 512 or permission of the instructor. 
Examination of theoretical and applied elements of intervention with discordant rela-
tionships between adults and children. Offered summer session only. 

BCE 653 Introduction to Play Therapy. Three hours. 
Prerequisite: BCE 512 or permission of the instructor. 
Lecture/laboratory experience focusing on an overview of play therapy, including history, 
thories, beginning skills, and practicum experience. 

BCE 654 Advanced Play Therapy. Three hours. 
Prerequisite: BCE 512, BCE 653, or permission of the instructor. 
Individual readings, conferences, group discussions, lecture and reports focusing on 
techniques/methods, applications to special settings or populations, ethics, and profes-
sional responsibilities with an extended practicum experience. 


Course Descriptions (BEP) 
BEP 500 Advanced Educational Psychology. Three hours. 
Prerequisite: Graduate standing. 
Principles of educational psychology for teaching and for educational services in schools 
and colleges. 

BEP 505 Development of Self-Regulation. Three hours. 
Investigates the development of self-regulatory processes and the match between those 
processes and educational practice. Transitions from home to school, elementary to 
secondary, and high school to college/work are considered in depth. 

BEP 541 Authentic School Learning and Teaching. Three hours. 
Prerequisite: Admission to the Graduate School. 
Cognitive approaches to learning/teaching with focus on what constitutes authentic learning 
and on role of the intuitive knowledge base. Topics/themes include nature of preschool 
learning, sources contributing to learning, constructivism, and holistic perspectives. 

BEP 550 Life-Span Development. Three hours. 
Prerequisite: Admission to the Graduate School. 
A study of principles and concepts of physical, cognitive, personality, and social develop-
ment from conception through death.
BEP 554 Developmental Neuroscience of School-Age Learners. Three hours. Thorough examination of physical, cognitive, and emotional development of children from biological and psychological perspectives. Relevant cutting-edge research in neuroscience and implications for formative postnatal development of school-age learners are examined.

BEP 561 Social and Cultural Foundations of Behavior. Three hours. Prerequisite: Admission to the Graduate School. Provides fundamental knowledge regarding the methods in which social and cultural interactions and histories influence human behavior. Focuses on application of social psychology principles and multicultural issues to increase awareness and improve skills across a variety of social settings, including schools and human-service agencies.

BEP 565 Personality and Social-Emotional Factors. Three hours. Prerequisite: Admission to the Graduate School. Examines the major theories of personality and social-emotional factors as they impact on the learning process and educational practice.

BEP 598 Nonthesis Research. Variable credit. Prerequisite: Permission of the instructor.

BEP 599 Thesis Research. Variable credit.

BEP 600 Contemporary Educational Problems and Educational Psychology. Three hours. Thorough exploration of current problem areas in education and the impact and perspectives of educational psychology.

BEP 640 Behavioral Learning Theories. Three hours. Examines behavioral theories and research with a focus on their impact on educational practice.

BEP 641 Authentic School Learning and Teaching. Three hours. Cognitive approaches to learning/teaching with focus on what constitutes authentic learning and on role of the intuitive knowledge base. Topics/themes include nature of preschool learning, sources contributing to learning, constructivism, and holistic perspectives.

BEP 642 Cognitive Psychology in Education. Three hours. Examines theory and research in cognitive psychology from the perspective of educational practice. Topics include remembering, knowledge, representations, problem solving, language comprehension, development of expertise, and nature of intelligence.

BEP 661 Psychological Study of Learners. Three hours. Thorough study of intervention, remediation, and training strategies in cases of educational and learning problems. Focus on individual differences in cognitive processing, biological factors, cognitive style, intelligence, self-regulation, motivation, and psychological processes of reading, writing, math, and science.

BEP 665 Motivation and Emotion in Education. Three hours. Exploration into processes of human motivation and emotion with a focus on educational settings.

BEP 672 Teaching Educational Psychology in College. Three to twelve hours. Prerequisite: Permission of the instructor. Seminar for graduate student instructors. Students must be GTAs in educational/school psychology. Designed to help GTAs use reflective decision making and knowledge of educational psychology to teach undergraduates.

BEP 673 Doctoral Research and Ethics Seminar. One to six hours. Prerequisite: Permission of the instructor. Critical study of current issues in educational psychology.

BEP 686 Observation of Development, Teaching, and Learning. Three hours. Discussion of contemporary methods of observing children, teachers, parents, and learners of all ages for purposes of research and the evaluation/assessment of teaching and learning. Provides hands-on field experience in observational techniques.

BEP 688 Internship in Educational Psychology. Three to twelve hours. Prerequisite: Permission of the instructor. Supervised internship experiences, with educational psychology course content related to the experience.
**BEP 689 Practicum in Educational Psychology.** Three to twelve hours.  
Prerequisite: Permission of the instructor.  
Seminar for graduate students to support their cooperative faculty-student research projects and their development as members of the community of educational psychologists.

**BEP 690 Readings in Educational Psychology.** Three hours.  
Prerequisite: Permission of the instructor.  
An opportunity for the student to study intensively a topic in educational psychology, covering a sizable body of literature (the topic chosen should nevertheless be narrower than that subsumed under the name of a course).

**BEP 698 Nondissertation Research.** Variable credit. 
Prerequisite: Permission of the instructor.  
Participation in a research project relating to educational psychology.

**BEP 699 Dissertation Research.** Variable credit. Three-hour minimum.

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**Course Descriptions (BER)**

**BER 500 Introduction to Educational Research.** Three hours.  
An overview of the research process, primarily for master’s students. Offered fall and spring semesters and in summer school.

**BER 540 Statistical Methods in Education.** Three hours.  
Descriptive and basic inferential statistics, including graphs, frequency distributions, central tendency, dispersion, correlation, and hypothesis testing. Computer applications are included. Offered fall and spring semesters and in summer school.

**BER 545 Analysis of Variance in Education.** Three hours.  
Prerequisite: BER 540 or equivalent.  
Topics include sampling, review of elementary statistics, one-way and two-way analysis of variance, multiple comparison procedures, and nonparametric procedures. Offered fall and spring semesters.

**BER 546 Regression Methods in Education.** Three hours.  
Prerequisite: BER 540 or equivalent.  
Topics include simple regression and multiple regression. Offered fall and spring semesters.

**BER 550 Evaluation of Classroom Learning.** Three hours.  
A comprehensive approach to the development and application of objectives, teacher-made tests, published tests, and other measures used in the evaluation of teaching and learning in the classroom. Offered fall and spring semesters.

**BER 558 Introduction to Psychometrics.** Three hours.  
Prerequisite: BER 540 or equivalent.  
An introduction to classical and current theories and practices in psychometrics. Theory is presented together with exposure to many of the popular assessment procedures. Offered fall semester.

**BER 600 Quantitative Research Methods in Education.** Three hours.  
An overview of research methods and procedures in education, primarily for doctoral students.

**BER 603 Survey Research in Education.** Three hours.  
Prerequisite: BER 540.  
Comprehensive introduction to using survey instruments for research purposes. Survey development, construction, validation scaling, sampling, and research methods as they apply to matching the survey to research questions are covered.

**BER 630 Case Study Research Methods.** Three hours.  
Examines the production of case studies of individual practices, discrete institutions and organizations, and state-level policies. Explores the research methods that can inform the production of case study representations of human experience, as well as the different styles of case study writing.
BER 631 Inquiry as Interpretation: Qualitative I. Three hours.
Examines the history and philosophy of naturalistic studies of human experience. Concentrates on post-positivistic, phenomenological, structuralist, and post-structuralist theory and modes of analysis. Course assignments provide practice with rudimentary qualitative research skills.

BER 632 Reflexiveness and Resistance in Research Representation: Qualitative II. Three hours.
Prerequisite: BER 631.
Examines the irony and ideology of naturalistic studies of human experience. Examines the epistemic limits of any method of research representation, and the political and ethical implications of those limits for researchers. Course assignments provide practice with intermediate qualitative research skills.

BER 633 Ethics and Aesthetics of Meaning Making: Qualitative III. Three hours.
Prerequisites: BER 631 and BER 632.
Examines the ethics, aesthetics, and opportunities for advocacy in naturalistic studies of human experience. Explores feminist, afrocentric, critical theoretic, artistic, and journalistic conceptions of data collection and a variety of styles and formulas for research writing.

BER 640 Multivariate Dependence Methods. Three hours.
Prerequisites: BER 540, BER 545, and BER 546.
Covers the following statistical procedures: discriminant analysis, Hotelling’s $T^2$, multivariate analysis of variance, multivariate regression, and other dependence methods.

BER 641 Multivariate for Interdependence Methods. Three hours.
Prerequisites: BER 540, BER 545, and BER 546.
Covers the following statistical procedures: principal component analysis, factor analysis, cluster analysis, multidimensional scaling, canonical correlation, and hierarchical linear modeling (HLM).

BER 646 Structural Equation Modeling. Three hours.
Prerequisites: BER 540, BER 545, and BER 546.
Includes an introduction to the basic concepts of structural equational modeling, including approaches to regression, path analysis, confirmatory factor analysis, and model building with dependent and independent variables.

BER 650 Advanced Topics in Instrument Development. Three hours.
Prerequisite: BER 558 or permission of the instructor.
Emphasis on theory and methods of scaling used for instrument construction in the behavioral sciences. Topics include Thurstone, Likert, and Gutman scales, semantic differential, Q-sort, paired comparisons, and IRT. Computer applications are presented.

BER 658 Psychometric Theory and Practice. Three hours.
Prerequisite: BER 558.
Major topics include reliability, validity, classical true score theory, generalizability theory, item response theory, item/test bias, and equating. Includes computer applications.

Prerequisite: Graduate standing.
Concepts and techniques for evaluating education programs, projects, materials, curriculum, and personnel.

BER 661 Evaluation II: Advanced Theories and Application. Three hours.
Prerequisites: BER 660.
Advanced study of evaluation theories, their utilization, and political implications for the practice of program evaluation in education programs. Offered fall semester.

BER 672 Teaching Educational Research in College. Three hours.
Prerequisite: Permission of the instructor.
Seminar for graduate teaching assistants. Offered each semester.

BER 673 Seminar in Educational Research. Three hours.
Prerequisite: Permission of the instructor.
A course designed to help majors in educational research prepare for the profession.
BER 687 Fieldwork in Educational Research. Three to six hours.  
Prerequisite: Approval of adviser.  
Faculty-supervised participation in research and other educational projects. Offered fall and spring semesters and in summer school.

BER 689 Practicum in Educational Research. Three to six hours.  
Prerequisite: Approval of adviser.  
Practicum is a student-initiated research project done with faculty supervision. Offered fall and spring semesters and in summer school.

BER 690 Readings in Educational Research. Three hours.  
Offered fall and spring semesters and in summer school.

BER 698 Nondissertation Research. Variable credit.


Course Descriptions (BSP)

BSP 500 Introduction to School Psychology. Three hours.  
Prerequisite: Graduate standing.  
The history, role, and ethical and legal issues of school psychology are studied. The school psychologist's role in team decision making is emphasized.

BSP 515 Individual Intelligence Testing and Case Report Writing. Three hours.  
Prerequisite: Graduate standing and permission of the instructor.  
Introduction to individual intelligence testing and psychological case report writing, focusing on the Wechsler, Stanford-Binet, and Kaufman scales, and other intelligence tests, and treating the topics from practical and theoretical perspectives.

BSP 516 Advanced Psychoeducational and Social-Emotional Assessment. Three hours.  
Prerequisite: BSP 515.  
Advanced study of intelligence, achievement, behavioral, and social-emotional assessment, emphasizing psychoeducational diagnosis and decision making for children with learning and behavioral problems; formulation of hypotheses based on test data, and development of meaningful educational recommendations are also stressed.

BSP 586 Assessment Practicum in School Psychology. Three hours.  
Prerequisite: Permission of the instructor.  
Requires 150 hours of supervised experience in assessment and is conducted in public schools or other agencies. Intellectual, achievement, behavioral, and social-emotional assessment of children with learning and behavioral problems and use of assessment in team decision making are emphasized.

BSP 588 Internship in School Psychometry. Three to six hours.  
Prerequisite: Permission of the instructor.  
The student performs the duties of a school psychometrist in a school system, under supervision.

BSP 601 Applied Pediatric Neuropsychology. Three hours.  
Study of applied brain-behavior relationship in the areas of academics, behavior, and social/emotional skills. Various disorders, assessment techniques, interventions, and prevention will be examined and discussed.

BSP 625 Cognitive and Behavioral Interventions. Three hours.  
Study of applied behavioral analysis, cognitive behavior modification, motivation techniques, aptitude-treatment interaction, social problem-solving training, study-skills training, peer-influenced academic interventions, prevention, and other interventions.

BSP 635 Consultation in Educational and Agency Settings. Three hours.  
Study of consultation with teachers, administrators, parents, and various community agencies, emphasizing behavioral, ecological, mental health, and organized models and appropriate interventions to be planned with consultees.

BSP 660 Psychopathology. Three hours.  
Thorough examination of the history, scope, and understanding of abnormal behavior through the life span, with emphasis on educational and clinical implications. The most recent classification system is used to structure topics and issues in the course.
BSP 661 Social and Cultural Foundations of Behavior. Three hours.
Provides fundamental knowledge regarding the methods in which social and cultural interactions and histories influence human behavior. Focuses on application of social psychology principles and multicultural issues to increase awareness and improve skills across a variety of social settings, including schools and human-service agencies.

BSP 667 Doctoral Research and Ethics Seminar. Three hours.
Prerequisite: Permission of the instructor.
Covers topics of current interest to school psychologists.

BSP 668 Consultation and Intervention Practicum in School Psychology. Three hours.
Prerequisite: Permission of the instructor.
Requires 150 hours of supervised experience in conducting consultation and intervention (within a team-decision-making framework) with children, parents, teachers, and administrators in public schools and other agencies.

BSP 667 Specialist Internship in School Psychology. Three to six hours.
Prerequisite: Permission of the instructor.
The student performs the activities of a school psychologist in an educational or other agency, under supervision.

BSP 668 Doctoral Internship in School Psychology. Three to six hours.
Prerequisite: Permission of the instructor.
The student performs the duties of a school psychologist in an educational agency, under supervision.

BSP 669 Research Practicum in School Psychology. Three to six hours.
Prerequisite: Permission of the instructor.
Participation in cooperative faculty/student research on some aspect of school psychology.

BSP 670 Readings in School Psychology. Three hours.
Prerequisite: Permission of the instructor.
An opportunity for the student to study intensively a topic in school psychology, covering a sizable body of literature (the topic chosen should nevertheless be narrower than that subsumed under the name of a course).

BSP 678 Nondissertation Research. Three hours.
Prerequisite: Permission of the instructor.
Participation in a research project relating to school psychology.

DEPARTMENT OF ELEMENTARY EDUCATION PROGRAMS
(CEE)
Professor Cynthia Sunal, Department Head
Office: 202 Graves Hall

Admission requirements. Admission requirements are outlined in an earlier section of this catalog.

M.A. degree requirements. A minimum of 30 hours of course credit must be earned, as follows: curriculum and teaching, 6 hours; foundations of professional studies, 3 hours; evaluation of teaching and learning, 3 hours; teaching field, 15 hours; electives (which may be specified), 3 hours. If the special education requirement has not been fulfilled, the student may be required to complete an additional 3-hour survey course in special education. A list of courses that fulfill these requirements may be obtained from the program secretary in 204 Graves Hall. Students may not count more than 6 hours in certain seminar/workshop/problems courses toward the completion of the degree. A maximum of 6 hours of approved transfer credit (maximum of 9 from UAH or UAB) may be applied to the degree. Students should see their advisers regarding which courses are appropriate for transfer credit.

Nontraditional, alternative initial teacher certification program. A minimum of 36 semester hours of specific graduate credit plus some undergraduate prerequisites is required for the certificate. The program of study must be planned with an adviser. See also p. 301.
Ed.S. degree requirements. A minimum of 30 hours of appropriate work beyond the M.A. degree and the completion of a research paper are required for the educational specialist degree. The total hours of graduate work beyond the M.A. degree must be at least 30 hours, as follows: educational research project and paper, 6 hours; curriculum and teaching, 3 hours; other teaching field courses, 9 hours; foundations of professional studies, 3 hours; research, 3 hours; special education, 3 hours; electives (which may be specified), 3 hours. A list of courses that fulfill these requirements may be obtained from the departmental secretary in 204 Graves Hall. A maximum of 6 hours of approved transfer credit (maximum of 9 from UAB or UAH) may be applied toward the degree.

Class AA certificate required courses. A minimum of 30 hours of appropriate work beyond the M.A. degree is required for the Class AA certificate (see Ed.S. above). Students who are pursuing certification options must be certain that their planned programs meet all certification requirements according to programs approved by the state department of education. Approved program check sheets are available from the program office. Students who earned initial credit toward Class AA professional certification during fall 1992 or later must enroll in and complete the Ed.S. degree program. Courses used to qualify for a lower-level supporting certificate may not be used again in a higher-level certification program.

Early Childhood Education. Contact the department head for information on this program.

DEPARTMENT OF ELEMENTARY EDUCATION PROGRAMS COURSES

Course Descriptions (CEE)

(See also CIE and CRD courses on p. 349–353.)

CEE 515 Teaching Elementary School Science (N–6). Three hours. Designed to expand knowledge and competencies of elementary teachers of science with specific focus on current standards, research, and inquiry models of instruction.

CEE 516 Social Sciences in the Elementary School. Three hours. The focus is on current trends in elementary social studies, with particular attention to innovative instructional modes and to relating learning to the learners’ social environment.

CEE 517 The Language Arts Program in Elementary Schools. Three hours. Designed to extend and strengthen the knowledge and competencies of experienced teachers of communication arts and skills in the elementary school.

CEE 526 Implementing Social Studies. Three hours. The focus is on considering and applying the research base of investigating social studies curricula and instruction to one’s own classroom.

CEE 532 The Elementary School Curriculum. Three hours. The evolving elementary school curriculum, from historical, current trends, and projective perspectives.

CEE 544 Current Trends and Research in Early Childhood Education. Three hours. Current research findings, program development, and the resulting trends in the field of early childhood education.

CEE 550 Introduction to Teaching Elementary School Science. Three hours. Prerequisite: Admission to Elementary Education Alternative Certification program. Introduction to the teaching of science. Current research is emphasized as well as best instructional practices in science.

CEE 560 Introduction to Teaching Social Studies. Three hours. Prerequisite: Admission to Elementary Education Alternative Certification program. Teaching elementary social studies using research-based instructional strategies and curriculum.

CEE 565 Classics and Modern Literature for Children. Three hours. Deals with major developments in literature for children; the areas of children’s literature; and effective methods of helping children enjoy and use literature.
CEE 570 Introduction to Teaching Beginning Reading/Language Arts in the Elementary School. Three hours.
Prerequisite: Admission to Elementary Education Alternative Certification program.
A foundation for the teaching of beginning reading/language arts with an emphasis on
development, assessment, and instruction for individual students. Intensive field expe-
rience is required.

CEE 574 Guiding Pupil Learning. Three hours.
Focuses on understanding how children learn, what factors influence learning, and
how teachers can facilitate learning. Application of principles of learning to classroom
situations.

CEE 578 Introduction to Teaching Expanded Reading/Language Arts in the
Elementary School. Three hours.
Prerequisite: Admission to Elementary Education Alternative Certification program.
Deepening understanding of teaching reading/language arts with emphasis on planning
a balanced literacy program. Intensive field experience is required.

CEE 580 Concepts of Elementary School Mathematics. Three hours.
Focuses on the current research in mathematics education concerning how children
learn mathematics.

CEE 581 Mathematics Curriculum Design. Three hours.
Designing mathematics curricula using current research from mathematics education.

CEE 582 Teaching Mathematics for Elementary Alternative Students. Three hours.
Prerequisites: Admission to Elementary Education Alternative Certification program.
This course prepares students to effectively teach mathematics in grades K–6. Emphasis
is on the current research in mathematics education.

CEE 583 Computer Learning in the Elementary Classroom. Three hours.
For students who have had little experience with microcomputer courses. Emphasis is
on computers and software and their integration into the elementary curriculum.

CEE 590 Seminar in Elementary Education. One to three hours.
Prerequisite: Permission of the instructor.
In-class opportunities to analyze and discuss current topics, problems, and/or projects
of collective concern. Topics vary.

CEE 592 Fieldwork in Elementary Education. One to three hours.
Prerequisite: Permission of the instructor.
Field-based opportunities to study or work on topics or projects of individual or collective
concern. Topics vary.

CEE 593 Workshop in Elementary Education. One to three hours.
Prerequisite: Permission of the instructor.
In-class opportunities to study or work on topics or projects of collective concern. Topics
vary. May be repeated.

CEE 594 Problems in Elementary Education. One to three hours.
Prerequisite: Permission of the instructor.
Opportunities to study or work independently on topics or projects of individual concern.
Credit is based on the nature and degree of student involvement.

CEE 595 Practicum in Elementary Education. Variable credit.
Prerequisite: Permission of the program chairperson.
Supervised opportunities to apply knowledge and skills in a professional setting. Credit
is based on the nature and degree of student involvement.

CEE 597 Internship in Elementary Education. Nine to twelve hours.
Prerequisite: Permission of the department head, admission to the teacher education
program, a minimum GPA of 2.75 for all work attempted, and a minimum of 2.75 in the
major.
Observation, participation, and teaching experiences supervised by selected cooperating
teachers in public elementary schools. Additional supervision is provided by College of
Education personnel.

CEE 598 Nonthesis Research. Variable credit.
CEE 615 Elementary School Science. Three hours.
Current trends, research, and research techniques in elementary school science with emphasis in children’s learning, innovative instruction and curricula, and expertise in teaching.

CEE 616 Advanced Social Studies in the Elementary Classroom. Three hours.
The focus in on current trends and research in elementary social studies with particular attention to innovative instructional modes and relating learning to the learner’s social environment.

CEE 644 Advanced Study of Current Trends and Research in Early Childhood Education. Three hours.
Prerequisite: Permission of the instructor.
Analysis of current research findings, program development, and the resulting trends in early childhood education.

CEE 658 School Accreditation Standards: Self-Study and Continuous Improvement. Three hours.
A study of regional and SACS school accreditation including standards for accreditation, school self-study procedures and validation, roles of school personnel, and creating continuous school improvement activities through SACS accreditation requirements.

CEE 681 Evaluation of Mathematics Programs. Three hours.
Prerequisites: Graduate methods course in mathematics and permission of the instructor.
evaluation of various commercial mathematics programs currently being used in classrooms.

CEE 687 Topical Research Review. Three hours.
Supervised opportunities to apply knowledge and skills in a professional setting. Credit is based on the nature and degree of student involvement.

CEE 690 Advanced Seminar in Elementary Education. One to three hours.
Prerequisite: Permission of the instructor.
In-class opportunities to analyze and discuss current topics, problems, and/or projects of collective concern. Topics vary.

CEE 692 Advanced Fieldwork in Elementary Education. One to three hours.
Prerequisite: Permission of the instructor.
Field-based opportunities to study or work on topics or projects of individual or collective concern. Topics vary.

CEE 693 Advanced Workshop in Elementary Education. One to three hours.
Prerequisite: Permission of the instructor.
In-class opportunities to study or work on topics or projects of collective concern. Topics vary. May be repeated.

CEE 694 Advanced Problems in Elementary Education. One to six hours.
Prerequisite: Permission of the instructor.
Opportunities to study or work independently on topics or projects of individual concern. Credit is based on the nature and degree of student involvement.

CEE 695 Practicum in Elementary Education. Variable credit.
Supervised opportunities to apply knowledge and skills in a professional setting. Credit is based on the nature and degree of student involvement.

CEE 697 Educational Specialist Degree Research. Variable credit.
CEE 698 Nonthesis Research. Variable credit.

DEPARTMENT OF INTERDISCIPLINARY TEACHER EDUCATION (SPE)
Professor Keith Chapman, Department Head
Office: 204 Graves Hall

Special education offerings in the College are designed to help establish, maintain, and improve educational services to exceptional children by providing exemplary personnel resources. Courses of study leading to certification in the education of exceptional children (Class A and Class AA) and to the master of arts (M.A.) and educational specialist
(Ed.S.) degrees are offered. Emphases are available in gifted and talented, collaborative education, and early childhood special education.

The doctor of education (Ed.D.) degree program is offered to provide competencies in teacher education, administration, and research. In preparing for any of these three professional activities, Ed.D. students usually specialize in one of the fields within special education; they are also expected, however, to acquire broad-based information across the spectrum of exceptional children and youth. The doctor of philosophy (Ph.D.) program is designed to prepare major researchers for roles as university professors or administrators.

The sequence of advanced study followed by the graduate student in special education is contingent on the skills and background brought to the program and on the student's career plans. While there are core course requirements at each degree level, each program is individually designed based on the student's needs and goals; flexibility may be provided through elective courses.

Special education faculty are involved in a number of demonstration and research projects designed to develop and evaluate innovative procedures for training professionals, paraprofessionals, and parents to work with various types of exceptional children. These projects are also concerned with the development and evaluation of instructional programs and techniques for exceptional individuals. Students have access to an array of practicum and research opportunities from a variety of resources.

Certification. The Alabama State Board of Education grants a Class A Professional Certificate with an endorsement in gifted and talented, early childhood special education, collaborative teacher (K–6), or collaborative teacher (6–12). To be eligible, students must hold appropriate Class B certification and must complete all requirements for the M.A. degree in the chosen program, as described in this catalog.

The Ed.S. in special education program leads to Class AA certification with an endorsement in gifted and talented, early childhood special education, collaborative teacher (K–6), or collaborative teacher (6–12). To be eligible, students must hold appropriate Class A certification and must complete the appropriate number of semester hours of work in an approved program beyond the master's degree.

The separate supervisor of special education certificate is no longer available. Students interested in supervising special education who earned initial credit toward Class A professional certification during the spring of 1992 or later must enroll in and complete a certification program in educational leadership. By obtaining the educational leadership certificate along with appropriate educational experience, the student may be certified to be a principal, supervisor, and/or superintendent.

<table>
<thead>
<tr>
<th>Exceptionality:</th>
<th>To enter Class A work, Class B certification must be in</th>
<th>To enter Class AA work, Class A certification must be in</th>
</tr>
</thead>
<tbody>
<tr>
<td>collaborative education*</td>
<td>any area of certification</td>
<td>N/A</td>
</tr>
<tr>
<td>Multiple Abilities Program</td>
<td></td>
<td></td>
</tr>
<tr>
<td>early childhood special education*</td>
<td>any area of certification</td>
<td>early childhood special education for the handicapped or early childhood education</td>
</tr>
<tr>
<td>gifted and talented</td>
<td>any area of certification</td>
<td>any area of certification</td>
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</tbody>
</table>

*Initial certification also is available at the master’s level in these exceptionalities via the nontraditional, alternative initial teacher certification program.
Degree requirements. Degree requirements are outlined in an earlier section of this catalog.

Financial aid. Graduate assistantships, student stipends, and fellowships in special education are available in limited numbers. Interested students must complete the financial assistance form, and/or the application for graduate teaching or research assistant form, available from the program office. These forms must be returned to the program chairperson, who will forward them to the area head.

M.A. program admission. In addition to meeting the Graduate School’s admission requirements, students interested in the special education programs should be aware of the state certification program admission requirements listed in the chart on the following page.

Nontraditional, alternative initial teacher certification program. The program in interdisciplinary teacher education offers teacher-education programs that lead to Alabama Class A certification in collaborative teacher (K–6) (special education), or collaborative teacher (6–12) (special education), and the Multiple Abilities Program (MAP) but do not require Class B certification in any teaching field. These programs are designed to allow individuals with undergraduate degrees in nonteaching fields to enter the field of education. Admission requirements for nontraditional, alternative teacher certification programs are as follows:

1. Admission to the Graduate School, requiring a score of 1000 on the GRE general test or a score of 50 on the MAT, and a grade point average of 3.0 on a 4.0 scale for the last 60 hours completed; or, conditional admission to the Graduate School, requiring a score of 900 on the GRE (general test) or a score of 40 on the MAT, a grade point average of 3.00 overall, and an average of “B” or better for the first 12 graduate hours attempted

2. A baccalaureate degree, including 60 semester or 90 quarter hours of general studies courses in humanities, social science, laboratory science, and mathematics (at or above the level of college algebra)

Admission to a nontraditional, alternative certification program in special education requires full admission to the Graduate School and the completion of specified undergraduate prerequisite courses. The M.A. degree is awarded when program requirements are completed.

Ed.S. program admission. In addition to meeting the Graduate School’s admission requirements, a student interested in the Ed.S. program must have earned an M.A. or equivalent degree in special education (with the exception of students applying for study in gifted and talented).

Ed.D. and Ph.D. program admission. Prerequisites for admission to doctoral work in special education are an earned M.A. degree in special education (or a related area) and three years of appropriate experience, defined as three years of work in agencies serving children and youth, one year of which must have been spent in direct interaction with exceptional children on a full-time basis. Graduate faculty members individually evaluate and collectively discuss admission applications. When feasible, applicants are encouraged to visit the campus for an interview as part of the evaluation process.

DEPARTMENT OF INTERDISCIPLINARY TEACHER EDUCATION COURSES

Course Descriptions (SPE)

SPE 500 Introduction to Exceptional Children and Youth. Three hours. Introduction to programs and problems of children and youth who deviate from the norm in physical, mental, emotional, and social characteristics.
SPE 501 Diagnosis and Assessment of Exceptional Children and Youth. Three hours. Comprehensive study of diagnosis and assessment, emphasizing concepts of tests and measurements, formal and informal assessment, test administration, and use of diagnostic results in educational intervention.

SPE 502 Advanced Behavior Management for Special Educators. Three hours. Prerequisite: SPE 435 or equivalent. Concepts and principles of behavior change and management; practical experience in developing plans to prevent and remedy behavior problems. Research project required.

SPE 503 Master’s Seminar in Special Education. Three hours. Critique of research and research problems in current special education issues.

SPE 506 Family Intervention with Exceptional Children and Youth. Three hours. Examination of the effects of an exceptional child on the family, and the various approaches to intervention with the family.

SPE 511 Reading and Research in Special Education. Variable credit (registration for fewer than 3 hours requires permission of the program chairperson). To assist master’s students with intensive review of new research in a particular area of exceptionality.

SPE 514 Teacher Consultant Models in Special Education. Three hours. Introduction to various direct and indirect service delivery models for students with mild disabilities; consultant techniques demonstrated.

SPE 571 Education of Young Children with Disabilities. Three hours. An introductory course to the field of early childhood special education, including rationale, legal issues, and characteristics of children from birth through kindergarten.


SPE 576 Assessment of Young Children. Three hours. Prerequisite: SPE 571 or permission of the instructor. Selection, administration, and interpretation of assessments of young children (birth through kindergarten).

SPE 578 Methods of Teaching Young Children with Disabilities. Three hours. Prerequisite: SPE 571 or permission of the instructor. Use of curricula, materials, and management techniques for young children (birth through kindergarten) with disabilities.

SPE 579 Internship in Education of Young Children with Diverse Abilities. Three to nine hours. Prerequisites: SPE 573, SPE 577, and SPE 578. Intensive supervised teaching experience with young children with and without disabilities.

SPE 581 Psychology of Gifted and Talented Children and Youth. Three hours. Examination of the nature of youth with high potential in multiple areas. Contemporary theory, research, and the relationship between definition/identification and educational planning are considered.

SPE 582 Teaching the Gifted and Talented. Three hours. Use and evaluation of teaching-learning methods for education of the gifted and talented, including consideration of roles, expectations for learning, and organizational procedures.

SPE 583 Creative Problem Solving Seminar. Three hours. A guided sequence of exercises and experiences leading to increased personal creative behavior, with emphasis on methods for nurturing creative talent in students of all ages.

SPE 584 Special Populations in Gifted Education. Three hours. Examination of a variety of administrative designs, curriculum options, instructional models, and strategies to meet the unique cognitive and affective needs/abilities of special populations of gifted students.
SPE 585 Teaching Thinking Skills: Integrating Programs. Three hours.
Prerequisite: SPE 582 or permission of the instructor.
Corequisite: SPE 589.
Survey of existing thinking-skills programs and techniques for creating new programs for thinking. Emphasis is on integrating thinking skills into gifted education and regular education.

SPE 589 Internship in Gifted/Talented. Three to nine hours.
Prerequisites: SPE 581 and SPE 582.
Corequisite: SPE 585.
Intensive, supervised teaching experience in programs for gifted and talented.

SPE 590 Introduction to Mild Disabilities. Three hours.
An intensive study of the background and current perspective on mild disabilities. Emphasis on developing professional knowledge base.

SPE 591 Academic Methods: Elementary. Three hours.
Designed to develop skills in the use of curriculum, materials, and strategies for students with disabilities at the elementary school level.

SPE 592 Academic Methods: Secondary. Three hours.
Designed to develop skills in the use of curriculum, materials, and strategies for students with disabilities at the secondary level.

SPE 593 Introduction to Severe Disabilities. Three hours.
An intensive study of the background and current perspective on severe disabilities. Emphasis is on developing professional knowledge.

SPE 594 Methods for Severe Disabilities. Three hours.
Emphasizes educational programming, subject matter, professional responsibilities of teachers and related service personnel, curriculum development, communication, and physical management and handling procedures of individuals with severe disabilities.

SPE 597 Transition Methods for Adolescents with Disabilities. Three hours.
Focuses on the strategies, methods, curriculum, and measurement for facilitating an effective transition from school to adulthood of adolescents with disabilities.

SPE 598 Internship in Special Education. Three hours.
Prerequisites: SPE 561 and SPE 562.
Intensive, supervised teaching experience in a special education program.

SPE 599 Thesis Research. Variable credit.
Allows master’s students to initiate and develop a thesis topic into a formulated paper that describes or investigates in great depth problems and/or issues in special education.

SPE 600 Doctoral Seminar in Special Education. Three hours.
Required for all first-year doctoral students; diagnostic in function. Activities include examination of career goals and assessment of skills in written and oral presentations. Offered fall semester.

SPE 601 Seminar: College Teaching in Special Education. Three hours.
Prerequisite: SPE 600.
Course structure, lecturing and other delivery techniques, student evaluation, and practicum supervision are included among topics that are reviewed to develop skills in college training. Offered fall semester.

SPE 602 Seminar: Research in Special Education. Three hours.
Prerequisite: SPE 600.
Focuses on the unique aspects of the exceptional population in relationship to typical statistical and research design procedures. Offered spring semester.

SPE 606 Topical Seminar in Special Education. Three hours.
Prerequisite: Permission of the instructor.
May be repeated for credit. Selected topics, review and critique of current literature, research problems, and methodology.

SPE 609 Practicum in Special Education. Three to six hours.
Designed for advanced graduate students. Students practice effective supervision skills or college teaching skills under the direction of the course instructor.

SPE 611 Independent Study in Special Education. Three to nine hours.
Intensive investigation of a specific aspect of special education, by one student under the supervision of a faculty member in the student’s area of concentration.
SPE 612 Readings and Research in Special Education. Three to twelve hours. For doctoral students, an opportunity to initiate, develop, and successfully defend a dissertation topic dealing with a problem of magnitude in the field of special education.

SPE 613 Consultation Processing in Special Education Programs. Three hours. Training in human-relations techniques and administrative strategies designed to facilitate communication and interaction with individuals and groups in special education programming.

SPE 614 Assessment of Teaching and Learning in Special Education. Three hours. Strategies for curricular designs, teaching methods, and program models using informal and observational techniques to assess teaching effectiveness and learner outcomes (academic and behavioral) in special education programs.

SPE 631 Educational Programming for Children in Emotional Conflict. Three hours. Systems analysis and literature reviews for teaching the nature and needs of children and youth experiencing emotional conflict. Data from the general areas of mental health and learning are used to raise questions about the education of children experiencing emotional conflict.

SPE 632 Teachers’ Cognitive Styles. Three hours. Prerequisite: SPE 532. Teaching consultation seminar that demonstrates teaching models and self-evaluation skills during direct involvement with children experiencing emotional conflict.

SPE 633 Psychology of Emotional Conflict. Three hours. The interaction of dynamic and developmental characteristics of children and youth experiencing emotional problems is considered in an interdisciplinary context, but emphasizing educational implications and curricular adaptations.

SPE 644 Issues and Trends in Mental Retardation. Three hours. Prerequisite: SPE 542. Advanced curriculum planning, methods, and materials for people who are mentally retarded. Emphasis is on the conceptual level.

SPE 661 Issues in Learning Disabilities. Three hours. Prerequisite: SPE 561 or permission of the instructor. Thorough analysis of current trends and issues in the field of learning disabilities. Focus is on problem identification, viable solutions, and needed research.

SPE 670 Issues in Education of Young Children with Diverse Abilities. Three hours. Explores current issues in early childhood education and accommodates students doing extensive reading and research in a specific area within the field.

SPE 672 Ethical and Legal Aspects of Special Education. Three hours. Study of the ethical principles supporting statutory and judicial activities in special education.

SPE 681 Issues in Gifted Education. Three hours. Discussion of current research, and investigation of major issues in the education of gifted and talented youth, focusing on definition, identification, programming, evaluation, community involvement, and guidance.

SPE 682 Advanced Curriculum Workshop in Gifted Education. Six hours. Prerequisites: SPE 581 and SPE 582, or permission of the instructor. Assists leaders in gifted education in applying studies in basic disciplines to the development and implementation of appropriate curriculum for the gifted. Emphasis is on application of diverse teaching models and the use of a variety of program alternatives and skills in designing, managing, and evaluating programs.

The following courses are restricted to students who have been admitted to the Multiple Abilities Program.

**SPE 505 Professionalism.** Two hours.
Prerequisites: Satisfactory completion of all MAP 300-level classes; admittance to the Graduate School, admittance to the graduate Multiple Abilities Program cohort.
The focus is on methods and materials for teaching music to children in grades 4–6.

**SPE 509 The Learner.** Two hours.
Prerequisites: Satisfactory completion of all MAP 300-level classes; admittance to the Graduate School, admittance to the graduate Multiple Abilities Program cohort.
The focus is on methods and materials for teaching music to children in grades pre-school–3.

**SPE 516 Communication and Collaboration.** One hour.
Prerequisites: Satisfactory completion of all MAP 300-level classes; admittance to the Graduate School, admittance to the graduate Multiple Abilities Program cohort.
The focus is on developing number sense and mathematical power in children at grades K–6.

**SPE 517 Facilitating Learning.** One hour.
Prerequisites: Satisfactory completion of all MAP 300-level classes; admittance to the Graduate School, admittance to the graduate Multiple Abilities Program cohort.
The focus is on curricular materials that support children's reasoning in elementary school mathematics.

**SPE 518 Field Experience.** Six hours.
Prerequisites: Satisfactory completion of all MAP 300-level classes; admittance to the Graduate School, admittance to the graduate Multiple Abilities Program cohort.
The course consists of a clinical placement in the Summer Enrichment Workshop, a program for high-ability children.

**SPE 527 Professionalism.** Two hours.
Prerequisites: Completion of all previous MAP coursework with a grade of “B” or better.
The major activity of the semester consists of a 12-week internship in a general education classroom. Professional discourse, dress, ethics, and decision making receive intensive scrutiny.

**SPE 528 The Learner.** Two hours.
Prerequisites: Completion of all previous MAP coursework with a grade of “B” or better.
The major activity of the semester consists of a 12-week internship in a general education classroom. Students will gradually assume more and more of the responsibility for planning and teaching in responsive, developmentally appropriate ways that support the learning of ALL children in the classroom, culminating in a 2-week "solo" teaching episode.

**SPE 530 Communication and Collaboration.** Two hours.
Prerequisite: Completion of all previous MAP coursework with a grade of “B” or better.
The major activity of the semester consists of a 12-week internship in a general education classroom. Students will continue to develop and be evaluated on the communication and collaboration abilities they have developed in previous MAP coursework.

**SPE 534 Facilitating Learning.** Two hours.
Prerequisite: Completion of all previous MAP coursework with a grade of “B” or better.
The major activity of the semester consists of a 12-week internship in a general education classroom. Students will assume responsibility for teaching all content areas in the elementary curriculum, including music, dance, and art by means of an integrated curriculum. The integrated unit they produce will be their major product of the semester.

**SPE 535 Field Experience.** Three hours.
Prerequisites: Completion of all previous MAP coursework with a grade of “B” or better.
The major activity of the semester consists of a 12-week internship in a general education classroom.
SPE 538 Research Seminar. One hour.
Prerequisite: Completion of all previous MAP coursework with a grade of “B” or better.
This seminar will acquaint students with relevant areas of research in general and special education. It provides a scaffolded approach to the development of a research proposal that will be required in the fifth semester of MAP. Attention is given to selecting problem areas for investigation by reviewing historical, descriptive, and experimental methods of research. Students will read a variety of research articles and learn to identify an appropriate question for various types of inquiry. They will study the types of data that should be collected, the types of analyses typically done with such data, and how to relate their study’s findings to the question for which the study was undertaken.

SPE 550 Professionalism. Two hours.
Prerequisite: Completion of all previous MAP coursework with a grade of “B” or better.
The major activity of the semester consists of a 12-week internship in a special education classroom. Professional discourse, dress, ethics, and decision making receive intensive scrutiny.

SPE 554 The Learner. Two hours.
Prerequisite: Completion of all previous MAP coursework with a grade of “B” or better.
The major activity of the semester consists of a 12-week internship in a special education classroom. Students will gradually assume more and more of the responsibility for planning and teaching in responsive, developmentally appropriate ways that support the learning of ALL the children in the classroom, culminating in a 2-week “solo” teaching episode.

SPE 556 Communication and Collaboration. Two hours.
Prerequisite: Completion of all previous MAP coursework with a grade of “B” or better.
The major activity of the semester consists of a 12-week internship in a special education classroom. Students will continue to develop and be evaluated on the communication and collaboration abilities they have developed in previous MAP coursework.

SPE 557 Facilitating Learning. Two hours.
Prerequisite: Completion of all previous MAP coursework with a grade of “B” or better.
The major activity of the semester consists of a 12-week internship in a special education classroom. Students will produce a case study of one struggling learner, including an analysis of the student’s social and academic environment, an IEP, and lesson plans from the previous semester’s integrated unit that show how they would be modified to meet the student’s academic and social needs.

SPE 558 Field Experience. Three hours.
Prerequisites: Completion of all previous MAP coursework with a grade of “B” or better.
The major activity of the semester consists of a 12-week internship in a special education classroom.

SPE 560 Research Seminar. One hour.
Prerequisites: Completion of all previous MAP coursework with a grade of “B” or better.
In this course, students will design and implement action research in the special education classroom in which they are completing their internship. Students will develop an instructional or behavioral intervention, design and implement an action research validation study, collect data, analyze it, and write up their research in APA style. Students will then prepare an oral presentation of their research for the MAP Differentiated Instruction Conference. The action research resulting from this seminar will be used as a form of master’s thesis in lieu of a master’s comprehensive examination.
The master of arts degree in human performance studies is offered with these emphases: college sports management, exercise physiology, human performance, and physical education teacher education. These programs are available under Plan I (thesis) and Plan II (nonthesis), as indicated on p. 301. The degree with an emphasis in physical education teacher education leads to Class A certification, unless the student prefers a nonteaching degree. Programs leading to the doctor of philosophy (Ph.D.) degree in human performance with emphases in pedagogy and exercise science are also offered.

Admission and degree requirements for the Graduate School and for the College of Education are detailed in an earlier section of this catalog. There are no degree requirements specific to the department in addition to those of the Graduate School and College.

DEPARTMENT OF KINESIOLOGY COURSES

Course Descriptions (HPE)

**HPE 500 Sociology of Sport.** Three hours.
Examines the institution of sport from a sociological perspective. Provides an opportunity to critically analyze the assumptions surrounding the social significance of sport through a process of reflective thought.

**HPE 502 Current Research in Physical Education.** Three hours.
A broad review of current published research in physical education, with emphasis on practical application of research findings.

**HPE 506 Techniques of Research.** Three hours.
Designed to acquaint the student with the types of research and the methods and materials necessary for scientific inquiry. Includes the development of a research proposal, with emphasis on form and style.

**HPE 507 Laboratory Techniques.** Three hours.
Theoretical and practical understanding of physiological instrumentation and measurement in physical education, including practical laboratory experiences, as preparation for graduate research or other research opportunities.

**HPE 508 Perceptual-Motor Development.** Three hours.
Perceptual-motor development of infants and young children. Current philosophies, theories, and methods; laboratory work in movement exploration. A clinical experience is required.

**HPE 510 Teaching and Supervising Elementary School Physical Education.** Three hours.
Open to elementary education and physical education majors. Reviews the essential concepts for successfully teaching grades 1–6; learning, function, and duties of consultant.

**HPE 512 Physical Education Curriculum.** Three hours.
Program content and curriculum planning in grades 1–12 and higher education; includes developing curriculum plan applicable to one's need.

**HPE 538 Advanced Adapted Physical Education.** Three hours.
Pertinent information concerning legislation, mainstreaming, the physical education IEP, and movement problems of individuals who deviate from the norm. A clinical experience is required.

**HPE 550 Coaching: A Psychological Application.** Three hours.
Prerequisites: Graduate standing and permission of the instructor. Application of psychological concepts, theories, and principles in coaching to maximize the athlete's performance.

**HPE 562 Administration of Athletics.** Three hours.
Problems and issues in organizing and administering secondary and college athletic programs.
HPE 566 Evaluation in Physical Education. Three hours.
Covers practical aspects of measurements and evaluation in schools and colleges to measure clients, patients, and students. A practical measurement/evaluation on project is completed.

HPE 585 Laboratory and Field Experience. One to six hours each.
Provides for teaching laboratory, internship, and/or practicum experiences, according to individual needs and goals.

HPE 590 Sports/Dance Workshop. One to six hours.
In-depth study of physical education subject matters (gymnastics, dance, fitness, aquatics, track and field, and sports/games) focusing on content, theoretical frameworks, and educational perspectives. Students enroll in 1-credit-hour workshops according to individual needs and certification requirements.

HPE 592 Physiology of Exercise. Three hours.
Designed to be an overview of the human physiological response to exercise.

HPE 593 Organization and Implementation of Adult Fitness Programs. Three hours.
Designed to provide practical experience in organizing and implementing adult fitness programs.

HPE 595 Workshop in Physical Education. One to three hours.
This course is designed to help students improve their ability to teach elementary, secondary, and/or college physical education and understand theory and research as it is applied in each setting.

HPE 596 Independent Study in Physical Education. One to three hours.
Designed to provide the opportunity for independent study in a specific area of physical education.

HPE 598 Nonthesis Research. Three hours.
Experimental or analytical investigation of problems in physical education.

HPE 599 Thesis Research. Three hours.
Research in a selected area of physical education.

HPE 600 Motor Activity and Learning. Three hours.
Investigation of factors that have implications for motor learning throughout the life span; practical implications for teaching, coaching, and analyzing motor skills.

HPE 602 Readings in Physical Education. Three hours.
An independent readings course for doctoral students.

HPE 603 Special Projects in Physical Education. Three hours.
Experimental or analytical investigations of problems in physical education, arranged on an independent basis for doctoral students.

HPE 604 Seminar in Physical Education. Three hours.
Critical issues in athletics, curriculum, instruction, evaluation, research, fitness, individual differences, and financial support.

HPE 612 Research in Physical Education/Teacher Education. Three hours.
An examination of the development, design, and application of research in physical education/teacher education.

HPE 622 Analysis of Research on Teaching in Physical Education. Three hours.
A thorough analysis of published research on teaching in physical education.

HPE 632 Systematic Observation in Physical Education. Three hours.
An examination of analytical techniques used to collect and evaluate data related to teacher and student behaviors. Instruction in the development and use of systematic observation instruments is provided.

HPE 642 Instructional Design in Physical Education in Higher Education. Three hours.
An examination of methods, applications, and current research related to instructional design.

HPE 646 Administration of Physical Education. Three hours.
Focuses on academic and practical experience in the organizational and administrative skills necessary to successfully direct a secondary, junior college, college, or university program.
HPE 685 Fieldwork and Laboratory Experience. One to six hours each. Arranged on an independent basis for doctoral students. Participation and research in schools and agencies.
HPE 690 Exercise in Health and Disease. Three hours. Prerequisite: HPE 592. Designed to acquaint the student with the health benefits of regular physical activity and exercise. The most recent research literature is critically analyzed.
HPE 692 Seminar in Exercise Physiology. Three hours. Prerequisite: HPE 592. Provides an opportunity to study in depth the scientific literature related to various exercise physiology topics. May be taken more than once.
HPE 698 Nondissertation Research. Three hours. Prerequisite: Doctoral student standing. Experimental or analytical investigation of problems in kinesiology.
HPE 699 Dissertation Research. Three to twelve hours. Design, research, and/or analytical investigation of a problem in the field of kinesiology to satisfy the dissertation requirement for the doctoral degree.

DEPARTMENT OF MUSIC EDUCATION (MUE)
Professor Harry E. Price, Department Head Office: 262 Moody Music Building

In music education, the M.A. degree, nontraditional initial certification, the Ed.S., and the Ed.D. degrees are offered. All programs can lead to Alabama teacher certification.

M.A. admission requirements. Admission to the master’s degree program in music education is contingent on meeting the Graduate School’s admission requirements. In addition, students are required to take diagnostic examinations in music theory and music history and perform a placement audition on the major instrument, or submit a tape of an ensemble performance or teaching sample prior to the completion of 12 hours of graduate study. Conditional admission can be granted in some instances.

Ed.S. and Ed.D. admission requirements. Admission to the Ed.S. or Ed.D. degree program in music education is contingent on meeting the Graduate School’s admission requirements. An applicant must successfully complete a formal screening interview with the music education faculty prior to an admission decision, and Ed.D. applicants must submit a writing sample. Students are also required to take diagnostic examinations in music theory and music history prior to the completion of 12 hours of graduate study. It is highly recommended that applicants have a minimum of three years’ full-time contractual teaching experience prior to beginning a post-master’s degree program. Conditional admission is granted in some instances.

M.A. degree requirements. Three M.A. plans are offered. Plan I presumes an undergraduate degree in music education and leads to master’s-level certification. It requires a minimum of 30 semester course credits as follows: (a) 18 hours in the teaching field, (b) 6 hours in music academics; and (c) 6 hours of graduate electives. This program can include up to 6 hours’ credit for thesis research. The fulfillment of these requirements leads to a recommendation for a Class A certificate in music education (P–12). Plan II is a highly flexible course of study with a minimum of 30 hours of course credit. It is not linked to any certification, but must comply with national accreditation standards. Plan III is the strengthen subject matter option (SSMO).

Nontraditional, alternative initial teacher certification program. The SSMO, which is available in music education, is for students who have not completed an undergraduate degree in music education, but who possess an undergraduate degree in an area of music from a school accredited by the National Association of Schools of Music. It requires a minimum of 39 semester course credits as follows: (a) curriculum and teaching, 3 hours; (b) professional studies, 6 hours; (c) survey of special education, 3 hours; (d) evaluation of teaching and learning, 3 hours; (e) teaching reading or reading in content.
area, 3 hours; (f) music and music education, 15 hours; and (g) internship, 6 hours. Some undergraduate prerequisites are also required. The fulfillment of these requirements leads to a recommendation for a Class A certificate in music education (P–12).

**Ed.S. degree requirements.** A minimum of 30 hours of appropriate work beyond the M.A. degree including completion of a research project is required for the educational specialist (Ed.S.) degree. The fulfillment of these requirements leads to the Class AA certificate in music (P–12). The total hours of graduate work, including the M.A. degree, must be at least 60 hours. Students who are pursuing certification options must be certain their programs of study meet all certification requirements according to programs approved by the state department of education. Courses used to qualify for a lower-level supporting certificate may not be used again in a higher-level certification program.

**Ed.D. program requirements.** The doctor of education degree in music education is designed to include a broad field of study in a major area of specialization. Program requirements include 66 hours of coursework beyond the master’s degree, or a minimum of 96 graduate hours including the master’s degree. Selection and sequence of courses is contingent on the skills, background, and professional goals of the student. Each student’s program will include courses in music, music education, professional education, and research. Interested students should contact a music education adviser.

**General Requirements**

Before 12 hours of graduate study are completed in any graduate degree program, all music education graduate students (including past graduates of The University of Alabama) are required to take diagnostic examinations in music theory and history. A placement audition on the major instrument is also required of M.A. students. The specific examinations required and the dates of their administration may be obtained by application to the program in music education.

The content of all graduate programs in music education is determined, in part, by the background and goals of the individual student. Each program will include graduate courses in music education (choral, instrumental, or general) and professional education, and may include studio courses and other graduate study as indicated by the student’s background and interests in consultation with his or her adviser. It is recommended that each student contact his or her adviser during the first term of graduate study in order to plan the program.

**DEPARTMENT OF MUSIC EDUCATION COURSES**

**Course Descriptions (MUE)**

**MUE 486 Marching Band Techniques.** Two hours.
Fundamentals of marching, maneuvering, preparation, and presentation of formations. Offered fall semester.

**MUE 487 Evaluation of Teaching and Learning in Music.** Three hours.
Survey of standardized instruments; development of skills necessary to understand and design evaluation instruments for use in music education. Offered fall semester and summer school in odd-numbered years.

**MUE 497 Internship Music Education.** Six hours.

**MUE 500 Foundations of Music Education.** Three hours.
Investigation of the purposes and functions of music education from antiquity to the present. Philosophical foundations and a chronological survey of historical issues related to the inclusion of music in general education will also be discussed. Offered in summer school, in odd-numbered years, and at other times according to demand.

**MUE 501 Functional Instruments.** One-half to one hour.
Studio instruction in secondary instruments or voice.

**MUE 523 Current Trends in Elementary Music.** Three hours.
Instructional materials, lesson planning, teaching practices and procedures, research, and the evaluation of pupil achievement. Offered in summer school only, in odd-numbered years.
MUE 525 Choral Techniques and Materials. Three hours.
Organization, rehearsal, programming, and performance of choral groups. Offered in summer school only, in even-numbered years.

MUE 526 Instrumental Techniques and Materials. Three hours.
Organization, rehearsal, programming, and performance of instrumental groups. Offered in summer school only, in even-numbered years.

MUE 527 Selection, Care, and Repair of Instruments. Two hours.
Practice in repairs and adjustments normally made by instrumental directors. Offered in summer school only, in even-numbered years.

MUE 529 Research in Music Education. Three hours.
Research study in music education. Offered in summer school in odd-numbered years, and at other times according to demand.

MUE 530 Music Education Curriculum Theory and Development. Three hours.
Analysis of music curricula and study of the development process. Offered in summer school in even-numbered years, and at other times according to demand.

MUE 590 Seminar in Music Education. One to three hours.
Study of special topics in music education. Offered every summer and according to demand.

MUE 591 Workshop in Music Education. One to three hours.
Special topics in music education focusing on in-class activities and materials directly applicable to general, band, and orchestra music instruction. Typically focused for practicing teachers, with the bulk of the expected work to be accomplished in class.

MUE 595 Curriculum Projects in Music Education. One to three hours.
The design, proposal, implementation, evaluation, and reporting of a curriculum project or an improved instructional procedure in music. Independent study.

MUE 597 Practicum in Music Education. Three to nine hours.

MUE 598 Nonthesis Research. Variable credit.

MUE 599 Thesis Research. Variable credit.

MUE 623 Curricular Trends in General Music Education. Three hours.
Prerequisite: MUE 523, MUE 530, MUE 630, or permission of the instructor.
Analysis of current trends in general music and their influence on techniques and materials for K–12 and two-year community colleges. Offered according to demand.

MUE 630 Music Education Curriculum Theory and Development. Three hours.
Prerequisite: Master’s degree.
Analysis of music curricula and study of the development process. Offered in summer school in even-numbered years and according to demand.

MUE 631 Music Education Curriculum Evaluation and Supervision. Three hours.
Prerequisites: Master’s degree, and MUE 530, MUE 630, or permission of the instructor.
Study and application of observation and measurement tools, and the use of evaluation in leading curriculum change. Offered according to demand.

MUE 690 Advanced Seminar in Music Education. One to three hours.
Advanced study of special topics in music education. Offered according to demand.

MUE 695 Curriculum Projects in Music Education. One to three hours.
Prerequisite: Master’s degree.
The design, proposal, implementation, evaluation, and reporting of a curriculum project or an improved instructional procedure in music. Independent study.

MUE 698 Nonthesis Research. Three hours.

Admission requirements. Admission requirements are outlined in an earlier section of this catalog.

M.A. degree requirements. A minimum of 30 hours of course credit must be earned; see specific program checklists. The program of study must be planned with an adviser.

Nontraditional, alternative initial teacher certification program. A minimum of 42 semester hours of specific graduate credit plus some undergraduate prerequisites is required for the certificate. The program of study must be planned with an adviser. See also p. 301.

Ed.S. degree requirements. A minimum of 30 hours of appropriate work beyond the M.A. degree and the completion of a research paper are required for the educational specialist degree. Graduate coursework must include the following: curriculum and teaching, 6 hours; foundations of professional studies, 3 hours; evaluation of teaching and learning, 3 hours; teaching field, 12 hours; electives (which may be specified), 6 hours. If the special education requirement has not been fulfilled, the student may be required to complete an additional 3-hour survey course in special education.

Postsecondary instruction. Graduate students in both the M.A. and Ed.S. programs who have an interest in teaching in postsecondary institutions may take advantage of the program’s flexibility to acquire a maximum of 18 hours in cognate field courses. Students who have this option in mind should coordinate the program of study carefully with their advisers.

Class AA certificate required courses. A minimum of 30 hours of appropriate work beyond the M.A. degree is required for the Class AA certificate. The total hours of graduate work (including the M.A. degree) must be at least 66 hours. Students who are pursuing certification options must be certain that their planned programs meet all certification requirements according to programs approved by the state department of education. Approved program check sheets are available from the program office.

Students who earned initial credit toward Class AA professional certification during the fall of 1992 or later must enroll in and complete the Ed.S. degree program. Courses used to qualify for a lower-level supporting certificate may not be used again in a higher-level certification program.

Department of Secondary Curriculum, Teaching, and Learning Courses

Course Descriptions (CSE)
(See also CIE and CRD courses on p. 349–353.)

CSE 530 The Modern Secondary School Program. Three hours.
The evolving secondary school and its program, with emphasis on analysis of current trends that directly affect modern school practices in a societal context.

CSE 531 Teaching of Family and Consumer Sciences. Three hours.
Prerequisite: Enrollment in nontraditional, alternative certification program.
Implementation of competency-based professional education in home economics at the preprofessional level. Competencies are developed in the following categories: philosophy, professional role, program planning and execution, educative process, and research.

CSE 532 The Secondary School Curriculum. Three hours.
The evolving secondary school curriculum, from historical, current trends, and projective perspectives.

CSE 555 Adolescent Literature. Three hours.
An introduction to literature appropriate for the adolescent reader; reading patterns and major concerns of adolescents.

CSE 562 Improving Family and Consumer Sciences Instruction. Three hours.
Identification and development of teaching-learning strategies and resources within the context of professional development education in home economics.
CSE 563 Improving English Instruction. Three hours.
Principles of learning applied to concepts, skills, attitudes, and problem solving in English and speech; diagnosis, enrichment, remedial teaching, and evaluation.

CSE 564 Improving Social Science Instruction. Three hours.
Exploration and examination of methods and materials for improving social studies instruction. Focuses on teaching for diverse learners, constructivist methods, critical thinking, interdisciplinary teaching, and various technologies as they apply to secondary social studies classrooms.

CSE 565 Improving Science Instruction. Three hours.
Principles of learning applied to concepts, skills, attitudes, and problem solving in science; diagnosis, enrichment, remedial teaching, and classroom evaluation, and application and evaluation of technologies.

CSE 566 Improving Mathematics Instruction. Three hours.
Principles of learning applied to concepts, skills, attitudes, and problem solving; proper use and evaluation of teaching aids; construction and utilization of teaching instruments; and examination and exploration of alternative assessment strategies and technologies for use in secondary mathematics classrooms.

CSE 567 Improving Foreign Language Instruction. Three hours.
Principles of learning applied to concepts, skills, attitudes, and problem solving in foreign language; diagnosis, enrichment, remedial teaching, and evaluation.

CSE 569 Pedagogical Grammar. Three hours.
Exploration of structural, transformational, and traditional approaches to teaching grammar.

CSE 574 Guiding Pupil Learning. Three hours.
Understanding ways children and youth learn, factors influencing learning, and ways in which teachers can facilitate learning. Application of principles of learning to classroom situations. Usually offered during summer school.

CSE 576 Improving Science Teaching through New Technologies. Three hours.
Examination and evaluation of appropriate technologies for the secondary science curriculum.

CSE 579 Teaching Secondary School English. Three hours.
Methods and media essential to effective instruction in English in the secondary school.

CSE 580 Teaching Secondary School Foreign Languages. Three hours.
Theories, methods, techniques, and essential media for teaching foreign languages effectively in the secondary school.

CSE 583 Teaching Secondary School Mathematics. Three hours.
Methods, media, and techniques of teaching mathematics in the secondary school, including selected topics in mathematics and exploration and examination of various technologies for use in secondary mathematics classrooms, including, but not limited to, calculators and various computer software.

Methods and technologies essential to effective instruction in science in the secondary school.

CSE 587 Teaching Secondary School Social Science. Three hours.
Theories and methods of teaching social studies in secondary schools, including examination and exploration of instructional materials, various technologies, constructivist methods, and assessments.

CSE 592 Fieldwork in Secondary Education. Three hours.
Prerequisite: Permission of the instructor.
A clinical experience taken concurrently with the methods course and designed to facilitate students’ development of pedagogical skills, effective thinking, and professional problem solving. Students will apply for admission to the teacher education program during this course.
CSE 593 Workshop in Secondary Education. One to three hours.  
Prerequisite: Permission of the instructor.  
In-class opportunities to study or work on topics or projects of collective concern. Topics vary. May be repeated.

CSE 594 Problems in Secondary Education. One to six hours.  
Prerequisites: Permission of the instructor and approval of the program chair in secondary education.  
Opportunities to study or work independently on topics or projects of individual concern. Credit is based on the nature and degree of student involvement.

CSE 595 Practicum. Three hours.  
Focuses on analysis and performance of teaching strategies and the evaluation of teaching-learning problems.

CSE 597 Internship in Secondary Education. Six to nine hours.  
Prerequisites: A minimum GPA of 2.75 in graduate teaching field and a minimum GPA of 2.75 in professional courses; a minimum GPA of 2.75 on all work attempted (undergraduate and graduate); an overall graduate GPA of 3.0; and satisfactory completion of 12 hours in the graduate teaching field courses.  
Full-time internship as a teacher in the major teaching field.

CSE 598 Nonthesis Research. Variable credit.

CSE 658 School Accreditation Standards: Self-Study and Continuous Improvement. Three hours.  
A study of regional and SACS school accreditation including standards for accreditation, school self-study procedures and validation, roles of school personnel, and creating continuous school improvement activities through SACS accreditation requirements.

CSE 662 Secondary School Family and Consumer Sciences. Three hours.  
Focuses on trends and issues in home economics, literature, content, and research in the field; content and methods of experimental programs; sequencing of subject matter; programs and procedures of curriculum development; and program evaluation.

CSE 663 Secondary School English. Three hours.  
Literature, research, and content in English and speech; current trends; experimental programs; gradation or sequence of subject matter; criteria for program evaluation; and basic issues.

CSE 664 Secondary School Social Science. Three hours.  
Focuses on curriculum and research in social studies education, including materials development and current issues in the field.

Literature, research, and content in science; current trends; experimental programs; gradation of subject matter; criteria for program evaluation; and basic issues.

CSE 666 Improving Mathematics Instruction. Three hours.  
Principles of learning applied to concepts, skills, attitudes, and problem solving; proper use and evaluation of teaching aids; construction and utilization of teaching instruments; and examination and exploration of alternative assessment strategies and technologies for use in secondary mathematics classrooms.

CSE 667 Secondary School Foreign Language. Three hours.  
Literature, research, and content in foreign languages; current trends; experimental programs; criteria for program evaluation; special problems; and graduation of subject matter.

CSE 670 Research and Theory in Secondary Education. Three hours.  
An examination of the relationship between theory and research. Students learn to search and evaluate the research literature, and they write a proposal for research.

CSE 690 Advanced Seminar in Secondary Education. One to three hours.  
Prerequisites: Permission of the instructor and approval of the program chair in secondary education.  
In-class opportunities to analyze and discuss current topics, problems, and projects of collective concern. Topics vary.
CSE 692 Advanced Fieldwork in Secondary Education. One to three hours. Prerequisites: Permission of the instructor and approval of the program chair in secondary education. Field-based opportunities to study and work on projects or topics of individual or collective concern. Topics vary.

CSE 693 Advanced Workshop in Secondary Education. One to three hours. Prerequisites: Permission of the instructor and approval of the program chair in secondary education. In-class opportunities to study or work on topics or projects of collective concern. Topics vary. May be repeated.

CSE 694 Advanced Problems in Secondary Education. One to six hours. Prerequisites: Permission of the instructor and approval of the program chair in secondary education. Opportunities to study or work independently on topics or projects of individual concern. Credit is based on the nature and degree of student involvement.

CSE 695 Practicum in Secondary Education. Variable credit. Prerequisite: Permission of the instructor. Supervised opportunities to apply knowledge and skills in a professional setting. Credit is based on the nature and degree of student involvement.

CSE 697 Educational Specialist Degree Research. Three hours. Systematic classroom inquiry is used to engage students in a teacher action research project.

CSE 698 Nonthesis Research. Variable credit.

CSE 699 Dissertation Research. Variable credit. Minimum of three hours’ enrollment per semester.

CURRICULUM AND INSTRUCTION (CIE) COURSES

The courses are designed to meet the continuing professional-growth needs of teaching personnel. In all programs, heavy emphasis is placed on the proper blend of theoretical and conceptual considerations with the realities of the classrooms in which graduates work. Doctoral degrees utilizing these courses are available in the traditional fields of elementary and secondary education, and these courses may be applicable in other departments. Doctoral minors and supporting concentrations have recently been developed from a generic perspective. The latter option was developed especially for doctoral students in educational research and evaluation who have not had previous school-based experience, although others may qualify.

Course Descriptions (CIE)

The following courses are designed to serve students in all programs.

CIE 544 Supervising Interns. Three hours. Organization and administration of student-teaching programs and methods of supervising student-teaching in schools.

CIE 562 TESL: Basic Methods. Three hours. Prerequisite: Permission of the instructor. Theories, methods, and strategies for English as a second language that focus on communicative competence and cross-cultural understanding.

CIE 567 Improving Foreign Language Instruction. Three hours. Prerequisite: Permission of the instructor. Critical examination of theoretical perspectives, methods, major issues, and controversies pertinent to teaching foreign language; use of technology in language instruction is a critical component.

CIE 576 Linguistics for Classroom Teachers. Three hours. This linguistic course enables teachers to understand the basics of how the English language functions. Provides information essential for dealing with students whose native language is not English. Offers useful information about various English dialects as well.
CIE 577 Second Language Acquisition: Issues, Theories, and Instructional Implications. Three hours.
Introduction to and analysis of the main issues and theories in second language acquisition (SLA); students deduce and demonstrate instructional implications.

CIE 578 Second Language Testing, Assessment, and Evaluation. Three hours.
Prerequisite: Permission of the instructor.
Preparation in the background and skills necessary to construct classroom-based tests, appropriately use published tests, and understand second or foreign language program evaluation.

CIE 579 Teaching English as a Second Language: Programs and Policies. Three hours.
Prerequisite: Permission of the instructor.
Theories of language learning, acquiring a second language, and current linguistic theories; emphasis is on programs, policies, and instructional methods of ESL education.

CIE 580 Teaching Foreign Languages. Three hours.
Prerequisite: Permission of the instructor.
Theories, methods, and strategies for foreign language teaching that focus on communicative competence and cross-cultural understanding; use of technology in language education is a critical component.

CIE 592 Fieldwork in Curriculum and Instruction. One to three hours.
Prerequisite: Permission of the instructor.
Field-based opportunities to study or work on topics or projects of collective concern. Topics vary. Offered according to demand.

CIE 593 Workshop in Curriculum and Instruction. One to three hours.
Prerequisite: Permission of the instructor.
In-class opportunities to study or work on topics or projects of collective concern. Topics vary. May be repeated. Offered according to demand.

CIE 594 Problems in Curriculum and Instruction. One to six hours.
Prerequisite: Permission of the instructor.
Opportunities to study or work independently on topics or projects of individual concern. Credit is based on the nature and degree of student involvement. Offered according to demand.

CIE 595 Practicum in Curriculum and Instruction Education. Variable credit.
A laboratory course that provides opportunities to observe, implement, and analyze instruction in school settings.

CIE 597 Internship in Elementary and Secondary Schools. Six hours.

CIE 610 Effective Teaching Concepts and Processes. Three hours.
Prerequisite: Graduate course in educational or cognitive psychology, graduate course in learning theory, or permission of the instructor.
Examination of the knowledge base in effective teaching practice through in-depth study of the research literature on classroom instructional practices and conditions, and on the classroom teacher. Designed specifically for doctoral-level students.

CIE 620 Designing and Conducting Research on Classroom Teaching. Three hours.
Prerequisite: Graduate course in research methods or permission of the instructor.
The practice and use of reflection and action research with emphasis on developing professional skills in performing and applying research on classroom teaching and learning leading to teacher empowerment and school reform. Designed specifically for doctoral-level students.

CIE 623 Models and Strategies of Instruction. Three hours.
Prerequisite: Admission to Ed.S. or doctoral program.
Exploration of a variety of instructional models. Emphasis is on the current research of effective instructional practices in the elementary school.

CIE 625 Research Seminar in Science Curriculum. Three hours.
Designed to enable students to understand and synthesize current research and to develop a theoretical framework in the science curriculum for K–12.
CIE 626 Seminar in Research in Social Studies Curriculum. Three hours.
Designed to enable students to understand and synthesize current research and to
develop a theoretical framework in social studies education for K–12.

CIE 630 Curriculum for the Classroom Teacher. Three hours.
This course discusses the major issues in curriculum design and implementation for the
classroom teacher. Designed specifically for doctoral-level students.

CIE 638 Seminar in ESL Education. Three hours.
Prerequisite: Permission of the instructor.
Examination and critical analysis of a wide range of perspectives from the professional
literature on teaching and learning ESL.

CIE 640 Seminar in Teacher Education Processes. Three hours.
The course focuses on issues, problems, trends, and research associated with under-
graduate and graduate teacher education and certification programs in Alabama, the

CIE 644 Teacher-Intern Supervision. Three hours.
Organization and administration of student-teaching programs and methods of supervising
student-teaching in schools. Designed specifically for doctoral-level students.

CIE 650 Individual/Context Variables. Three hours.
This course deals with learning styles, personality factors, and social-environmental
issues that affect curriculum and instruction. Theoretical and practical aspects are
covered. Designed specifically for doctoral-level students.

CIE 656 Seminar in Foreign Language Education. Three hours.
Prerequisite: Permission of the instructor.
Examination and critical analysis of a wide range of perspectives from the professional
literature on teaching and learning a foreign language.

CIE 660 Cognitive Perspectives on Teaching and Learning in K–12 Classrooms.
Three hours.
Students read and discuss papers in school subject matter areas that have made im-
portant contributions to the field of education and analyze them as to how they illustrate
cognitive processes.

CIE 662 Advanced ESL Education. Three hours.
Prerequisite: Permission of the instructor.
Designed for experienced ESL teachers, this course critically examines the professional
literature and various methods of teaching ESL.

CIE 667 Foreign Language Education. Three hours.
Prerequisite: Permission of the instructor.
Designed for experienced language teachers, this course critically examines the pro-
fessional literature and various methods of teaching foreign languages.

CIE 670 Critical Inquiry into Curriculum and Pedagogy. Three hours.
Prerequisite: Admission into doctoral program.
Advanced doctoral seminar engaging in critical inquiry into instructional conceptions of
curriculum and pedagogy.

CIE 680 Seminar in Mathematics Education Research. Three hours.
Designed to enable students to understand and synthesize current research and to
develop a theoretical framework in mathematics education.

CIE 692 Advanced Fieldwork in Curriculum and Instruction. One to three hours.
Prerequisite: Permission of the instructor.
Field-based opportunities to study or work on topics or projects of collective concern.

CIE 693 Advanced Workshop in Curriculum and Instruction. One to three hours.
Prerequisite: Permission of the instructor.
In-class opportunities to study or work on topics or projects of collective concern. Topics
vary. May be repeated. Offered according to demand.

CIE 695 Practicum in Curriculum and Instruction. Variable credit.
Provides graduate students with supervised opportunities to apply knowledge and
skills in a professional setting, focusing on preparation of teachers and professional
personnel.
READING EDUCATION (CRD)

Course Descriptions

CRD 510 Expanding Reading in the Elementary Grades. Three hours. A comprehensive study of the major factors involved in teaching reading at these levels. Techniques for teaching word recognition and comprehension skills are studied extensively.

CRD 511 Beginning Reading in PK–Primary Grades. Three hours. Attends to the problems of corrective reading; key areas of study include diagnostic and evaluative procedures and the organization and implementation of corrective instruction.

CRD 512 Improvement of Reading in Secondary Schools. Three hours. A comprehensive study of the major components involved in literacy instruction at the secondary level. A field component is required.

CRD 553 Foundation of Reading PK–12. Four hours. Course provides a comprehensive study of the development and teaching of reading in PK–12 settings. Techniques for direct instruction in phonemic awareness and phonics, comprehension, fluency, and vocabulary are studied extensively. Open only to students in the Reading Specialist certification program.

CRD 590 Seminar in Literacy. One to three hours. Prerequisite: Permission of the instructor. In-class opportunities to analyze and discuss current topics, problems, and projects of collective concern. Topics vary.

CRD 593 Workshop in Reading Education. One to three hours. Prerequisite: Permission of the instructor. In-class opportunities to study or work on topics or projects of collective concern. Topics vary. May be repeated.

CRD 595 Practicum in Reading Education. Variable credit. Prerequisite: Permission of the instructor. Provides graduate students supervised opportunities to apply knowledge and skills in a professional setting. Credit is based on the nature and degree of student involvement.
CRD 654 Assessment and Instruction of At-Risk Readers. Three hours.
Prerequisite: CRD 554 or approved equivalent.
Provides advanced study of diagnostic methods and materials. Students refine knowledge of concepts studied at the master's level. A large-scope analysis of the subject is provided. Offered according to demand.

CRD 690 Advanced Seminar in Literacy. Three hours.
Prerequisite: Permission of the instructor.
Provides students with a knowledge base of the relationship between theory, research, and practice in regard to K–12 literacy education.

CRD 693 Advanced Workshop in Reading Education. One to three hours.
Prerequisite: Permission of the instructor.
In-class opportunities to study or work on topics or projects of collective concern. Topics vary. May be repeated.

CRD 695 Practicum. Variable credit.
Prerequisites: CRD 595 or approved equivalent, and permission of the instructor.
Provides advanced experiences that enable students to refine knowledge acquired at lower levels of study.

CRD 696 Advance Reading Specialist Practicum. Variable credit.
Prerequisite: Permission of the instructor.
Provides graduate students preparing to assume new or expanded professional responsibilities with related field-based work experiences under close supervision. Credit is based on the nature and degree of student involvement.
COLLEGE OF ENGINEERING

GRADUATE STUDY

Graduate work in the College of Engineering is administered jointly by the Graduate School, the College of Engineering, and various administrative subdivisions of the College of Engineering.

The Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (the national accrediting agency for engineering curricula) has examined and accredited all of the professional engineering undergraduate curricula. The undergraduate program in computer science is accredited by the Computer Science Accreditation Commission of the Computing Sciences Accreditation Board, a specialized accrediting body recognized by the Council on Postsecondary Accreditation and the U.S. Department of Education.

Graduate degrees. The College of Engineering offers the following graduate degrees:

- Master of science in aerospace engineering, chemical engineering, civil engineering, computer science, electrical engineering, engineering (environmental engineering), engineering science and mechanics, industrial engineering, mechanical engineering, and metallurgical engineering
- Doctor of philosophy in the fields of chemical engineering, civil engineering, computer science, electrical engineering, engineering science and mechanics, mechanical engineering, and materials/metallurgical engineering (the Ph.D. in materials/metallurgical engineering is offered jointly with The University of Alabama at Birmingham)

Joint Interdisciplinary Ph.D. program in materials science. A Ph.D. degree in the field of materials science is also offered, in collaboration with The University of Alabama at Birmingham and The University of Alabama in Huntsville. Full details of the program and its admission requirements may be found in this catalog in the section “Interdisciplinary Programs.”

ADMISSION REQUIREMENTS

Applicants for graduate work in engineering must apply for admission to the Graduate School of the University. All applicants are required to submit a statement of purpose; there are no exceptions. Regular admission to graduate study may be granted to applicants who

- have earned baccalaureate degrees from institutions with programs accredited by the Accreditation Board for Engineering and Technology (ABET) or, for applicants for computer science programs, programs accredited by ABET or the Computing Sciences Accreditation Board (CSAB)
- have overall grade point averages of at least 3.0 on a 4.0 scale, or at least 3.0 for the last 60 hours completed

Other appropriate requirements may be established by the individual engineering departments.

Regular admission may also be granted to applicants who are not graduates of ABET- or CSAB-accredited programs and who have Graduate Record Examination general test scores of 1000 or higher, as specified by the department of interest. Each applicant should have the equivalent of a 3.0 or higher grade point average (as in requirements listed above). Other appropriate requirements may be established by the individual engineering departments.

To enter traditional engineering graduate programs, an applicant’s baccalaureate degree should be in a curriculum that was accredited by an accreditation commission of the
Accreditation Board for Engineering and Technology (ABET) at the time the degree was conferred. An applicant with a baccalaureate degree in another area may be admitted to those graduate programs in which the ABET criteria are not applicable to the degree earned. Examples of these graduate programs include

M.S.E. (Environmental Engineering)
M.S.E.S.M.
M.S.C.S.
Ph.D. (Engineering Science and Mechanics)

**International admission.** International applicants for engineering graduate programs must satisfy the above requirements and must also have TOEFL scores of at least 550. The student’s proposed plan of study shall include a schedule for removing any undergraduate course deficiencies.

**Conditional admission.** Each applicant is required to submit a statement of purpose as part of the application packet; there are no exceptions. Conditional admission may be granted to applicants who

- have earned baccalaureate degrees from institutions with programs accredited by the Accreditation Board for Engineering and Technology (ABET) or, for applicants for computer science programs, institutions accredited by ABET or the Computing Sciences Accreditation Board (CSAB)
- have overall grade point averages of at least 2.5 on a 4.0 scale

Other appropriate requirements may be established by the individual engineering departments.

Conditional admission may be granted to applicants who are not graduates of ABET- or CSAB-accredited programs and who have Graduate Record Examination general test scores of 1000 or higher, as specified by the department of interest. Each applicant should have the equivalent of a 2.5 or higher grade point average (as in requirements listed above). Other appropriate requirements may be established by the individual engineering departments.

A student admitted conditionally is required to maintain a “B” average for the first 12 semester hours of graduate coursework and to remove any conditions imposed for admission in order to continue graduate study.

Applicants with GPAs of less than 2.5 (out of a possible 4.0) may be considered for admission to the Graduate School only after demonstrating the ability to pursue advanced work successfully.

**Advisement and committees.** After admission to graduate study by the dean of the Graduate School, the student will be referred to the head of the appropriate department for assignment to a temporary adviser. The chairman and other members of the graduate student’s supervisory committee are usually appointed during the first term of enrollment. The examining committee (the membership of which is normally the same as that of the supervisory committee) is appointed approximately one semester before the student expects to graduate.

**MASTER OF SCIENCE DEGREES**

Master of science degrees with appropriate designations are conferred on those students who satisfy the requirements of (a) the programs or departments in which they are enrolled, (b) the College of Engineering, and (c) the Graduate School. Any requirements established by the individual departments are outlined in the departmental information that follows.

**Master of science degree requirements.** Minimum requirements for the master’s degree in all programs are 24 semester hours of acceptable coursework under Plan I or
33 hours under Plan II. Specific course requirements (in addition to those established by the Graduate School) are as follows:

1. Up to one-half of the coursework required may be transferred, subject to the approval of the appropriate faculty. Average grade must be at least “B.”
2. Engineering courses numbered 400 to 499 (offered primarily for senior undergraduates) may be taken for graduate credit with prior approval of the student’s supervisory committee. A maximum of 6 semester hours of 400-level course credit may be accepted for a master’s degree (see p. 106). To receive graduate credit for such courses, a minimum grade of “B” must be made in courses in the student’s major field of study, and a minimum grade of “C” in courses outside the major field. Courses numbered 500 to 599 are offered primarily for master’s students. Courses numbered 600 to 699 are offered primarily for students beyond the master’s level.
3. Students will be expected to have received credit for MATH 238 Applied Differential Equations prior to admission, or to complete the course with a passing grade after admission (no graduate credit will be awarded), unless they are enrolled in the computer science program.
4. All courses are selected by the student with the approval of the student’s supervisory committee. If there are deficiencies in undergraduate subjects, the student’s supervisory committee may require additional coursework to correct them.
5. Under no circumstances will graduate credit be given for courses numbered below 400.
6. Under both Plan I and Plan II, students must pass a final comprehensive examination on the content of the degree program. (See “Comprehensive Examinations” in the “Academic Policies” section of this catalog.)

M.S.E. (environmental engineering) degree requirements. The interdisciplinary master of science in engineering program in environmental engineering is administered by the Department of Civil and Environmental Engineering; inquiries should be directed to the director of the Environmental Engineering Program, Box 870205, Tuscaloosa, AL 35487-0205. The program is open to persons with baccalaureate degrees who have completed at least one year’s work in chemistry, mathematics through differential equations, and an engineering mechanics sequence through fluid mechanics. These prerequisites and others may be satisfied by completing appropriate coursework for nongraduate credit.

The versatile M.S.E. (environmental engineering) program uses environmental engineering courses offered by the College of Engineering and appropriate courses in biology, chemistry, geology, and microbiology. A list of courses approved for inclusion in the environmental engineering major is available upon request. The flexibility of the degree requirements permits a student to follow a course of study designed to suit individual interests and needs. Degree requirements are as follows:

1. For Plan I students, 24 semester hours of approved environmental coursework and a minimum of 6 additional semester hours of credit in CE 599 Thesis Research is required, along with an approved completed thesis. For Plan II students, 33 semester hours of approved environmental coursework is required. It is expected that master’s students will pursue the Plan I (thesis) option. The Plan II (nonthesis) option may be pursued only with approval of the faculty of the department. Students wishing to pursue the Plan II option must formally petition the department faculty to be considered for approval and must present substantial reasons for seeking the variance.

2. No more than 6 hours at the 400 level can be applied to this program.

3. One course in air pollution and one course in water pollution are required.
Master of science in AE, CHE, CE, ECE, ESM, IE, ME, or MTE degree requirements.
Each student pursuing one of these master’s degrees must satisfactorily complete the following minimum requirements:

1. Under both Plan I and Plan II, each student must complete 18 hours of graduate courses (500 or above) in the major field; under Plan I, 6 of these hours may be thesis research credit.
2. Six hours in an approved minor field must be completed.
3. Six hours of approved electives under Plan I or 9 hours of approved electives under Plan II must be completed.
4. Under Plan I, an approved thesis must be completed; a minimum of 6 semester hours of credit in 599 Thesis Research is required for Plan I students.
5. Six hours of mathematics in addition to the minimum College of Engineering requirements must be completed either during undergraduate or graduate study. Normally, these 6 hours are included in (2) or (3) above.

DOCTOR OF PHILOSOPHY DEGREE
The doctor of philosophy student must meet minimum course requirements and all other requirements of the Graduate School. Under no circumstances will graduate credit be given for courses numbered below 400. No 400-level credit (except the 6 hours maximum accepted for a master’s program) may be accepted for a doctoral degree program (see p. 106). Candidates for the Ph.D. should contact their departments for information about foreign language/research skill requirements. For further information see “Research Skill/Language Requirements” in the “Academic Policies” section of this catalog.

COOPERATIVE EDUCATION PROGRAM
Graduate students in the College of Engineering may choose to pursue their studies under a cooperative plan of education. The program is necessarily flexible, so that the study-work experience schedule will meet the needs of individual students. The availability of the cooperative plan will be dependent on the ability of the University to secure employment of a type that is approved by the student’s graduate committee.

A student in the Cooperative Education Program should be able to complete all requirements for the M.S. degree in two years. The schedule for Ph.D. candidates is arranged, in cooperation with the participating industry, to fit the needs of the individual student.
COURSE OFFERINGS

Graduate courses are offered on a regular basis in some departments, as indicated in the course listings. However, all graduate courses are taught only upon sufficient demand. In the following course listing, each description contains a set of parentheses immediately preceding the semester hours. The first number within the parentheses indicates the number of contact hours per week in lecture, recitation, or seminar. The second number indicates the number of contact hours per week in laboratory.

The College of Engineering requires that a grade of “C” or better be earned in all prerequisite courses.

Course Descriptions

General Engineering Studies (GES)

GES courses are interdisciplinary and may be taken to meet individual program requirements.

GES 400 Engineering Statistics. (3-0) Three hours. (Industrial engineering.) Prerequisite: MATH 126. Not open to students who have earned credit for GES 255; not available for credit to industrial engineering or computer science graduate students. Probability and basic statistical concepts. Discrete and continuous distributions; the central limit theorem; sampling distributions; point and interval estimation; hypothesis testing; regression and correlation analysis; analysis of variance. (ES3)

GES 418 Engineering Management. (3-0) Three hours. Same as IE 418. (Industrial engineering.) Prerequisite: IE 203 or CHE 479. An introduction to management principles and the management functions of planning, organizing, motivating, and controlling. Management of research, design, manufacturing, and quality will be studied.

GES 449 Radiation Safety. (3-0) Three hours. (Electrical and computer engineering.) Prerequisites: MATH 125 and either PH 102 or PH 106. Radiations and their interactions with matter; radiation detection, biological effects, current radiation units, and regulations.

GES 451 Matrix and Vector Analysis. (3-0) Three hours. (Aerospace engineering/mechanics.) Prerequisite: MATH 238. Determinants and matrix algebra; linear simultaneous equations; eigenvalues and eigenvectors; matrix functions; computer techniques; vector algebra and calculus; and integral theorems. Offered fall semester and in summer school.

GES 452 Complex Variables. (2-0) Two hours. (Aerospace engineering/mechanics.) Prerequisite: MATH 238. Use of complex variables in engineering; analytic functions, integrals, series, residues, and poles; conformal mapping with applications.

GES 491:492 Special Problems (Area). Variable credit. Assigned individual problems. Credit awarded is based on the amount of work undertaken.

GES 500 Engineering Statistics. (3-0) Three hours. (Industrial engineering.) Prerequisite: MATH 126. Not open to students who have earned credit for GES 255 or GES 400; not available for M.S.I.E. or M.S.C.S. degree credit. Probability and basic statistical concepts. Discrete and continuous distributions; the central limit theorem; sampling distributions; point and interval estimation; hypothesis testing; regression and correlation analysis; analysis of variance. (ES3)

GES 501 Operations Research. (3-0) Three hours. (Industrial engineering.) Prerequisite: MATH 126. Corequisite: GES 255, GES 400, or GES 500. Not open to students who have earned credit for IE 363; not available for M.S.I.E. degree credit. Model construction, linear programming, network models, dynamic models, stochastic models, queueing theory, and decision theory. (ES3)
GES 518 Engineering Management. (3-0) Three hours. Same as IE 518. (Industrial engineering.)
Prerequisite: IE 203 or CHE 479.
An introduction to management principles and the management functions of planning, organizing, motivating, and controlling. Management of research, design, manufacturing, and quality will be studied.

GES 526 Design and Analysis of Experiments. (3-0) Three hours. (Industrial engineering.)
Prerequisite: GES 257, GES 400, or GES 500. Not open to students who have earned credit for IE 426.
Design of experiments and the application of analysis of variance, regression analysis, and related statistical methods. (ES3)

GES 549 Radiation Safety. (3-0) Three hours. (Electrical and computer engineering.)
Prerequisites: MATH 125 and either PH 102 or PH 106.
Radiations and their interactions with matter; radiation detection, biological effects, current radiation units, and regulations.

GES 551 Matrix and Vector Analysis. (3-0) Three hours. (Aerospace engineering/mechanics.)
Prerequisite: MATH 253 or permission of the instructor.
This course provides a graduate level overview of linear algebra and vector analysis. Topics covered include: linear simultaneous equations, eigenvalues and eigenvectors, matrix functions, computer techniques, and transformations, vector calculus, the Laplacian, and integral theorems such as the theorems of Green and Stokes.

GES 554 Partial Differential Equations. (3-0) Three hours. (Aerospace engineering/mechanics.)
This course examines the solution of partial differential equations by focusing on three specific equations: (1) the heat equation, (2) the wave equation, and (3) LaPlace’s equation. Topics covered include: Fourier transforms, Sturm-Louisville problems, classification of partial differential equations, Bessel functions, and numerical methods for solving partial differential equations.

GES 575 Stochastic Processes. (3-0) Three hours. Same as ECE 575. (Electrical and computer engineering.)
Prerequisite: GES 500.
Engineering applications of probability theory; problems on sequences of random variables, convergence, stochastic processes, stationarity, ergodicity, correlation function, spectral densities, linear systems with random inputs, design of filters and predictors, Markov processes.

GES 622 Quality Engineering. (3-0) Three hours. (Industrial engineering.)
Prerequisite: GES 257 or GES 400 or GES 500.
Introduction to Taguchi methods, including loss function, orthogonal arrays, and parameter design experiments. Role of Taguchi methods in quality function deployment (QFD) process. (ES3)

GES 640 Electromagnetic Field Theory I. (3-0) Three hours. Same as ECE 640. (Electrical and computer engineering.)
Prerequisite: ECE 340.
Application of Maxwell’s equations to problems of electrical engineering; boundary-value problems, wave propagation, waveguides, radiation, and scattering; and surface waves.

GES 641 Electromagnetic Field Theory II. (3-0) Three hours. Same as ECE 641. (Electrical and computer engineering.)
Prerequisite: ECE 640 or GES 640.
Plane, cylindrical, and spherical wave functions; scattering by wedges, cylinders, and spheres; radiation from apertures; perturbational and variational techniques; microwave networks.
The department offers programs leading to the degrees of master of science in aerospace engineering, master of science in engineering science and mechanics, and the doctor of philosophy degree in engineering science and mechanics.

**Research.** A vigorous program of research is conducted by the faculty and students. The department houses excellent laboratory facilities and advanced computer facilities, including wind tunnels, flight simulators, extensive servo-hydraulic materials and structural testing equipment, engineering workstations, and artificial intelligence laboratories.

Major research laboratories include the Flight Dynamics Laboratory, Intelligent Control Laboratory, Aircraft Structures Laboratory, the Compressible Flow Laboratory, the Hypersonic Research Laboratory, the Terminal Ballistics and Penetration Mechanics Laboratory, Multiaxial Durability Laboratory, Spot Weld Manufacturing Laboratory, Composite Materials Laboratory, Navigation Laboratory, MEMS Fabrication Facility, Vibration Condition Monitoring Laboratory, Computational Mechanics Laboratory, and the Aerospace Dynamics and Control Laboratory.

Some current research projects include theoretical and experimental studies in a variety of areas, including aerodynamics, computational fluid mechanics and heat transfer, numerical methods for solidification, genetic algorithms in engineering optimization, fracture mechanics, multiaxial fatigue of spot welds and automotive structures, low-cycle fatigue, high-strain rate flow studies, penetration mechanics, improved finite-element methods for thermal and structural analysis, computer simulation of aircraft and missile performance, dynamic response of rapid transit vehicles, solid rockets, flight dynamics, aircraft reliability, aerospace dynamics and control, aeroelasticity, aeroacoustics of missiles and space launch vehicles, condition monitoring in electro-mechanical systems and composites materials.

Graduate and undergraduate research assistantships are available for many of these research projects.

**Admission Requirements**

Admission requirements are outlined in the “Academic Policies” section of this catalog.
Departmental M.S. and Ph.D. Degree Requirements

A list of current degree requirements and additional information can be found on the Department of Aerospace Engineering and Mechanics Web site: http://aem.eng.ua.edu. The following departmental requirements are in addition to those specified by the College of Engineering and University.

M.S. in aerospace engineering. At least 18 hours of AEM-designated courses are required.

The following core courses are required:

• Two courses selected from a list of mathematics and engineering analysis offerings; AEM 585 Genetic Algorithms or AEM 587 Neural Networks may be substituted for one mathematics course (Mathematics)
• AEM 500 Intermediate Fluid Mechanics (Aerodynamics)
• AEM 635 Finite Element Method (Structures)
• AEM 668 Advanced Dynamics of Flight (Flight Dynamics)

Additionally, one of the following areas is chosen as a field of specialization: (a) flight dynamics, controls, and simulation, (b) flight vehicle structures and materials, or (c) aerodynamics and propulsion, and a depth of study (two additional courses) is required in one of the areas above.

M.S. in engineering science and mechanics. At least 18 hours of AEM-designated courses are required.

The following core courses are required:

• GES 554 Partial Differential Equations and one course selected from a list of mathematics and engineering analysis offerings, AEM 585 Genetic Algorithms, or AEM 587 Neural Networks (Mathematics)
• AEM 500 Intermediate Fluid Mechanics (Fluid Mechanics)
• AEM 637 Theory of Elasticity (Solid Mechanics)
• AEM 562 Intermediate Dynamics (Dynamics)

Additionally, one of the following areas is chosen as a field of specialization: (a) solid mechanics, (b) fluid mechanics, or (c) dynamics and a depth of study (two additional courses) is required in one of the areas above.

Doctor of philosophy in engineering science and mechanics. The Ph.D. is primarily a research degree. Courses are to be selected in consultation with the student's supervisory committee.

The following core courses are required:

• GES 554 Partial Differential Equations and one course selected from a list of mathematics and engineering analysis offerings, AEM 585 Genetic Algorithms, or AEM 587 Neural Networks (Mathematics)
• AEM 500 Intermediate Fluid Mechanics (Fluid Mechanics)
• AEM 637 Theory of Elasticity (Solid Mechanics)
• AEM 562 Intermediate Dynamics (Dynamics)

Additionally, one of the following areas is chosen as a field of specialization: (a) solid mechanics, (b) fluid mechanics, or (c) dynamics.
AEM 404 Integrated Aerospace Design II. (1-6) Three hours. Prerequisite: AEM 402.
Preliminary and detailed design of aircraft and space vehicles, including weight and balance, power plant selection, exterior layout, performance, stability, and control. Includes group efforts on selected projects.

AEM 420 Fluid Transients. (3-0) Three hours. Same as ME 420. Prerequisites: MATH 238 and AEM 311.
Introduction to the basic mathematical concepts, engineering problems, and solution techniques associated with transient behavior of fluid systems. Analysis and design of systems to control undesirable transients.

AEM 451 Structural Design and Testing. (3-3) Four hours. Prerequisite: AEM 341.
Design of tension, compression, bending, torsion, and stiffened panel members. Experimental and analytical investigations involving static and dynamic structural behavior. Writing proficiency is required for a passing grade in this course.

AEM 455 Mechanical Behavior of Materials. (3-0) Three hours. Same as MTE 455. Prerequisite: AEM 250.
Flow and fracture of solids; uniaxial tensile stress-strain as a reference behavior; and theories of terminal instability under impact, monotonic, sustained (creep), and repeated (fatigue) loadings of solids under various states of stress.

AEM 470 Mechanical Vibrations. (3-0) Three hours. Same as ME 470. Prerequisites: AEM 250 and AEM 372. For description, see ME 470.

AEM 471 Fundamentals of Acoustics. (3-0) Three hours. Same as ME 471. Prerequisites: MATH 238, PH 106, and ECE 320 or ECE 225.
Fundamental physical principles underlying wave propagation and resonance in mechanical systems; introduces applications and provides experience in acoustic and audio measurements and the associated instrumentation.

AEM 475 Control Systems Analysis. (3-0) Three hours. Prerequisite: AEM 372.
Classical feedback control system analysis; block diagrams, state variables, stability, root locus, and computerized analysis. Includes an introduction to modern control techniques.

AEM 491:492 Special Problems (Area). Variable credit.
Assigned problems are explored on an individual basis. Credit is based on the amount of work undertaken.

AEM 495 Aerospace Engineering Seminar. (2-0) Two hours. Corequisite: AEM 402.
Selected topics from recent developments in the aeronautical and space engineering fields; visiting lecturers and extensive student participation. Several nontechnical topics of immediate interest to seniors are explored. Each student must complete a personal data résumé and subscribe to Aerospace America. Writing proficiency is required for a passing grade in this course.

AEM 500 Intermediate Fluid Mechanics. (3-0) Three hours. Prerequisites: MATH 238, ME 215, and AEM 311.
Development and use of the integral and differential forms of the equations of continuity, momentum, and energy with ideal fluids and compressible fluids. Advanced topics in fluid mechanics, including potential flow, boundary layer flow, compressible flow, and open channel flow.

AEM 502 V/STOL Aerodynamics. (3-0) Three hours. Theory and design techniques applicable to hovering and slow-flying vehicles.

AEM 503 Intermediate Gas Dynamics. (3-0) Three hours. Same as ME 503. Prerequisites: ME 215 and AEM 311. For description, see ME 503.

AEM 513 High-Speed Aerodynamics. (3-0) Three hours. Fundamentals of high-speed aerodynamics theory along with basic high-speed vehicle design.
AEM 516 Helicopter Theory. (3-0) Three hours.  
Critical examination of the propulsive airscrew, including induced velocity relations, flow patterns, and similarity. Practical applications approached through existing theory and practice.

AEM 523 Principles of Simulation. (3-0) Three hours.  
Corequisite: AEM 368, AEM 566, or AEM 668.  
An overview of man-in-the-loop, real-time simulation. Includes survey of modeling, digital image generation, projection systems, principles of optics, vibration and motion cueing, and control loading. Issues of computer architecture and system integration and of fidelity and latency are discussed. The simulator in the Flight Dynamics Laboratory is used for illustration.

AEM 525 Spacecraft Attitude Dynamics and Control. (3-0) Three hours.  
Prerequisite: AEM 368, AEM 372/ME 372, or ECE 475.  
This course introduces the student to the theory and practice of spacecraft dynamics and control. Topics covered include kinematics and dynamics of angular motion, spacecraft stabilization, attitude control devices, and design of linear and nonlinear spacecraft control systems.

AEM 528 Space Propulsion. (3-0) Three hours.  
Prerequisite: AEM 408/ME 308.  
Descriptions and analyses of space and launch vehicle propulsion. Topics covered include advanced schemes such as nuclear, solar, and laser propulsion; power cycles; and tether systems.

AEM 546 Intermediate Solid Mechanics. (3-0) Three hours.  
Prerequisites: MATH 238 and AEM 250.  
Two-dimensional theory of elasticity; exact and approximate solutions of bending, torsion, and buckling for bars; open sections and curved beams; stresses in axisymmetric members; and finite-element and energy methods.

AEM 552 Composite Materials. (3-0) Three hours.  
Prerequisites: AEM 250 and one other course in structures.  
Mechanisms and influence of heterogeneity/anisotropy on thermomechanical behavior. The behavior, manufacturing, and test methods of continuous fiber reinforced polymeric composites are emphasized.

AEM 554 Engineering Reliability. (3-0) Three hours.  
Prerequisite: AEM 250.  
Fundamental concepts and applications of probabilistic approach to engineering design.  

AEM 556 Strengthening Mechanisms in Metallic Materials. (3-0) Three hours.  
Prerequisite: AEM 455.  
For description, see MTE 556.

AEM 562 Intermediate Dynamics. (3-0) Three hours.  
Prerequisites: MATH 238 and AEM 264.  
Dynamics of systems in moving coordinate frames; Lagrangian formulation and Hamilton’s principle; stability and perturbation concepts for rigid body motion; motion of systems of rigid bodies in three dimensions.

AEM 566 Dynamics of Flight. (3-0) Three hours.  
Prerequisites: AEM 368 and AEM 249.  
Introduction to the dynamics of flight vehicles; equations for static and dynamic equilibrium; criteria for stability, controllability, and maneuverability.  

AEM 567 Fundamentals of Orbital Mechanics. (3-0) Three hours.  
Fundamentals of astrodynamics and orbital mechanics.

AEM 570 Theory of Vibrations. (3-0) Three hours. Same as ME 570.  
Prerequisites: MATH 238 and AEM 264.  
Vibrations of multiple degree of freedom and elastic continuous systems; application of Hamilton’s principle; Lagrange’s equations; finite element method.

AEM 571 Fundamentals of Acoustics. (3-0) Three hours. Same as ME 571.  
Prerequisites: MATH 238, PH 106, and ECE 320 or ECE 225.  
Fundamental physical principles underlying wave propagation and resonance in mechanical systems; introduces applications and provides experience in acoustic and audio measurements and the associated instrumentation.
AEM 574 Structural Dynamics. (3-0) Three hours. Prerequisites: AEM 349, AEM 372, and AEM 451, or by consent of the instructor. Fundamental methods for predicting the dynamic response of structures.

AEM 577 Advanced Linear Control. (3-0) Three hours. Same as ECE/ME 577. Prerequisite: ECE 475. For description, see ECE 577.

AEM 578 Nonlinear Control Systems. (3-0) Three hours. Same as ECE 674/ME 578. Prerequisite: ECE 475. For description, see ECE 674.

AEM 579 Introductory Computational Aerodynamics. (3-0) Three hours. Prerequisites: CS 110, or CS 114 and graduate standing. Fundamentals of computational aerodynamics.

AEM 585 Genetic Algorithms in Optimization and Machine Learning. (3-0) Three hours. Prerequisites: CS 110, or CS 114 and graduate standing. Theory and application of genetic algorithms. Computer implementation and current applications in parameter and combinatorial optimization and optimal control genetics-based machine learning systems. Focus on both fundamental theory and modern applications.

AEM 587 Neural Networks. (3-0) Three hours. Same as ECE 587. Prerequisite: Graduate standing or CS 114, CS 513. Theory, implementation, and applications of learning automata and neural networks. Early applications from psychology and biology; current applications in engineering and machine learning, theory of simple networks, and introduction to complex, modern paradigms.

AEM 591:592 Special Problems. Variable credit. Independent investigations of special problems. Credit is based on the amount of work undertaken.

AEM 594 Special Project. Two to six hours. Planning, executing, and presenting results of individual project involving a research design, analysis, or similar undertaking.

AEM 598 Research Not Related to Thesis. One to three hours.

AEM 599 Master’s Thesis Research. One to six hours.

AEM 602 Advanced Fluid Mechanics. (3-0) Three hours. Prerequisite: AEM 500. Potential motion in two and three dimensions, conformal mapping, application of Schwartz-Christoffel transformation, virtual mass, and approximate methods.

AEM 604 Compressible Flow Theory. (3-0) Three hours. Prerequisite: AEM 313 or AEM 503. For description, see ME 504.

AEM 610 Aerodynamic Heating. (3-0) Three hours. Radiative and convective aerodynamic heating at hypersonic speeds in real, low, and high-density atmospheres; includes resistive, ablative, transpiration, and heat capacity thermal protection techniques.

AEM 612 Advanced Experimental Aerodynamics. (2-3) Three hours. Compressible flow, measurement of pressure, Mach number, temperature, density, turbulence, and heat transfer. Some experimental work and illustration of the uses of modern wind tunnel instruments.

AEM 614 Airfoil and Wing Theory. (3-0) Three hours. Compressible and incompressible airfoil and wing theory.

AEM 620 Finite Difference Methods in Fluid Dynamics. (3-0) Three hours. Same as ME 620. Prerequisites: MATH 238 and AEM 311. Introduction to basic mathematical concepts and engineering problems associated with numerical modeling of fluid systems. Application of state-of-the-art numerical models to engineering problems.
AEM 621 Boundary Layer Theory I. (3-0) Three hours. Same as ME 621.
Development of basic boundary layer equations and concepts. Classical incompressible solutions for laminar boundary layer, approximate solutions, and concepts of turbulence.

AEM 622 Boundary Layer Theory II. (3-0) Three hours. Same as ME 622/AEM 622.
Turbulent boundary layer theory; compressible boundary layer theory including shock interaction and heating effects; selected topics.

AEM 624 Hypersonic Flow Theory. (3-0) Three hours.
Nonlinear treatment of compressible flow, linearized theory, methods for blunt bodies, blast wave theory, numerical methods, and hypersonic wind tunnels.

AEM 625 Computational Fluid Dynamics. (3-0) Three hours.
Prerequisite: AEM 579.
Analyses of aerodynamic flow problems using a digital computer.

AEM 628 Molecular Aerothermodynamics. (3-0) Three hours.
Understanding gas flows and reactions by developing gas properties from an analysis of molecular interactions.

AEM 630 Continuum Mechanics. (3-0) Three hours.
Cartesian tensors applied to develop concepts of stress and deformation in continua. Equations of motion resulting from Newton’s laws, constitutive laws for particular solids, and boundary value problems in stress analysis and stability.

AEM 635 Finite-Element Method in Engineering Mechanics. (3-0) Three hours.
Prerequisites: MATH 238 and AEM 250, or permission of the instructor.
Finite-element formulations in the areas of solid mechanics, fluid mechanics, and heat conduction; isoparametric elements; assembly process; solution of stiffness equations; and convergence of results.

AEM 637 Theory of Elasticity. (3-0) Three hours.
Corequisite: GES 551.
Equations of linear elasticity, principal stresses and strains, stress and displacement potentials, energy principles, and numerical methods. Boundary value problems of elasticity.

AEM 638 Introduction to Experimental Mechanics. (2-3) Three hours.
Theory and application of electrical resistance strain gauges for stress analysis and for use as transducers. Study of circuits and instruments used for strain measurement. Theory and application of photoelasticity for measurement of stress. Fundamentals of servohydraulic testing.

AEM 639 Aircraft Shell Structures. (3-0) Three hours.
Theoretical analysis of plane and curved web shell structures. Diagonal tension, shear lag, multi-stringer cells, and cutouts. Theoretical analyses are correlated with available experimental evidence to obtain the most effective use of the combined knowledge for practical applications.

AEM 640 Advanced Topics in Continuum Mechanics. (3-0) Three hours.
Prerequisite: AEM 630.
Kinematics of finite deformation; principles of mechanics; principles of frame indifference and objectivity; theory of viscoelasticity; creep and viscoplastic model; and applications in large deformation.

AEM 641 Applied Elasticity. (3-0) Three hours.
Structural analysis as a unified theory based on the principle of virtual displacements. Minimal principles of structural theory and applications to beam columns, sandwich-type beams, and cables; the Rayleigh-Ritz method, Galerkin’s method, and trigonometric series solutions.

AEM 642 Structural Behavior of Flight Vehicle Configurations. (3-0) Three hours.
Application of classical and modern numerical methods for predicting the strength, stability, and stiffness of typical aerospace structures. Includes treatment of stiffened plate and shell structures, composite materials, and determination of postbuckled configurations for selected geometries.
AEM 643 Selected Topics in Structural Analysis. (3-0) Three hours.
Selected topics in nonlinear static and dynamic stability of elastic and inelastic structures.
Advanced numerical techniques of solution for large systems of differential, integral, and algebraic equations governing the linear and nonlinear behavior of structures.

AEM 644 Engineering Fracture Mechanics. (3-0) Three hours.
Prerequisites: GES 554 and AEM 637.
Linear elastic and elastic-plastic fracture mechanics. Fracture analysis using Griffith’s criterion, stress intensity factors, CTOD methods, and the J-Integral.

Prerequisite: AEM 635.
Basic concepts, reduced integration with hourglass control, Navier-Stokes equations, eigenvalue problems, beam and plate elements, time integration, adaptive methods, nonlinear solid mechanics. Familiarization with general purpose codes.

AEM 646 Theory of Plates and Shells. (3-0) Three hours.
Prerequisites: AEM 635 and AEM 637.
Linear and nonlinear theories of plates and shells, analytic solutions of rectangular, circular plates and cylindrical shells and shells of revolution. Application of finite-element method to plates and shells.

AEM 648 Theory of Plasticity. (3-0) Three hours.
Prerequisite: AEM 637.
Fundamentals of inelastic behavior of solids. Basic stress-strain relations for plastic action, yield criteria of metals, plastic instability, and slip-line field theory. Applications to axial, flexural, torsional, and cylindrically symmetric loads.

AEM 649 Fatigue Analysis. (3-0) Three hours.
AEM 653 Variational Methods in Mechanics. (3-0) Three hours.
Survey of variational principles and methods in mechanics.

AEM 655 Advanced Composite Materials. (3-0) Three hours.
Advanced topics in composite materials, including theories of linear orthotropic elasticity, micro-mechanics of composites, nano-composites, and sandwich structures.

AEM 663 Chaotic Dynamics. (3-0) Three hours.
Prerequisite: GES 551.
Phase space concepts of nonlinear systems; equilibrium points, limit cycles, and strange attractors; chaotic behavior, Lyapunov exponents, and fractal dimension.

AEM 665 Advanced Structural Dynamics. (2-3) Three hours.
Theoretical and experimental methods for the dynamic analysis of structures.

AEM 667 Astrodynamics II. (3-0) Three hours.
Transfer orbits, orbital perturbations, multiple body problems, numerical treatments of n-body problems, propulsion, and powered system dynamics.

AEM 668 Advanced Dynamics of Flight. (3-0) Three hours.
Analysis of the rigid body dynamic motions of an aircraft; response of an airplane to actuation of controls; introduction to automatic control and stability; introduction to vehicle simulation by digital computer.

AEM 669 Principles of Guidance and Navigation. (3-0) Three hours.
Prerequisite: AEM 368 or AEM 566.
Gyrosopes as aircraft attitude indicating devices and as components of inertial navigation systems; Newton’s laws applied in various rotating and fixed reference frames used in guidance and navigation; space integrator and Schuler tuning; local geographic coordinate navigation for aircraft; semi-analytic navigation for missile guidance; and analytic (strap down) guidance systems.

AEM 670 Advanced Vibrations. (3-0) Three hours.
Prerequisites: MATH 238 and AEM 264.
Vibrations of multiple-degree-of-freedom and elastic continuous systems; application of Hamilton’s principle; Lagrange’s equations; and finite-element method.
AEM 672 Intelligent Control. (3-0) Three hours. Same as ECE 672.
Prerequisite: AEM 577/ECE 577/ME 577.
Mathematical and theoretical foundations for intelligent control methods and their combination with current practices. Real-world applications.

AEM 674 Introduction to Aeroelasticity. (3-0) Three hours.
Prerequisites: Permission of the instructor.
Interactions between static/dynamic structural deformation and steady/unsteady aerodynamic loading; control reversal, divergence and flutter; aeroelastic tailoring and aeroservoelasticity.

AEM 677 Optimal Control. (3-0) Three hours. Same as ECE 677/ME 677.
Prerequisite: AEM 577.
For description, see ECE 677.

AEM 678 Advanced Topics in Control. (3-0) Three hours. Same as ECE 678/ME 678.
For description, see ECE 678.

AEM 679 Wave Motion of Continuous Solids. (3-0) Three hours.
Prerequisites: AEM 470 and AEM 637.
The dynamics of continuous elastic bodies; the properties of wave motion and the motion of an elastic string; propagation of elastic waves in infinite and semi-infinite bodies, cylinders, rods, and beams.

AEM 681 Experimental Aeroelasticity. (2-3) Three hours.
Aeroelastic model theory applied to the design and construction of flutter models and dynamic stability models. Testing techniques and model scale aeroelastic experiments.

AEM 685 Engineering Optimization. (3-0) Three hours.
Prerequisites: GES 551 and MATH 238.
Basic principles of optimization theory, parameter optimization problems, linear and nonlinear programming. Unconstrained and constrained problems treated by simplex, penalty function, and generalized reduced gradient methods. Includes several computer projects concerning engineering applications.

AEM 691:692 Special Problems (Area). Variable credit.
Independent investigations of special problems. Credit is based on the amount of work undertaken.

AEM 693 Selected Topics. One to three hours.
Topics of current research in dynamics and controls, solid mechanics and structures, or thermal/fluid sciences.

AEM 694 Special Project. Two to six hours.
Planning, executing, and presenting results of an individual project involving a research design, analysis, or similar undertaking.

AEM 695 Graduate Seminar. (1) One hour.
Prerequisite: Graduate standing.
Preparation and presentation of papers and reports on current topics.

AEM 698 Research Not Related to Dissertation. One to six hours.

AEM 699 Doctoral Dissertation Research. Three to twelve hours.

DEPARTMENT OF CHEMICAL ENGINEERING (CHE)
Professor Gary C. April, Head

The department offers programs leading to the doctor of philosophy in chemical engineering and the master of science in chemical engineering. The graduate program in chemical engineering is designed to provide a balance between engineering science and practical applications. Faculty members work closely with students in coursework and in research.
Admission Requirements

Specific admission requirements for the programs in chemical engineering coincide with those of the Graduate School and the College of Engineering as detailed elsewhere in this catalog. Admission is also contingent upon approval by the graduate faculty of the Department of Chemical Engineering. Special opportunities are available for students with undergraduate degrees in fields other than chemical engineering.

Degree Requirements

All graduate students in chemical engineering are required to take and pass the following core graduate courses: CHE 551 Advanced Thermodynamics I, CHE 552 Transport Phenomena, CHE 553 Computation in Chemical Engineering, and CHE 554 Chemical Reaction Engineering. In addition, each chemical engineering graduate student must take a qualifying examination covering chemical engineering subjects. The qualifying exam is offered yearly and must be taken by students at the earliest possible offering after they have completed the core courses.

**Doctor of philosophy departmental degree requirements.** Study in the doctoral program in chemical engineering is contingent upon satisfactory performance on the qualifying examination described above. The department requires that students take and pass CHE 695 Seminar during the first part of the doctoral program of study and CHE 696 Seminar in the latter part of the program. These 2 hours of seminar are in addition to the course hours needed for graduation.

A prospectus examination is required of all candidates for the doctor of philosophy degree. This examination is given after two full years of graduate study have been completed and the supervisory committee deems the student to have adequate preparation. The examination consists of a written proposal describing the student’s research activities and an oral presentation and defense of the proposal before the student’s supervisory committee. The examination must be completed at least one year prior to the final dissertation defense.

**Master of science in chemical engineering departmental degree requirements.** Following Plan I for the M.S.Ch.E. is standard practice; however, under exceptional circumstances a student may follow Plan II (nonthesis) with the prior approval of the department graduate faculty. Continuation in the master’s program is contingent upon satisfactory performance on the qualifying examination described above. The department requires that each master’s student take and pass CHE 595 Seminar during the first part of his or her program and CHE 596 in the latter part of the program. The 2 hours of seminar are in addition to the course hours needed for graduation. Master’s students in chemical engineering are required to complete 6 hours in a minor area, in addition to the 6 hours of mathematics required of graduate students by the College of Engineering.

Course Descriptions

**Advanced Undergraduate/Entry Graduate-Level Courses**

**CHE 512 Polymer Materials Engineering.** (3-0) Three hours.
Prerequisite: CH 102.
Introduction to the manufacture, processing, and applications of organic polymeric materials. This course covers the chemistry of polymer manufacture, the molecular structures of polymers, and the structure-property relationships for thermoplastic and thermosetting polymers.

**CHE 524 Air Pollution.** (3-0) Three hours. Same as CE 525.
Prerequisite: CE 420 or CHE 304.
Introduction to the sources, characteristics, and effects of air pollution and to air pollution control technology and design.

**CHE 525 Polymer Processing and Rheology.** (3-0) Three hours.
Basic and advanced concepts in rheology and polymer processing. Polymer properties and morphology, rheology of non-Newtonian fluids, polymer processing, and polymer processing design.
CHE 535 Chemodynamics. (3-0) Three hours.  
Prerequisites: CH 102, MATH 253, GES 126 (or CS 226), CHE 304, AEM 311, or permission of the instructor.  
A study of the movement and fate of man-made chemicals in the environment.

Graduate Core Courses

CHE 551 Advanced Thermodynamics I. (3-0) Three hours.  
Application of thermodynamic principles to chemical and phase equilibria.

CHE 552 Transport Phenomena. (3-0) Three hours.  
Development of the analogy between momentum, energy, and mass transport, with applications.

CHE 553 Computation in Chemical Engineering. (3-0) Three hours.  
Chemical-engineering applications of advanced calculus, numerical methods, and digital computer techniques, with emphasis on expressing physical situations in mathematical language.

CHE 554 Chemical Reaction Engineering. (3-0) Three hours.  
Chemical kinetics theory and experimental techniques. Industrial reactor design by advanced methods.

Other Graduate Courses

CHE 591:592 Special Problems (Area). One to three hours.  
Open to properly qualified graduate students. Advanced work of a research nature. Credit is based on the amount of work completed.

CHE 594 Digital Control. (3-0) Three hours.  
Prerequisite: CHE 493.  
Interfacing of minicomputers and dedicated microprocessors with chemical process equipment; time- and frequency-domain methods for sampled-data control systems; and development of digital control algorithms for the chemical process industry.

CHE 595:596 Seminar. (1-0) One hour (each).  
Discussion of current advances and research in chemical engineering, presented by graduate students and other speakers.

CHE 598 Research Not Related to Thesis. One to six hours.

CHE 599 Master’s Thesis Research. One to twelve hours. Pass/fail.

Advanced Graduate Courses

CHE 602 Advanced Fluid Mechanics. (3-0) Three hours.  
Prerequisite: CHE 552.  

CHE 603 Advanced Heat Transfer. (3-0) Three hours.  
Prerequisite: CHE 522.  
Use of the energy balance in heat-transfer equipment design. Transient solution of the energy balance, advanced condenser design, and computer-implemented heat-exchange equipment design.

CHE 611 Process Dynamics and Control. (3-0) Three hours.  
Prerequisite: CHE 493 or permission of the instructor.  
Advanced process control design and analysis. Control of distributed-parameter systems and nonlinear processes; self-adapting and self-tuning controllers; optimal control; distributed microprocessor controllers.

CHE 621 Diffusional Operations. (3-0) Three hours.  
Prerequisite: CHE 552.  
The latest experimental and theoretical studies in several areas involving diffusion. Includes simultaneous heat and mass transfer and mass transfer with chemical reaction.
CHE 625 Non-Newtonian Fluid Mechanics. (3-0) Three hours.
Prerequisite: CHE 552 or permission of the instructor.
Advanced study of the mechanics of viscoelastic and nonlinear fluids including polymeric liquids, suspensions, foams, and emulsions. Emphasis on the formulation of appropriate constitutive equations and solution of the equations of change.

CHE 626 Advanced Stagewise Operations. (3-0) Three hours.
Prerequisite: CHE 522.
An advanced treatment of stagewise operations such as distillation, absorption, and extraction, with emphasis on multicomponent systems.

CHE 651 Advanced Thermodynamics II. (3-0) Three hours.
Prerequisite: CHE 553.
Estimation and correlation of physical and thermodynamic properties, with emphasis on phase equilibria. Includes introduction to statistical thermodynamics.

CHE 691:692 Special Problems (Area). One to three hours.
Problems of current research.

CHE 695:696 Seminar. (1-0) One hour (each).
Presentations of dissertation research.

CHE 698 Research Not Related to Dissertation. One to six hours.


DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING (CE)
Professor Kenneth Fridley, Head
Office: 260 H. M. Comer Hall

The department offers programs leading to the master of science in engineering (environmental engineering), master of science in civil engineering, and doctor of philosophy degrees. Research programs in the department include investigations in water quality, modeling, fate and transport of pollutants, watershed management, environmental treatment technologies, air resources engineering, migration of waste fluids, transportation systems management, traffic safety, experimental stress analysis, hydrologic and hydraulic analyses and simulation, pavement design, and bridge management. Laboratory facilities are provided for graduate research and instruction in these and other areas.

Admission Requirements
The requirements for admission to the Graduate School are detailed in an earlier section of this catalog. The Department of Civil and Environmental Engineering also embraces the requirements of the College of Engineering, summarized as follows:

1. An applicant must have earned a baccalaureate degree from an institution accredited by the Accreditation Board for Engineering and Technology (ABET), and have a grade point average of at least 3.0 on a 4.0 scale, or at least 3.0 for the last 60 hours completed.
2. Applicants who are not graduates of ABET-accredited institutions must have Graduate Record Examination general test scores of 1000 or higher, and grade point averages of 3.0 or higher on a 4.0 scale.

Degree Requirements
Master of science departmental degree requirements. It is expected that master's students will pursue the Plan I (thesis) option. The Plan II (nonthesis) option may be pursued only with approval of the faculty of the department.

Students wishing to pursue the Plan II option must formally petition the department faculty to be considered for approval and must present substantial reasons for seeking this variance.

A bachelor of science degree from an accredited engineering program is required as a prerequisite for a master of science in civil engineering degree.
The graduate student’s supervisory committee will specify any remedial or preparatory work beyond that required by the Graduate School, as soon as practicable after its appointment.

**Doctor of philosophy departmental degree requirements.** Of the required 24 semester hours in the major field of civil engineering, at least 18 hours must be in courses primarily designated for graduate students (numbered 500 or above). In addition, at least 6 of the 12 semester hours required for each of the two minors (one of which shall be in the College of Engineering) must also be in courses designed primarily for graduate students.

The graduate student’s supervisory committee will specify any remedial or preparatory work beyond that required by the Graduate School, as soon as practicable after its appointment.

**Course Descriptions**

*Graduate students may, with permission, receive credit for six hours of 400-level credit. Graduate students may, with approval (petition), meet prerequisites with a combination of related coursework and experience.*

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**CE 401 Civil Engineering Design Project.** (4-0) Four hours.
Prerequisite: Senior standing in civil engineering.
Introduction to design of a civil engineering project, featuring team concepts, realistic constraints, computer-aided design techniques, preparation of construction drawings, delivery of engineering reports, and public hearing-type presentations.

**CE 403 Environmental Impacts of Engineering Projects.** (3-0). Three hours.
Permitting, environmental impact statements, and other environmental issues associated with human activities and engineering projects.

**CE 411 Rock Mechanics.** (2–3) Three hours.
Prerequisite: AEM 250.
Theories of rock failure and ground movement; stability analysis and design of underground openings; rock testing methods.

**CE 412 Mining Systems.** (3-0). Three hours.
Introduction to the breadth of mining, including mining methods, unit operations, equipment, and health and safety for coal, metallic, and nonmetallic operations. Emphasis is on the design of surface coal mines.

**CE 419 Remediation of Contaminated Soils and Groundwater.** (3-0) Three hours.
Prerequisite: CE 420 or permission of the instructor.
Corequisite: CE 340.
Science fundamentals, site constraints, and available technologies are incorporated into a process engineering approach to addressing contaminated soils and groundwater.

**CE 420 Introduction to Environmental Engineering.** (3–0) Three hours.
Prerequisite: CH 132, CH 102, or CHE 304, or B.S. degree in a compatible field.
Introduction to the scientific and engineering principles needed to analyze and solve environmental problems. **Not available for graduate credit.**

**CE 421 Environmental Chemistry Laboratory.** (1-0) One hour.
Corequisite: CE 420 or B.S. degree in a compatible field.
Introduction to the basic principles and practices of chemistry as related by the civil engineer to water supply, treated water and wastewater analysis, and quality assessment. **Not available for graduate credit.**

**CE 422 Solid and Hazardous Waste Management.** (3-0) Three hours.
Prerequisite: CE 420 or B.S. degree in a compatible field.
Regulatory requirements and management options for the handling, treatment, storage and disposal of solid and hazardous wastes.

**CE 424 Water and Wastewater Treatment.** (3-0) Three hours.
Prerequisite: CE 420 or CHE 304.
Water and wastewater treatment systems. The principles and design of municipal water and wastewater treatment processes.
CE 425 Air Pollution. (3-0) Three hours.
Prerequisite: CE 420.
Introduction to the sources, characteristics, and effects of air pollution, and to air pollution control technology and design.

CE 426 Underground Mining Systems and Ventilation. (3-0) Three hours.
Corequisite: AEM 311.
Design of underground materials-handling systems, including conveyor belts, face haulage, rail haulage, and hoisting; analysis and design of mine ventilation systems; legal concerns and safety.

CE 427 Urban Water Systems. (3-0) Three hours.
Prerequisite: CE 478.

CE 429 Unit Operations in Water and Wastewater Treatment. (3-0) Three hours.
Prerequisites: CE 420 and CE 424.
Examination of tertiary, physical, and chemical unit operations in water and wastewater systems.

CE 432 Advanced Structural Analysis. (3-0) Three hours.
Prerequisite: CE 331.
Introduction to the matrix-displacement method of analysis for framed structures, including computer implementation of analysis. An introduction to finite-element analysis is also included.

CE 433 Reinforced Concrete Structures I. (3-0) Three hours.
Corequisite: CE 331.
Concrete materials; placement of concrete; theory and design of reinforced beams, girders, slabs, columns, and footings.

CE 435 Bridge Design and Construction. (3-0) Three hours.
Corequisite: CE 433.
Introduction to bridge design and construction: site selection, bridge requirements, construction costs, design loads, and design of the bridge deck, superstructure, and substructure.

CE 436 Wood Structural Design. (3-0) Three hours.
Corequisite: CE 331.
Modern timber engineering: design of beams, columns, trusses, and floor systems.

CE 437 Reinforced Concrete Structures II. (3-0) Three hours.
Prerequisite: CE 433.
Members subjected to combined loading: slabs, retaining walls, deep beams, and tanks. Also covers introduction to prestressed concrete theory and special topics.

CE 438 Structural Steel Design II. (3-0) Three hours.
Prerequisite: CE 333.
Basic and elementary procedures used to design steel structures such as plate girders, mill buildings, multi-story buildings, highway bridges, and light-gauge steel structures.

CE 439 Industrial/Commercial Timber Structures. (3-0) Three hours.
Corequisite: CE 331.
Design of wood buildings and bridges including an introduction to the building code load provisions.

CE 442 Waste Containment Facilities and Landfill Design. (3-0) Three hours.
Prerequisite: CE 340.
Introduction to the fundamentals of soil behaviors as they relate to environmental engineering. Topics include soil behavior, soil compaction, conduction phenomena, geosynthetics, and aspects of landfill design.

CE 444 Foundation Engineering. (3-0) Three hours.
Prerequisite: CE 340.
Analysis and design of soil foundation systems.
CE 445 Bituminous Materials and Mixtures. (2-3) Three hours. 
Prerequisite: CE 262. 
Consideration of major types of bituminous materials — asphalt cements, cutback asphalts, asphalt emulsions — leading to current practice for designing optimum pavement mixtures.

CE 446 Slopes and Retaining Structures Designs. (3-0) Three hours. 
Prerequisite: CE 340. 
Analysis and design of slopes and earth retaining structures.

CE 450 Highway Design and Construction. (3-0) Three hours. 
Prerequisite: CE 260. 
Introduction to highway geometric design, drainage, traffic-control devices, pavements, economic analysis, and construction. Writing proficiency is required for a passing grade in this course.

CE 451 Geometric Design of Roadways. (2-1) Three hours. 
Prerequisite: CE 450. 
Application of the principles of geometric design; alignment, vertical control, traffic control, interchanges, and intersections. Design projects will be prepared to illustrate standard techniques.

CE 452 Traffic Safety. (3-0) Three hours. 
Prerequisite: CE 450. 
Introduction to traffic safety techniques: site identification, data gathering and analysis, accident reconstruction, safety treatment selection, resource prioritization, and design projects.

CE 455 Planning and Design of Airport Facilities. (3-0) Three hours. 
Prerequisite: Senior status and/or permission of the instructor. 
The air transportation system, planning and design of facilities in the airport area, and the environmental impact of airport operation.

CE 457 Pavement Design and Construction. (3-0) Three hours. 
Prerequisite: CE 340. 
The thickness design of base, sub-base, asphalt, and concrete layers for highway pavements, including both design and construction aspects.

CE 458 Traffic Engineering. (3-0) Three hours. 
Prerequisite: CE 450. 
Vehicle operating characteristics, traffic flow, traffic studies, capacity analysis, traffic control devices, and methods of traffic control.

CE 459 Pavement Rehabilitation. (3-9) Three hours. 
Prerequisite: CE 450. 
Covers two areas concerning care of existing highway asphalt and concrete pavements. Major maintenance includes overlay design, additional drainage, recycling, and slab repair. Routine maintenance includes distress surveys, pothole repair, and crack and joint sealing.

CE 465 Blasting Engineering. (3-0) Three hours. 
Prerequisite: CE 340, CE 411, or AEM 250. 
Behavior of rock under dynamic loads intended to fragment or penetrate; theories of drilling, blasting, and communication; and application of theory.

CE 466 Construction Finance. (3-0). Three hours. 
Prerequisite: IE 203. 
Financial management of construction projects. Topics include alternative selection, life-cycle analysis, applied financial management techniques, insurance/indemnification, risk management, and tax implications.

CE 467 Construction Methods and Estimating. (3-0) Three hours. 
Prerequisite: Senior standing in civil engineering (i.e., fewer than 34 hours needed to graduate). 
Applications to mass earth work, utilities, foundations, building construction, roadways, dams, and heavy-steel and concrete structures.
CE 468 Construction Management. (3-0). Three hours.
Prerequisite: CE 467.
The management structure of construction companies and the laws, regulations, practices, tools and processes used in planning, scheduling and monitoring construction projects.

CE 475 Hydrology. (3-0) Three hours.
Prerequisite: CE 478.
Fundamental hydrologic processes and their practical applications, including atmospheric moisture and precipitation; evaporation and evapotranspiration; infiltration and rainfall abstractions; streamflow generation and routing; and probabilistic concepts.

CE 478 Water Resources Engineering. (3-0) Three hours.
Prerequisites: AEM 311 and AEM 264.
Mechanics of steady and unsteady flow in closed and open conduits; hydrology; water supply and wastewater disposal, pumps and statistical methods.

CE 482 Geological Engineering. (3-0) Three hours.
Prerequisite: GEO 101 or permission of the instructor.
Methods of surface and subsurface exploration to determine geological and hydrological conditions; engineering properties of rocks in applied engineering practices.

CE 484 Experimental Design and Field Sampling. (3-0) Three hours.
Prerequisites: CE 420, CE 421, and basic statistics class.
Selection of experimental schemes and determination of sampling effort based on study objectives. Sampling options for water investigations.

CE 485 Construction Site Erosion Control. (3-0) Three hours.
Prerequisite: CE 478.
Regulations affecting construction erosion control. Problems caused by erosion. Site planning and design of erosion controls to minimize sediment losses.

CE 486 Stormwater Management. (3-0) Three hours.
Prerequisite: CE 478.

CE 491 and CE 492 Special Problems (Area). Variable credit.
Prerequisite: Written permission of the instructor.
Credit is based on the amount of work undertaken. Analysis and/or design in any phase of civil engineering. The course is intended to take care of needs not covered by regularly offered courses.

CE 511 Advanced Rock Mechanics. (2-3) Three hours.
Prerequisite: AEM 250.
Advanced level of theories of rock failure, ground movement, stability analysis, and design of underground openings; rock testing methods.

CE 519 Remediation of Contaminated Soils and Groundwater. (3-9) Three hours.
Prerequisite: CE 420 or permission of the instructor.
Corequisite: CE 340.
Science fundamentals, site constraints, and available technologies are incorporated into a process engineering approach to addressing contaminated soils and groundwater.

CE 522 Solid and Hazardous Waste Management. (3-0) Three hours.
Prerequisite: CE 420.
Regulatory requirements and management options for the handling, treatment, storage and disposal of solid and hazardous wastes and related graduate projects.

CE 524 Physical/Chemical Processes in Water and Wastewater Treatment. (3-0) Three hours.
Prerequisites: Graduate standing and course in differential equations, or permission of the instructor.
Discussion of fundamentals of physical/chemical processes, as they relate to environmental quality and water and wastewater treatment. Reactor principles, chemical processes, and particle removal process will be discussed from fundamental theory.
CE 525 Air Pollution. (3-0) Three hours.
Prerequisite: CE 420.
Introduction to the sources, characteristics, and effects of air pollution, and to air pollution control technology and design.

CE 527 Urban Water Systems. (3-0) Three hours.
Prerequisite: CE 478.

CE 528 Environmental Aqueous Chemistry. (3-0) Three hours.
Prerequisite: CH 102.
Introduction to chemical principles as they apply to environmental aqueous systems. Chemical kinetics, equilibria, redux reactions, and microbiological/chemical interaction in environmental systems are among topics covered.

CE 529 Unit Operations in Water and Wastewater Treatment. (3-0) Three hours.
Prerequisites: CE 420 and CE 424.
Advanced examination of tertiary, physical, and chemical unit operations used in water and wastewater systems.

CE 532 Advanced Structural Analysis I. (3-0) Three hours.
Prerequisite: CE 331.
Finite-element methods; three-dimensional structures.

CE 533 Prestressed Concrete Structures. (3-0) Three hours.
Prerequisite: CE 433.
Methods and materials for prestressing concrete members and structures. Analysis and design of determinate and indeterminate structures, including high-strength materials, relaxation, and time effects.

CE 535 Bridge Design and Construction. (3-0) Three hours.
Corequisite: CE 433.
Introduction to bridge design and construction: site selection, bridge requirements, construction costs, design loads, and design of the bridge deck, superstructure, and substructure.

CE 536 Timber Structures. (3-0) Three hours.
Prerequisite: CE 331.
Modern timber engineering; design of beams, columns, trusses, and floor systems.

CE 537 Reinforced Concrete Structures II. (3-0) Three hours.
Prerequisite: CE 433.
Members subjected to combined loading; slabs, retaining walls, deep beams, tanks; introduction to prestressed concrete theory; and special topics.

CE 538 Structural Steel Design II. (3-0) Three hours.
Prerequisite: CE 333.
Basic and elementary procedures used to design steel structures such as mill buildings, multi-story buildings, highway bridges, and light-gauge steel structures.

CE 539 Industrial/Commercial Timber Structures. (3-0) Three hours.
Corequisite: CE 331.
Design of wood buildings and bridges including an introduction to the building code load provisions.

CE 542 Waste-Containment Facilities and Landfill Design. (3-0) Three hours.
Prerequisite: CE 340, CE 478, or B.S. degree in a compatible field.
The course covers the fundamentals of soil behavior and its application in environmental engineering.

CE 544 Foundation Engineering. (3-0) Three hours.
Prerequisite: CE 340.
Analysis and design of soil foundation systems.
CE 545 Bituminous Materials and Mixtures. (2-3) Three hours.
Prerequisite: CE 262.
Consideration of major types of bituminous materials — asphalt cements, cutback asphalts, asphalt emulsions — leading to current practice for designing optimum pavement mixtures.

CE 546 Slopes and Retaining Structures Design. (3-0) Three hours.
Prerequisite: CE 340.
Analysis and design of slopes and earth retaining structures.

CE 550 Highway Design and Construction. (3-0) Three hours.
Prerequisite: CE 260.
Introduction to the highway geometric design, drainage, traffic-control devices, pavements, economic analysis, and construction. Writing proficiency is required for a passing grade in this course.

CE 551 Geometric Design of Roadways. (2-1) Three hours.
Prerequisite: CE 450 or permission of the instructor.
Application of the principles of geometric design; alignment, vertical control, drainage, traffic control, interchanges, and intersections. Design projects are prepared to illustrate standard techniques.

CE 552 Traffic Safety. (3-0) Three hours.
Prerequisite: CE 450 or CE 550.
Introduction to traffic safety techniques: overall safety programs, site identification, data gathering and analysis, accident reconstruction, safety treatment selection, resource prioritization, and design projects.

CE 555 Planning and Design of Airport Facilities. (3-0) Three hours.
Prerequisite: Senior status or permission of the instructor.
The air transportation system, planning and design of facilities in the airport area, and the environmental impact of airport operation.

CE 557 Pavement Design and Construction. (3-0) Three hours.
Prerequisite: CE 340.
The thickness design of base, sub-base, asphalt, and concrete layers for highway pavements, including both design and construction aspects.

CE 558 Traffic Engineering. (3-0) Three hours.
Prerequisite: CE 450 or permission of the instructor.
Vehicle operating characteristics, traffic flow, traffic studies, capacity analysis, traffic control devices, and methods of traffic control.

CE 559 Pavement Rehabilitation. (3-9) Three hours.
Prerequisite: CE 450.
Covers two areas concerning care of existing highway asphalt and concrete pavements. Major maintenance includes overlay design, additional drainage, recycling, and slab repair. Routine maintenance includes distress surveys, pothole repair, and crack and joint sealing.

CE 565 Advanced Blasting Engineering. (3-0) Three hours.
Prerequisite: CE 340, CE 411, or AEM 250.
Behavior of rock under dynamic loads intended to fragment or penetrate; theories of drilling, blasting, and communication; and application of theory.

CE 570 Open Channel Flow. (3-0) Three hours.
Prerequisite: CE 478.
Basic concepts of fluid flow, energy and momentum principles, flow resistance in non-uniform sections, channel controls and transitions, and non-uniform flow computations.

CE 573 Statistical Applications in Civil Engineering. (3-0) Three hours.
Prerequisite: MATH 238.
Applications of statistical and probabilistic methodologies for analysis and solution of practical civil engineering problems, including frequency and risk analysis, analysis of experimental data, and systems simulation and optimization.
CE 575 Hydrology. (3-0) Three hours. 
Prerequisite: CE 478.
Fundamental hydrologic processes and their practical applications, including atmospheric moisture and precipitation; evaporation and evapotranspiration; infiltration and rainfall abstractions; streamflow generation and routing; and probabilistic concepts. (ES2, ED1)

CE 582 Advanced Environmental Geological Engineering. (3-0) Three hours. 
Prerequisite: CE 482, or CE 340, or GEO 565.
Advanced environmental aspects of geological engineering problems associated with mineral engineering, civil engineering, environmental engineering, and geology. Topics include structural failures in rock and soils, groundwater, land subsidence, earthquakes, weather, and mining and petroleum engineering-related environmental problems.

CE 584 Experimental Design and Field Sampling. (3-0) Three hours. 
Prerequisites: CE 420, CE 421, and basic statistics class.
Selection of experimental schemes and determination of sampling effort based on study objectives. Sampling options for water investigations.

CE 585 Construction Site Erosion Control. (3-0) Three hours. 
Prerequisite: CE 478.
Regulations affecting construction erosion control. Problems caused by erosion. Site planning and design of erosion controls to minimize sediment losses.

CE 586 Stormwater Management. (3-0) Three hours. 
Prerequisite: CE 478.

CE 591:592 Special Problems. One to three hours. 
Independent study. Credit awarded is based on the amount of work undertaken.

CE 598 Research Not Related to Thesis. Variable credit.

CE 599 Master's Thesis Research. One to twelve hours.

CE 622 Water-Quality Engineering. (3-0) Three hours. 
Prerequisites: MATH 238 and CE 424.
Introduction to the principles of water-quality engineering and the development and use of water-quality models.

CE 629 Environmental Regulation. (3-0) Three hours. 
Prerequisite: CE 424.
Study of environmental laws and the regulations that have resulted from them.

CE 632 Advanced Structural Analysis II. (2-3) Three hours.
Prerequisite: CE 532.
Finite-element methods; three-dimensional structures.

CE 633 Structural Stability. (3-0) Three hours. 
Prerequisite: CE 331.
Static buckling of structural elements, frames, and trusses.

CE 653 Traffic Planning. (3-0) Three hours. 
Prerequisite: CE 450.
The role of transportation and traffic in urban planning; the relationship of traffic facilities to land use, zoning, and planning studies.

CE 691:692 Special Problems (Area). Variable credit.
Advanced work in some area of specialization. Credit awarded is based on the amount of work completed.

CE 698 Research Not Related to Dissertation. Variable credit.

CE 699 Doctoral Dissertation Research. Three to twelve hours.
The Department of Computer Science offers interdisciplinary graduate programs leading to the master of science and doctor of philosophy degrees. The programs are for students who are interested in professional careers in computer science. Two master’s degree programs are available. The Plan I degree is a research-oriented degree, while Plan II is for students who are principally interested in design.

Research activity in the department includes active investigations in software engineering, algorithms, artificial intelligence, database management, networks, parallel and distributed computation, programming languages, and human-computer interaction. Laboratory facilities include networked connections to some of the world’s most advanced computer systems.

Departmental Admission Requirements

In addition to meeting the admission requirements established by the Graduate School, students applying for graduate study in the department must also meet the following general requirements: (1) demonstrated competence in programming with assembly and several high-level languages; (2) completion of the equivalent of the department’s undergraduate core computer science curriculum; and (3) demonstration, by an appropriate score on the general test of the Graduate Record Examination, of competence in the discipline of computer science.

Each student must submit scores from the Graduate Record Examination general test. This requirement may be waived for a student who graduated from an institution accredited by CSAB (Computer Science Accreditation Board) with a GPA of 3.0 or higher on a 4.0 scale. It is strongly recommended that each student submit a score from the GRE Subject Exam in Computer Science, particularly students who wish to be considered for funding opportunities.

In addition to the above requirements, the maximum number of hours a student may transfer from another institution and apply toward the M.S. degree is 6; for the Ph.D. degree, the maximum number of transferable hours is 18. Courses may be transferred only subject to the approval of the faculty of the Department of Computer Science. Additional details of these requirements may be obtained directly from the department. Applicants who present most but not all of these qualifications may be considered for conditional admission.

Master of Science Departmental Degree Requirements

Departmental degree requirements for the M.S. degree, which are in addition to those established by the College and by the Graduate School, are as follows for Plan I and Plan II students:

Each Plan I candidate must earn a minimum of 27 semester hours of credit for coursework, plus a 6-hour thesis under the direction of a faculty member.

Each Plan II candidate must earn a minimum of 33 semester hours of credit for coursework, which may include a 3-hour nonthesis project under the direction of a faculty member.

Unlike the general College of Engineering requirements, graduate credit may not be obtained for courses at the 400-level.

Both plans also have core and depth requirements, which can be found at the department’s Web site: www.cs.ua.edu.

Doctor of Philosophy Departmental Degree Requirements

The doctor of philosophy degree is regarded as a research degree and is granted on the basis of scholarly proficiency, distinctive achievement in a special field, and the capacity for independent, original investigation. The first two criteria are tested in coursework and a qualifying examination, the last by a dissertation that must present the results of substantial research clearly and effectively. A combination of these accomplishments,
rather than the mere accumulation of residency and course credits, is the essential consideration in awarding the Ph.D. degree.

A minimum of 48 semester hours of course credit is required. Approval of the selection of courses must be obtained from the student’s adviser and supervisory committee, and the course of study as a whole must be unified so that all its parts contribute to an organized program of study and research. Unlike the general College of Engineering requirements, graduate credit may not be obtained for courses at the 400-level.

In addition, a student is expected to have completed at least 24 semester hours of dissertation research and to have fulfilled residency and other requirements of the Graduate School. Additional details of these requirements can be found at the department's Web site: www.cs.ua.edu.

Course Descriptions

CS 511 Introduction to Computing for Non-Majors. (3-0) Three hours.
Prerequisite: CS 124 or CS 412 or CS 512.
Introduction to computer science topics including machine organization, assembly language, and data structures. For graduate students with limited computer science backgrounds.

CS 512 C++ Programming for Non-Majors. (3-0) Three hours.
Prerequisite: Any computer science programming course.
Concepts of programming using the C++ programming language. For graduate students with limited computer science backgrounds.

CS 513 Introduction to Computer Science. (6-0) Six hours.
Prerequisites: CS 325 and CS 357, or CS 511 and CS 512.
Concentrated introduction to computer science for graduate students who wish to major in computer science. Fundamental computer science topics including programming languages, operating systems, and algorithms.

CS 514 Java Programming for Non-Majors. (3-0) Three hours.
Prerequisite: CS 512.
Concepts of programming using the Java programming language, with emphasis on the use of Java in the Internet environment.

CS 524 Java Programming. (3-0) Three hours.
Prerequisites: CS 325, CS 357, and ECE 383, or CS 513
Object-oriented programming using the Java programming language and applications programming interfaces.

CS 535 Computer Graphics and Image Processing. (3-0) Three hours.
Prerequisite: CS 435 or CS 513.
Display memory, generation of points, vectors, etc. Interactive versus passive graphics, analog storage of images on microfilm, etc. Digitizing and digital storage, pattern recognition by features, syntax tables, and random nets. The mathematics of three dimensions, projections, and the hidden-line problem.

CS 567 Computer Systems Architecture. (3-0) Three hours. Same as ECE 584.
Prerequisite: ECE 480.
For description, see ECE 584.

CS 580 System Simulation. (3-0) Three hours.
Prerequisites: CS 480 or CS 513 and either GES 255 or ST 254.
Use of digital computer simulation in the analysis of large-scale systems. Comparison of discrete change simulation language; design of simulation experiments for optimization; validation of simulation models.

CS 591 Special Topics in Computer Science. (3-0) Three hours.
Formal courses that cover new and innovative topics in computer science and do not yet have their own course numbers. Specific course titles will be announced.

CS 592 Independent Study in Computer Science. Variable credit.
This course requires a written proposal that must be approved by the sponsoring faculty member before registration.
CS 595:596 Seminar. (1-0) One hour.  
Current topics in computer science, oral communication with audiovisual aids, written 
reports, and literature searches.

CS 598 Research Not Related to Thesis. Variable credit.

CS 599 Master's Thesis Research. Variable credit.

CS 600 Foundations of Software Engineering. (3-0) Three hours. 
Prerequisite: CS 415 or CS 513. 
Introduction to formal software development techniques; theoretical foundations of speci-

ication, design, and testing; and programming methodologies and software reuse.

CS 601 Design and Analysis of Computer Algorithms. (3-0) Three hours.  
Prerequisite: CS 470 or CS 513. 
A study of algorithm design techniques; analysis of performance of algorithms; and 
fundamental principles and concepts of algorithm construction, proof, and analysis.

CS 602 Advanced Formal Languages and Machines. (3-0) Three hours. 
Prerequisite: CS 470, CS 475, or CS 513. 
Regular languages, context-free languages, recursive and recursively enumerable 
languages, nondeterminism, and undecidability.

CS 603 Organization of Programming Languages. (3-0) Three hours. 
Prerequisite: CS 403 or CS 513. 
Design and implementation of programming languages; syntax and translation; semantic 
structures and run-time representations; data, operations, control structures, and stor-
age management.

CS 605 Theory of Artificial Intelligence. (3-0) Three hours.  
Prerequisite: CS 465 or CS 513. 
Concepts of artificial intelligence, with emphasis on problem solving, knowledge repre-
sentation, logic and deduction, and machine learning.

CS 606 Analysis of Operating Systems. (3-0) Three hours. 
Prerequisite: CS 426 or CS 513. 
Design of operating systems; advanced examination of synchronization, deadlock, virtual 
memory, and security; and parallel and distributed systems.

CS 607 Software User Interface Design and Analysis. (3-0) Three hours. 
Prerequisites: CS 407 or CS 513. 
Concepts of the human-computer interface, emphasizing the software aspects. Dialog 
styles, form models, user documentation, and the evaluation of human-computer soft-
ware interfaces.

CS 609 Database Management. (3-0) Three hours. 
Prerequisite: CS 457 or CS 513. 
Data model theory, comparison of existing database systems, implementation technology, 
selection, evaluation techniques, integrity, security, authorization and protection, and 
hardware architecture.

CS 610 Introduction to Cognitive Science. (3-0) Three hours. 
Prerequisite: CS 465 or CS 513. 
This course introduces the basic concepts of cognitive science. It involves cross-disci-

plinary study of cognitive processes in humans and machines. It explores the possibility 
of building truly intelligent systems.

CS 611 Computer Systems Resource Management. (3-0) Three hours.  
Prerequisite: CS 513. 
Hardware configurations; equipment selection and replacement; and economic analysis 
and feasibility studies. Software procurement and libraries. System accounting, user 
services, and utilities. Budgeting and costing practices. Performance analysis. Manag-
ing operations personnel.

CS 613 Computer Communications and Networks. (3-0) Three hours. 
Prerequisite: CS 426 or CS 513 and either GES 255 or ST 254. 
Study of computer networks, including telecommunications and related data transmission 
techniques. Network philosophy, design, and implementation.
CS 614 Theory and Construction of Compilers. (3-0) Three hours.
Prerequisite: CS 434 or CS 513.
Definition and specification of language syntax and semantics, lexical scans, operational
notations, and compilation methods. Compiler writing systems. A formal approach to
compiler theory.  
CS 620 Information Storage and Retrieval. (3-0) Three hours.
Prerequisite: CS 609.
Natural language processing; analysis of textual material by statistical, syntactic, and
logical methods; retrieval system models, dictionary construction, query processing, file
structures, and content analysis; automatic retrieval systems and question-answering
systems; and evaluation of retrieval effectiveness.  
CS 626 Distributed Computing Systems. (3-0) Three hours.
Prerequisite: CS 606.
An advanced treatment of the theory and practice of constructing distributed systems,
in which concurrent processes communicate by exchanging messages.  
CS 630 Advanced Software Engineering Principles. (3-0) Three hours.
Prerequisite: CS 600.
Advanced study in theoretical foundations of software engineering: software process
modeling, metrics, and cost estimation; formal specifications; testing and verification
techniques; exposure to research methods.  
CS 631 Software Engineering Practice and Experience. (3-0) Three hours.
Prerequisite: CS 600.
Introduction to the application of software engineering principles to large-scale pro-
gramming projects. Emphasis is on object-based construction, CASE tools, and the
Ada programming language.  
CS 651 Object-Oriented and Intelligent Database Systems. (3-0) Three hours.
Prerequisite: CS 609.
Research- and design-oriented combination of the concepts of the traditional databases
(relational, networked, and hierarchical) with developing concepts such as object-oriented
and intelligent databases.  
CS 661 Expert Systems. (3-0) Three hours.
Prerequisite: CS 605.
Advanced study of the development of expert systems. Programming technologies for
designing, building, implementing, and testing expert systems are included.  
CS 662 Advanced Neural Computation. (3-0) Three hours.
Prerequisite: CS 605, AEM 587, or equivalent; or permission of the instructor.
A study of artificial neural systems on computers, including modern theories of learning
and neural processing. Emphasis is on neural network architectures with methodologies
for designing, building, and implementing such systems.  
CS 663 Connectionist Models. (3-0) Three hours.
Prerequisite: CS 610.
This course covers recent developments in research in connectionist models, especially
in integrating symbolic processing and rule-based reasoning.  
CS 664 Advanced Cognitive Science. (3-0) Three hours.
Prerequisite: CS 610.
This course presents some of the most important computational models in cognitive
science. It contains basic approaches and methodologies for studying cognition, and it
extends to the exploration of several fundamental cognitive functions.  
CS 665 Fuzzy Set Theory. (3-0) Three hours.
Prerequisite: CS 605.
This course covers the various issues of uncertainty, information theory, and system
complexity from a perspective based on fuzzy set theory. Mathematical foundations of
fuzzy sets, various aspects of fuzzy relations, and fuzzy measures and their relation to
information theory are discussed.  
CS 670 Advanced Algorithms and Data Structures. (3-0) Three hours.
Prerequisite: CS 601.
This course presents selected advanced topics related to design and analysis of algo-
rithms and data structures.
CS 671 Graph Theory and Algorithms. (3-0) Three hours.  
Prerequisite: CS 601 or MATH 550.  
This course presents advanced algorithms for solving graph problems. Classical results from graph theory are introduced to motivate or explain these algorithms.

CS 672 Parallel Computation. (3-0) Three hours.  
Prerequisite: CS 601 or ECE 684.  
This course presents techniques for designing and analyzing algorithms for many models of parallel computation.

CS 673 Computational Complexity. (3-0) Three hours.  
Prerequisite: CS 601 or CS 602.  
This course presents techniques for determining that certain problems are inherently difficult or even impossible to solve on any computer.

CS 686 Advanced Computer-Human Interface. (3-0) Three hours.  
Prerequisite: CS 607.  
Corequisite: IE 533.  
Advanced topics in the computer-human interface, including graphical user interfaces, computer-supported cooperative work, different interface styles, user interface management systems, online documentation, and hypermedia. Software user interface design philosophy and evaluation methods.

CS 691 Special Topics in Computer Science. (3-0) Three hours.  
Formal courses that cover new and innovative topics in computer science and do not yet have their own numbers; specific course titles will be announced.

CS 692 Independent Study in Computer Science. Variable credit.  
This course requires a written proposal that must be approved by the sponsoring faculty member before registration.

CS 695:696 Seminar. (1-0) One hour.  
Formal presentations at departmental colloquium series. Enrollment must be approved by major professor.


DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING (ECE)  
Professor Lloyd A. Morley, Head Office: 317 Houser Hall

The Department of Electrical and Computer Engineering offers programs leading to the master of science and doctor of philosophy degrees. The department has focused on four main research areas: communication and control systems, computers and microelectronics, electromagnetics and materials, and power systems. These efforts are supported by the Computer Architecture Lab, Wireless Communications Lab, Electric Power and Machines Lab, Electromagnetics Lab, Hybrid Electronics Lab, and Image Processing and Graphics Lab. In addition to these department research laboratories, students have access to the laboratories in the Center for Materials for Information Technology. For computing purposes, students can use several PC networks and workstation networks supported by the College of Engineering, a Cray machine in the Alabama Supercomputer Center, and two large mainframe computers in the University's computing center.

Admission Requirements  
Applicants for graduate work in electrical and computer engineering must apply for admission to the Graduate School. Each applicant must submit a statement of purpose. Regular admission may be granted to an applicant who has an electrical engineering degree from an ABET-accredited program and an overall GPA above 3.0 on a 4.0 scale. Electrical engineering graduates from non-ABET accredited programs can be awarded regular admission if they have overall GPAs of 3.0 on a 4.0 scale and an acceptable general test score on the Graduate Record Examination. Conditional admission may be granted to applicants who do not meet these requirements, such as those who have degrees in related fields or GPAs below 3.0. International students must have TOEFL scores of 550 or higher.
Degree Requirements

Master of science degree requirements. The department offers M.S. degrees with a thesis (Plan I) and a nonthesis (Plan II) option. However, it strongly encourages that students follow Plan I and allows the use of Plan II only in special cases. Plan I requires 32 credit hours with at least 24 at the graduate level (i.e., at the 500 or 600 level). These credit hours must include at least 12 hours in a major electrical engineering field, 6 hours in mathematics, 6 hours in an approved elective area, 2 hours of seminar, and 6 hours of thesis research. Majoring in some areas of specialization may require specific courses in that area. The student must pass a final examination, which typically is a presentation and defense of the thesis. In addition, the student must satisfy all the University and College of Engineering requirements defined elsewhere in this catalog.

Doctor of philosophy degree requirements. In the electrical and computer engineering department, the Ph.D. degree requires a minimum of 48 credit hours of coursework. This must include 24 credit hours of closely related coursework in the major area with at least 18 at the 500- or 600-level. In addition, each student's program must include 12 hours in a minor field of electrical engineering or other approved area, 12 hours in mathematics, 2 hours of seminar at the 600 level, and 24 hours of dissertation research. All candidates must pass a qualifying examination, usually administered after the student completes most of his or her coursework, and a final examination, which generally is a presentation and defense of the dissertation. In addition, the student must satisfy all the University and College of Engineering requirements defined elsewhere in this catalog.

Course Descriptions

With permission, master’s students may earn graduate credit for six hours of 400-level credit.

ECE 406 Computer Communications and Networks. (3-0) Three hours. Same as CS 613.
Prerequisites: CS 325, CS 357, and CS 426.
For description, see CS 613.

ECE 407 Communications I. (3-0) Three hours.
Prerequisite: ECE 370.
Corequisite: MATH 355.
Introduction to baseband and passband digital communication systems. Students develop the skills necessary to analyze system performance in the presence of noise and learn to determine methods for improving system performance.

ECE 408 Communications II. (3-0) Three hours.
Prerequisites: ECE 370, ECE 407, and MATH 355.
Introduction to analog communications systems. Students analyze system performance in the presence of noise; examine advanced analog-to-digital encoding techniques and advanced digital modulation techniques; and develop data compression and error-control codes.

ECE 409 Communications Systems Laboratory. (0-3) One hour.
Corequisite: ECE 407.
Modeling communication systems; familiarization with specialized communications equipment and techniques; and theory of laboratory instruments.

ECE 430 Digital Integrated Circuit Design. (3-0) Three hours.
Prerequisites: ECE 333 and ECE 383.
Corequisites: ECE 431 and either MATH 237 or GES 451.
Introduction to digital integrated circuit design, analysis, and layout, and use of tools for creating VLSI circuits and subsystems.

ECE 431 Digital Integrated Circuit Design Laboratory. (0-3) One hour.
Prerequisites: ECE 333 and ECE 383.
Corequisites: ECE 430 and either MATH 237 or GES 451.
Assignments and design projects provide hands-on experience with digital integrated circuit design, analysis, and layout. VLSI design tools and graphics workstations are used.
ECE 432 Analog Integrated Circuit Design. (3-0) Three hours.
Prerequisite: ECE 333.
Corequisite: ECE 433.
Study of analog integrated circuit design, analysis, and layout. Topics include bipolar and CMOS layout, fabrications, design methodologies, and software tools.

ECE 433 Analog Integrated Circuit Design Laboratory. (0-3) One hour.
Prerequisite: ECE 333.
Corequisite: ECE 432.
A laboratory experience with bipolar and CMOS layout, fabrication, software layout, and simulation tools.

ECE 434 High-Frequency Electronics. (3-0) Three hours.
Prerequisite: ECE 333.
Corequisite: ECE 435.
Introduces the concepts of RF/microwave electronics system design. Topics include amplifier design, matching, filter design, oscillator and mixer design, modulation techniques, and receivers.

ECE 435 High-Frequency Electronics Laboratory. (0-3) One hour.
Prerequisite: ECE 333.
Corequisite: ECE 434.
Introduces the concepts of RF and microwave electronics system design through device measurement and simulation. Laboratory topics include amplifier design, matching, filter design, oscillator and mixer design, modulation, and receivers.

ECE 438 Integrated Circuit Fabrication Principles. (3-0) Three hours.
Prerequisite: ECE 333, MTE 271, or permission of the instructor.
Study of the processing tools used in semiconductor device fabrication. Topics include semiconductor fundamentals, semiconductor device fabrication processes, interconnections and contacts, integrated circuit packaging, and chip yield.

ECE 445 Antennas. (3-0) Three hours.
Prerequisite: ECE 340 or PH 332.
Transmission and reception of power and information in free space; antennas as interface elements; impedance and radiation characteristics of modern antennas.

ECE 446 Microwave Engineering. (3-0) Three hours.
Prerequisite: ECE 340 or PH 332.
Guided waves; scattering matrix description of microwave circuit elements; computer analysis and optimization of cascaded two-ports; and microwave integrated circuits.

ECE 447 Electromagnetics Laboratory. (0-3) One hour.
Prerequisite: ECE 340 or PH 332.
Electrical measurements of electromagnetic waves and phenomena in the microwave region; slotted line techniques; and measurement of frequency, wavelength, power, impedance, VSWR, and antenna radiation patterns.

ECE 448 Radar Systems. (3-0) Three hours.
Prerequisite: ECE 340 or PH 332.
The radar equation; detection of radar signals in noise; extraction of information and waveform design, CW, MTI, and pulse Doppler radar; and tracking radar.

ECE 453 Electric Machines and Drives. (3-0) Three hours.
Prerequisites: ECE 326 and ECE 350.
Detailed study of the theory and operation of rotating electric machines. Introduction to power electronics and machine drives.

ECE 455 Power/Machines Laboratory. (0-3) One hour.
Prerequisite: ECE 350.
Test and analysis of power/machines devices; and design of systems using these devices.

ECE 456 Power Systems I. (3-0) Three hours.
Prerequisite: ECE 350.
Corequisite: GES 451 or MATH 237.
Basic power system concepts and per-unit quantities; transmission line, transformer, and rotating machine modeling; and power flow.
ECE 457 Power Systems II. (3-0) Three hours.
Prerequisite: ECE 456.
Economic operation, fault analysis, symmetrical components, and system protection.

ECE 467 Engineering Optics. (3-0) Three hours.
Prerequisites: ECE 340 or PH 332 and either GES 451 or MATH 237.
Corequisite: ECE 370.
Principles of laser holography, optical communication, and image processing and their engineering applications (including propagation, polarization, diffraction, coherence and interference, and spatial Fourier transformation of light waves).

ECE 475 Control Systems Analysis. (3-0) Three hours.
Prerequisite: ECE 326.
Classical and modern feedback control system methods; stability; and Bode, root locus, state variable, and computer analysis.

ECE 476 Control Systems Laboratory. (0-3) One hour. Same as AEM 476.
Corequisite: ECE 475.
Practical analysis and design of feedback control systems and components; and electrical, mechanical, and electromechanical systems.

ECE 479 Digital Control Systems. (3-0) Three hours.
Prerequisites: ECE 370, ECE 475, and either GES 451 or MATH 237.
Frequency and time methods in discrete time control systems; sampling of continuous-time signals, stability, transform design techniques, and state variable analysis and design techniques.

ECE 480 Introduction to Computer Engineering. (3-0) Three hours.
Prerequisite: ECE 383.
Corequisite: ECE 481.
Basic computer organization; computer arithmetic; machine language; simple and pipelined central processor organization; microprogramming; and measuring computer performance.

ECE 481 Introduction to Computer Engineering Laboratory. (0-3) One hour.
Prerequisite: ECE 383.
Corequisite: ECE 480.
Logic design and simulation via hardware description languages, use of electronic design automation tools, and CPU design.

ECE 482 Computer Vision and Digital Image Processing. (3-0) Three hours.
Prerequisites: MATH 355 and CS 124, or permission of the instructor.
Introduction to computer vision and digital image processing with an emphasis on image representation, transforms, filtering, compression, boundary detection, and pattern matching.

ECE 483 Computer Graphics Design. (3-0) Three hours. Same as CS 435.
Prerequisite: ECE 383.
Selected topics in computer graphics and graphics algorithms; design projects.

ECE 484 Computer Architecture. (3-0) Three hours.
Prerequisite: ECE 480.
Computer architectures, computer design, memory systems design, parallel processing concepts, supercomputers, networks, and multiprocessor systems.

ECE 488 Microcontrollers. (3-0) Three hours.
Prerequisite: ECE 383.
Corequisite: ECE 489.
Microcontrollers, digital control systems, hardware interfacing, networking, distributed process control, and robotics.

ECE 489 Microcontrollers Laboratory. (0-3) One hour.
Prerequisite: ECE 383.
Corequisite: ECE 488.
Design and implementation experience with microcontrollers, digital control systems, interfacing, operating systems, automated manufacturing processes, robotics, and networking.
ECE 491 Special Problems. One to eight hours. Investigations usually involving research with a staff member. Credit awarded is based on the individual problem assignment.

ECE 493 Selected Topics (Area). Variable credit. Special course offerings in all areas of electrical engineering, made as the need arises. Credit awarded is based on the course requirements.


ECE 506 Computer Communications and Networks. (3-0) Three hours. Same as CS 613. Prerequisites: CS 325, CS 357, and CS 426. For description, see CS 613.

ECE 530 Digital Integrated Circuit Design. (3-0) Three hours. Prerequisites: ECE 333 and ECE 383. Coerequisites: ECE 531 and either GES 451 or MATH 237. Introduction to digital integrated circuit design, analysis, and layout and use of tools for creating VLSI circuits and subsystems.

ECE 531 Digital Integrated Circuit Design Laboratory. (0-3) One hour. Prerequisites: ECE 333 and ECE 383. Coerequisites: ECE 530 and either GES 451 or MATH 237. Assignments and design projects provide hands-on digital integrated circuit design, analysis, and layout experience with VLSI design tools and graphics workstations.

ECE 532 Analog Integrated Circuit Design. (3-0) Three hours. Prerequisite: ECE 333. Corequisite: ECE 533. Study of analog integrated circuit design, analysis, and layout. Topics include bipolar and CMOS layout, fabrication, design methodologies, and software tools.

ECE 533 Analog Integrated Circuit Design Laboratory. (0-3) One hour. Prerequisite: ECE 333. Corequisite: ECE 532. A laboratory experience with bipolar and CMOS integrated circuit design. Topics include bipolar and CMOS layout, fabrication, and software layout and simulation tools.

ECE 534 High-Frequency Electronics. (3-0) Three hours. Prerequisite: ECE 333. Corequisite: ECE 535. Introduces the concepts of RF/microwave electronic system design. Topics include amplifier design, matching, filter design, oscillator and mixer design, modulation techniques, and receivers.

ECE 535 High-Frequency Electronics Laboratory. (0-3) One hour. Prerequisite: ECE 333. Corequisite: ECE 534. Introduces the concepts of RF and microwave electronic system design through device measurement and simulation. Laboratory topics include amplifier design, matching, filter design, oscillator and mixer design, modulation, and receivers.

ECE 538 Integrated Circuit Fabrication Principles. (3-0) Three hours. Prerequisite: ECE 333, MTE 271, or permission of the instructor. Study of the processing tools used in semiconductor device fabrication. Topics include semiconductor fundamentals, semiconductor device fabrication processes, interconnections and contacts, integrated circuit packaging, and chip yield. Oral presentation and advance analytical work required.

ECE 545 Antennas. (3-0) Three hours. Prerequisite: ECE 340 or PH 332. Transmission and reception of power and information in free space; antennas as interface elements; impedance and radiation characteristics of modern antennas.
ECE 546 Microwave Engineering. (3-0) Three hours.
Prerequisite: ECE 340 or PH 332.
Guided waves, scattering matrix description of microwave circuit elements, computer analysis, and optimization of cascaded two-ports microwave integrated circuits.

ECE 547 Electromagnetic Laboratory. (0-3) One hour.
Prerequisite: ECE 340 or PH 332.
Electrical measurements of electromagnetic waves and phenomena in the microwave region; slotted line techniques; and measurement of frequency, wavelength, power, impedance, VSWR, and antenna radiation patterns.

ECE 548 Radar Systems. (3-0) Three hours.
Prerequisite: ECE 340 or PH 332.
The radar equation; detection of radar signals in noise; extraction of information and waveform design, CW, MTI, and pulse Doppler radar; and tracking radar.

ECE 553 Electric Machines and Drives. (3-0) Three hours.
Prerequisites: ECE 326 and ECE 350.
Detailed study on the theory and operation of rotating electric machines. Introduction to power electronics and machine drives.

ECE 557 Power Systems II. (3-0) Three hours.
Prerequisite: ECE 456. Not open to students who have earned credit for ECE 457.
Economic operation, fault analysis, symmetrical components, system protection. Special projects are required.

ECE 561 Quantum Electronics. (3-0) Three hours.
Prerequisite: ECE 340 or PH 332.
Matrix formulation of quantum mechanics; quantization of lattice vibrations and electromagnetic radiation; diamagnetism and paramagnetism; paramagnetic resonance and paramagnetism in crystals; and interaction of radiation and atoms.

ECE 575 Stochastic Processes. (3-0) Three hours. Same as GES 575.
Prerequisite: GES 500.
Engineering applications of probability theory. Problems on sequences of random variables, convergence, stochastic processes, stationarity, ergodicity, correlation function, spectral densities, linear systems with random inputs, design of filters and predictors, and Markov processes.

ECE 577 Advanced Linear Control. (3-0) Three hours. Same as AEM/ME 577.
Prerequisite: ECE 475.
Modern techniques for the analysis and design of linear control systems. Matrix formulation; multivariable control systems; state-variable concepts; discrete-time systems; optimization; and statistical design methods.

ECE 579 Digital Control Systems. (3-0) Three hours.
Prerequisites: ECE 370, ECE 475, and either GES 451 or MATH 237.
Frequency and time domain methods in discrete time control systems; sampling of continuous-time signals, stability, transform design techniques, state variable analysis, and design techniques.

ECE 580 Introduction to Computer Engineering. (3-0) Three hours.
Prerequisite: ECE 383.
Corequisite: ECE 581.
Basic computer organization, register transfer languages and micro-operations, central processor organization, microprogramming, and memory organization.

ECE 581 Introduction to Computer Engineering Laboratory. (0-3) One hour.
Prerequisite: ECE 383.
Corequisite: ECE 580.
Logic design and simulation via hardware description languages, use of electronic design automation tools, and CPU design.

ECE 582 Computer Vision and Digital Image Processing. (3-0) Three hours.
Prerequisites: MATH 355 and CS 124, or permission of the instructor.
Introduction to computer vision and digital image processing with an emphasis on image representation, transforms, filtering, compression, boundary detection, and pattern matching.
ECE 583 Computer Graphics Design. (3-0) Three hours. Same as CS 535.
Prerequisite: ECE 383.
Selected topics in computer graphics and graphics algorithms. Design projects.

ECE 584 Advanced Computer Architecture. (3-0) Three hours. Same as CS 567.
Prerequisite: ECE 480.
Computer architectures, computer design, memory systems design, parallel processing
concepts, supercomputers, networks, and multiprocessing systems.

ECE 587 Neural Networks. (3-0) Three hours.
Prerequisites: Graduate standing and either GES 126, CS 114, or CS 513; or permis-
sion of the instructor.
For description, see AEM 587.

ECE 588 Microcontrollers. (3-0) Three hours.
Prerequisite: ECE 383.
Corequisite: ECE 589.
Microcontrollers, digital control systems, hardware interfacing, networking, distributed
process control, and robotics.

ECE 589 Microcontrollers Laboratory. (0-3) One hour.
Prerequisite: ECE 383.
Corequisite: ECE 588.
Design and implementation experience with microcontrollers, digital control systems,
interfacing, operating systems, automated manufacturing processes, robotics, and net-
working.

ECE 593 Special Topics (Area). Variable credit.
Advanced topics of a specialized nature.

ECE 595 Seminar I. (1-0) One hour.
Emphasis is placed on techniques of oral communication, to include use of audiovisual
aids. Usually taken in first semester of residence in the M.S.E.E. program.

ECE 596 Seminar II. (1-0) One hour.
Prerequisite: ECE 595.
Presentation of thesis research. Normally taken in the semester during which the student
plans to apply for admission to candidacy for the M.S.E.E. degree.

ECE 598 Research Not Related to Thesis. One to six hours.

ECE 599 Master's Thesis Research. One to twelve hours.

ECE 601 Digital Signal Processing. (3-0) Three hours.
Prerequisite: ECE 370 or equivalent.
Discrete-time signals and systems; discrete Fourier and transforms; basic network
structures. Design of FIR and IIR filters using digital simulation programs.

ECE 602 Information Theory and Error Control Coding. (3-0) Three hours.
Prerequisites: GES 500 and ECE 502.
The principles of information theory relevant to the development and analysis of source
(data compaction/compression) and channel (error control) codes.

ECE 640 Electromagnetic Field Theory I. (3-0) Three hours. Same as GES 640.
Prerequisite: ECE 340.
Application of Maxwell’s equations to problems of electrical engineering; boundary-
value problems, wave propagation, waveguides, radiation, and scattering; and surface
waves.

ECE 641 Electromagnetic Field Theory II. (3-0) Three hours. Same as GES 641.
Prerequisite: ECE 640.
Plane, cylindrical, and spherical wave functions; scattering by wedges, cylinder, and
spheres; radiation from apertures; perturbational and variational techniques; and mi-
crowave networks.

ECE 646 Microwave Circuits II. (3-0) Three hours.
Prerequisite: ECE 546.
Analysis and design of electromagnetic resonators, periodic structures, and filters; and
advanced current topics in passive microwave devices and active circuits.
ECE 649 Numerical Methods in Electromagnetics. (3-0) Three hours. Same as GES 649.
Prerequisite: ECE 640 or PH 531.
Formulation and computer solution of electromagnetic boundary value problems and integral equations; moment method relation to finite-element method and variational techniques; and applications to radiation, scattering, and guided wave geometries.

ECE 650 Power System Stability. (3-0) Three hours.
Prerequisite: ECE 456.
Modeling of the transmission system, loads, generators, exciters, and governors; prefault and postfault conditions; effect of system protection schemes on stability; computer solutions.

ECE 651 Power Systems in Steady State. (3-0) Three hours.
Prerequisite: ECE 456.
Strategies for the optimum steady-state operation of the system; economic commitment of generating units, economic allocation of generation of real and reactive power, and online computation of control signals; computational aspects of load-flow solutions; system security considerations.

ECE 652 Operation and Control of Power Systems. (3-0) Three hours.
Prerequisite: ECE 651 or equivalent.
State estimation in power systems; automatic generation control; load forecasting; economic dispatch; power pools and interchange evaluation; energy production costing; voltage collapse.

ECE 654 Large-Scale Network Simulation. (3-0) Three hours.
Prerequisites: ECE 326 and MATH 255; GES 451; or permission of the instructor.
Linear graph theory and operations research based algorithms for computer generation of the algebraic and differential equations describing large-scale networks; and multiple simulation algorithms.

ECE 674 Nonlinear Control Systems. (3-0) Three hours. Same as AEM/ME 578.
Prerequisite: ECE 475.
Classical and modern methods for the analysis and design of nonlinear automatic control systems. State variables, phase plane, describing functions, relay control, and optimal and adaptive control systems are covered.

ECE 678 Advanced Topics in Control. (3-0) Three hours. Same as AEM/ME 678.
Advanced topics in nonlinear, discrete-time, optimal, and learning systems.

ECE 679 Kalman Filtering and Stochastic Control. (3-0) Three hours. Same as AEM/ME 679.
Prerequisites: ECE 575 or GES 575 and AEM/ECE/ME 577.
Kalman filter, steady state theory, parameter estimation and extended Kalman filter; stochastic control; linear quadratic Gaussian (LQG) problems; and loop transfer recovery (LQG/LTR).

ECE 684 Parallel and Distributed Processing. (3-0) Three hours. Same as CS 684.
Prerequisites: ECE 484 and either ECE 485 or ECE 584.
Architectures for parallel processing, parallel processing interconnection networks, hardware issues in parallel processing, and representative parallel systems.

ECE 693 Special Topics (Area). One to five hours.
Advanced topics of a specialized nature.

ECE 695 Seminar I. (1-0) One hour.
Emphasis is on techniques of oral communication, to include use of audiovisual aids. Usually taken in the first semester of residence in the Ph.D. program.

ECE 696 Seminar II. (1-0) One hour.
Prerequisite: ECE 695.
Presentation of dissertation research. Normally taken in the semester during which the student plans to apply for admission to candidacy for the Ph.D. degree.

ECE 698 Research Not Related to Dissertation. One to six hours.

ECE 699 Doctoral Dissertation Research. Three to twelve hours.
The Department of Industrial Engineering offers programs leading to the master of science in industrial engineering. After satisfying prerequisite requirements equivalent to professional courses in the B.S.I.E., master’s students may concentrate in one of several areas of faculty expertise or choose a mix of courses across areas.

**Research.** The department maintains strong linkages with the automotive, aerospace, and process industries, and conducts research in topics such as risk and reliability assessment, robust product and process design, logistics and material flow, production scheduling, facility layout, factory simulation, manufacturing systems analysis and control, decision support systems, expert systems, ergonomic and safety principles in design, and ergonomic and safety programs in organizations. Students have access in their offices to the departmental LAN and also have access in the IE computer lab to mainframe and supercomputer resources.

**Admission Requirements**

Applicants desiring to pursue graduate work in industrial engineering must apply for admission to the Graduate School of the University. The IE department admits students with a variety of undergraduate majors (typically engineering, math, or science) and has certain admission requirements beyond those stipulated by the College of Engineering. These requirements are listed below. The specific remedial coursework, if any, will be determined by the graduate program coordinator, or his or her designee, during advising prior to the first term of enrollment. It is expected that the student will attempt to remove all remedial work during the first semester enrolled. All prerequisite requirements are normally met by the end of the first year.

**Undergraduate CS, economics, statistics, and operations research.** In addition to College requirements for credit for MATH 253 Applied Differential Equations, the following courses are minimum prerequisites for graduate work in industrial engineering and must be completed *without* credit toward graduation: (a) GES 126 Engineering Computer Science (3 hours), or equivalent, or a grade of “C” on an exam administered by the IE department; (b) IE 203 Engineering Economy (3 hours), or equivalent, or a grade of “C” on an exam administered by the IE department; (c) GES 255/GES 257 Engineering Statistics I–II (6 hours), or GES 500 (3 hours), or equivalent; (d) IE 363/IE 365 Operations Research I–II (6 hours), or GES 501 (3 hours), or equivalent.

**Simulation.** Each candidate for the M.S.I.E. degree must have had a simulation course in his or her undergraduate program, or must pass with “C” or better at least 3 hours (typically IE 561 during spring of the first year) of simulation as part of his or her graduate program.

**Work design and human performance.** Each candidate for the M.S.I.E. degree shall have completed the courses IE 253 and IE 351 or equivalent in his or her undergraduate program, or must pass IE 502 Work Design and Human Performance during the first year of his or her graduate program.

**Degree Requirements**

The IE department offers the M.S.I.E. degree with coursework available to support research (thesis or nonthesis) in one of the following areas of faculty expertise:

- operations research and systems engineering
- production/manufacturing engineering
- ergonomics/human factors engineering
- quality and reliability engineering
- information and expert systems
- engineering management
Minimum credit hour requirements are 24 hours of acceptable coursework and 6 hours of thesis research under Plan I, or 33 hours under Plan II. In all cases, the student's supervisory committee determines which courses are required, which courses are acceptable, and any permissible substitution or exceptions. Other general degree requirements are as follows:

1. Six hours of mathematics are required in addition to the minimum College of Engineering requirements, either during undergraduate or graduate study. In industrial engineering, these requirements are typically met by taking 6 hours of either operations research or engineering statistics courses with IE designations. In particular, GES 500 Engineering Statistics and GES 501 Operations Research, taken as remedial prerequisite courses, will constitute the 6 hours in mathematics even though they may not be counted toward the minimum hours required to graduate.

2. As detailed above, each student must satisfy the M.S.I.E. prerequisite requirements.

3. Major requirements: 18 hours of 500-level IE courses, which are in an area(s) approved by the supervisory committee. Six of these hours may be IE 599 Master's Thesis Research under Plan I. Hours earned in IE 598 Research Not Related to Thesis may not be used to satisfy the major requirements, but do count in the 33 hours total for Plan II students.

4. Six hours of graduate-level courses in a minor approved by the student's committee. Minors outside the department are acceptable, with the approval of the student's committee. Note that courses taken as part of the 6 hours for the minor cannot be counted in the 18 hours of major requirements.

5. Six hours of thesis research (IE 599) under Plan I, or 3–6 hours of nonthesis research (IE 598) under Plan II. (More than 6 hours of thesis or nonthesis research may be scheduled, but a maximum of 6 hours can be applied toward the M.S.I.E. degree.) Under Plan I, a thesis is produced that must meet all standards set forth by the Graduate School. Under Plan II, a research report is produced which is to be of the style and quality of a thesis but is not reviewed for acceptability beyond the examining committee. The 6 hours for thesis research should be distributed over two semesters, or one semester and the summer terms. The department encourages, but does not require, a 6-hour effort on nonthesis research. If 6 hours of nonthesis research are conducted, these hours are normally distributed over two semesters, but under exceptional circumstances and with approval of the supervisory committee, a student may take 6 hours in one semester or during two consecutive summer terms.

6. Six hours of approved electives under Plan I or 9 hours of approved electives under Plan II.

7. A student must enroll in the one-hour-per-week IE 595 Seminar each semester in which he or she is enrolled, except the semester in which he or she plans to graduate. That semester, the student enrolls in IE 596 Seminar for 1 hour’s credit. This seminar is an important part of the development of the student into a professional industrial engineer. It also promotes camaraderie among IE graduate students. Attendance and participation are mandatory.

Course Descriptions

**IE 415 Advanced Engineering Economics.** (3-0) Three hours.  
Prerequisites: IE 203 or CHE 479, and either GES 255, GES 400, or GES 500. 
Capital budgeting, decision making under risk and uncertainty, utility theory, cost estimation, and design of financial control through management simulation. (ES3)

**IE 417 Project Management.** (3-0) Three hours.  
Prerequisites: IE 203 or CHE 479, and GES 255 or equivalent. 
This is an engineering management course designed to introduce students to the functions of project engineers and managers. It details the process of planning and controlling project scope, time, and cost.
IE 418 Engineering Management. (3-0) Three hours. Same as GES 418.  
Prerequisite: IE 203 or equivalent.  
An introduction to management principles and the management functions of planning, organizing, motivating, and controlling. Management of research, design, manufacturing, and quality will be studied.  
IE 421 Reliability, Maintainability, and Total Productive Maintenance. (3-0) Three hours.  
Prerequisite: GES 255 or GES 500.  
Measures and methods of reliability engineering, maintainability engineering, and total productive maintenance, as used in the system design process. (ES2, ED1)  
IE 425 Statistical Quality Control. (3-0) Three hours.  
Prerequisite: GES 255 or GES 500.  
Use of statistical tools and techniques in the control of quality of manufactured products. Shewhart control charts; advanced control charts; capability analysis; single, double, and multiple sampling inspection plans. (ES3)  
IE 426 Design and Analysis of Experiments. (3-0) Three hours.  
Prerequisite: GES 257 or GES 400 or GES 500.  
Design of experiments and application of analysis of variance, regression analysis, and related statistical methods. (ES3)  
IE 430 Advanced Productivity Engineering. (3-0) Three hours.  
Prerequisites: IE 253 and either GES 257, GES 400, or GES 500.  
Advanced study and design of productivity improvement systems; study of productivity management philosophies and methods; and thorough study of systems to assess white-collar, indirect-labor, and direct-labor productivity. (ES1, ED2)  
IE 434 Ergonomics of Cumulative Trauma Disorders. (3-0) Three hours.  
Prerequisite: IE 351.  
Theory and application of ergonomics interventions to control occupation-related cumulative musculoskeletal injuries in industry. Field trips and design projects will provide experience in application of theoretical material. (ES2, ED1)  
IE 446 Advanced Information Systems Design. (3-0) Three hours.  
Prerequisite: IE 464.  
Current concepts in information systems architecture and applications. Including decision support systems and CASE tools. Emphasis placed on expanded use of systems design methodology. (ED2)  
IE 448 Expert Systems in Manufacturing. (3-0) Three hours.  
Prerequisite: IE 464.  
The objective of this course is to detail the methods by which expert systems technology may be applied to the manufacturing environment. Emphasis will be placed on knowledge of engineering techniques and the use of expert system shells. (ES1, ED2)  
IE 454 Safety Engineering. (3-0) Three hours.  
Prerequisites: GES 255 or equivalent, or consent of the instructor.  
An introduction to safety engineering and accident prevention, including related state and federal laws. Topics include impact of accidents on industry, state and federal regulatory laws, hazard identification, analysis, control techniques, accident investigation, and environmental and human factors. (ES3)  
IE 455 Product Safety Management. (3-0) Three hours.  
Prerequisites: GES 255 or equivalent, or consent of the instructor.  
Government regulations, court cases, and problems and solutions concerning product safety, for current and potential engineering and business managers. Reports, projects, discussions, and local field trips involving a wide range of products and services of interest to students. (ES2, ED1)  
IE 460 Facilities Planning and Design. (3-0) Three hours.  
Prerequisites: IE 203 and IE 321 or MTE 343.  
Economic factors in and techniques for the location and layout of a manufacturing facility; relationship of material handling and layout; and analysis and design of integrated material-handling systems. (ED3)
IE 461 Systems Simulation. (2-3) Three hours.
Prerequisites: GES 132 and IE 203.
Corequisite: GES 257.
Simulation methodology, emphasizing discrete, computer-simulation modeling. Writing proficiency is required for a passing grade in this course. (ES2, ED2)

IE 462 Material Handling and Distribution in Discrete Manufacturing. (3-0) Three hours.
Prerequisites: IE 364 and IE 321.
An investigation of material flow and physical distribution systems in discrete parts manufacturing. Topics include principles and techniques for the analysis and design of material handling systems, unit load design, equipment selection and justification, and warehousing and distribution logistics. (ES1, ED2)

IE 463 Systems Design I. (2-3) Three hours.
Prerequisites: IE 253, IE 363, and IE 460.
Corequisites: IE 351, IE 364, IE 461, and IE 425.
Application of the morphology and iterative process of systems design, with emphasis on designing and implementing solutions to actual industrial problems. Students function independently in manufacturing and service systems. Writing proficiency is required for a passing grade in this course. (ED3)

IE 464 Information Systems Design. (2-3) Three hours.
Prerequisite: IE 321.
An overview of management information systems (MIS) focusing on the practical aspects, applications, and methodology of MIS, particularly from the industrial engineer's perspective. Information systems design methodology is covered in detail. (ED2)

IE 466 Manufacturing Systems Design. (3-0) Three hours.
Prerequisites: IE 321 and IE 364.
Investigation of design issues and approaches for the analysis and design of manufacturing systems. (ES1, ED2)

IE 467 Production Planning and Control. (3-0) Three hours.
Prerequisites: GES 255 or GES 500, and IE 363 or GES 501.
Forecasting and estimation; aggregate planning; charts and network models; resource allocation; inventory control; sequencing and scheduling; dispatching; flow control; bills of materials; and requirements planning. (ES1.5, ED1.5)

IE 468 Inventory Systems. (3-0) Three hours.
Prerequisite: IE 467.
Introduction to the planning and operation of inventory systems, including independent demand models, hierarchical systems, in-process planning, just-in-time, and aggregate inventory considerations. (ES1, ED2)

IE 478 Advanced Linear Programming. (3-0) Three hours.
Prerequisite: IE 363 or GES 501.
Linear programming, duality, postoptimality analysis, decomposition principle, bounded and discrete variables, goal programming, and multi-objective programming. (ES3)

IE 485 Systems Design II. (1-6) Three hours.
Prerequisite: IE 463.
Corequisite: IE 467, IE 364, or IE 461.
Continuation of IE 463 Systems Design I, with emphasis on designing and implementing solutions to actual industrial problems. Students learn to function as team members to solve problems in manufacturing and service systems. (ED3)

IE 491:492 Special Problems (Area). One to six hours.
Prerequisite: Permission of the instructor.
Special topics courses designed to study in depth one or more topics related to industrial engineering. Credit awarded is based on the amount of work undertaken.

IE 502 Work Design and Human Performance. (2-2) Three hours.
Corequisite: GES 500 or equivalent. Not open to students who have earned credit for IE 253 or IE 351.
Design and evaluation of human-machine systems and working environments to optimize human productivity and performance, with emphasis on the industrial environment. (ES1, ED2)
IE 515 Advanced Engineering Economics. (3-0) Three hours.
Prerequisites: IE 203 or CHE 479, and either GES 255, GES 400, or GES 500. Not open to students who have earned credit for IE 415.
Capital budgeting, decision making under risk and uncertainty, utility theory, cost estimation, and design of financial control through management simulation. (ES3)

IE 517 Project Management. (3-0) Three hours.
Prerequisites: IE 203 or CHE 467, and GES 255. Not open to students who have earned credit for IE 417.
This is an engineering management course designed to introduce students to the functions of project engineers and managers. It details the processes of planning and controlling project scope, time, and cost.

IE 518 Engineering Management. (3-0) Three hours. Same as GES 518.
Prerequisite: IE 203 or CHE 479. Not open to students who have earned credit for IE 418.
An introduction to management principles and the management functions of planning, organizing, motivating, and controlling. Management of research, design, manufacturing, and quality will be studied.

IE 518 Reliability, Maintainability, and Total Productive Maintenance. (3-0) Three hours.
Prerequisite: GES 255 or GES 500. Not open to students who have earned credit for IE 421.
Measures and methods of reliability engineering, maintainability engineering, and total productive maintenance, as used in the system design process. (ES2, ED1)

IE 525 Statistical Quality Control. (3-0) Three hours.
Prerequisite: GES 255 or GES 500. Not open to students who have earned credit for IE 425.
Use of statistical tools and techniques in the control of quality of manufactured products. Shewhart control charts; advanced control charts; capability analysis; single, double, and multiple sampling inspection plans. (ES3)

IE 526 Design and Analysis of Experiments. (3-0) Three hours.
Prerequisite: GES 257, GES 400, or GES 500. Not open to students who have earned credit for IE 426.
Design of experiments and application of analysis of variance, regression analysis, and related statistical methods. (ES3)

IE 528 Advanced Design of Experiments. (3-0) Three hours.
Prerequisite: IE 426, IE 526, or GES 526.
Theory and application of experimental design, including randomized block, Latin squares, factorial, fractional factorial, and nested designs. (ES3)

IE 530 Advanced Productivity Engineering. (3-0) Three hours.
Prerequisites: IE 253 and either GES 257, GES 400, or GES 500. Not open to students who have earned credit for IE 430.
Advanced study and design of productivity improvement systems. Study of productivity management philosophies and methods. Thorough study of systems to assess white-collar, indirect-labor, and direct-labor productivity. (ES1, ED2)

IE 534 Ergonomics of Cumulative Trauma Disorders. (3-0) Three hours.
Prerequisite: IE 351 or IE 502. Not open to students who have earned credit for IE 434.
Theory and application of ergonomics interventions to control occupationally-related cumulative musculoskeletal injuries in industry. Field trips and design projects will provide experience in application of theoretical material. (ES2, ED1)

IE 546 Advanced Information Systems Design. (3-0) Three hours.
Prerequisite: IE 464. Not open to students who have earned credit for IE 446.
Current concepts in information systems architecture and applications, including decision support systems and CASE tools. Emphasis is on expanded use of systems design methodology. (ES1, ED2)
IE 548 Expert Systems in Manufacturing. (3-0) Three hours. Prerequisite: IE 464 or IE 546. Not open to students who have earned credit for IE 448.

The objective of this course is to detail the methods by which expert systems technology may be applied to the manufacturing environment. Emphasis will be placed on knowledge engineering techniques and the use of expert system shells. (ES1, ED2)

IE 554 Safety Engineering. (3-0) Three hours. Prerequisite: GES 255 or equivalent. Not open to students who have earned credit for IE 454, IE 502, or equivalent.

An introduction to safety engineering and accident prevention, including related state and federal laws. Topics include impact of accidents on industry, state and federal regulatory laws, hazard identification, analysis, control techniques, accident investigation, and environmental and human factors. (ES3)

IE 560 Facilities Planning and Design. (3-0) Three hours. Prerequisites: IE 203 and either IE 321 or MTE 343. Not open to students who have earned credit for IE 460.

Economic factors in and techniques for the location and layout of a manufacturing facility; relationship of material handling and layout; analysis and design of integrated material-handling systems. (ED3)

IE 561 Systems Simulation. (3-3) Three hours. Prerequisites: GES 132 and IE 203. Corequisite: GES 257 or GES 500. Not open to students with credit for IE 461. Simulation methodology, emphasizing discrete, computer-simulation modeling. (ES1, ED2)

IE 562 Material Handling and Distribution in Discrete Manufacturing. (3-0) Three hours. Prerequisites: IE 364 or GES 501, and IE 321 or equivalent. Not open to students who have earned credit for IE 462.

An investigation of material flow and physical distribution systems in discrete parts manufacturing. Topics include principles and techniques for the analysis and design of material handling systems, unit load design, equipment selection and justification, and warehousing and distribution logistics. (ES1, ED2)

IE 565 Advanced Systems Simulation. (3-0) Three hours. Prerequisite: IE 461 or IE 561. Simulation methodology; simulation modeling of complex systems using digital computers; computer models simulating operating characteristics of manufacturing plants and service industries. (ES1, ED2)

IE 566 Manufacturing Systems Design. (3-0) Three hours. Prerequisites: IE 321 and either GES 501 or IE 364. Not open to students who have earned credit for IE 466. Investigation of design issues and approaches for the analysis and design of manufacturing systems. (ES1, ED2)

IE 567 Production Planning and Control. (3-0) Three hours. Prerequisites: GES 255 or GES 500, and either IE 363 or GES 501. Not open to students who have earned credit for IE 467.

Forecasting and estimation; aggregate planning; charts and network models; resource allocation; inventory control; sequencing and scheduling; dispatching; flow control; bills of materials; and requirements planning. (ES1.5, ED1.5)

IE 568 Inventory Systems. (3-0) Three hours. Prerequisite: IE 467 or IE 567. Not open to students who have earned credit for IE 468.

Introduction to the planning and operation of inventory systems, including independent demand models, hierarchical systems, in-process planning, just-in-time, and aggregate inventory considerations. (ES1, ED2)
IE 577 Analysis of Queueing Systems. (3-0) Three hours.
Prerequisites: IE 364, or GES 500 and GES 501.
Continuous-time stochastic processes and transform methods; theory and application of Poisson queues; non-Poisson queues; and special topics such as bulk queues, tandem queues, and waiting-line behavior. (ES3)
IE 578 Advanced Linear Programming. (3-0) Three hours.
Prerequisite: IE 363 or GES 501. Not open to students who have earned credit for IE 478.
Linear programming, duality, postoptimality analysis, the decomposition principle, bounded and discrete variables, goal programming, and multi-objective programming. (ES3)
IE 591:592 Special Problems (Area). One to six hours.
Prerequisite: Permission of the instructor.
IE 595:596 Seminar. (1-0) One hour (each).
Presentation and discussion of recent journal articles of importance to the field of industrial engineering. Required each semester for industrial engineering students.
IE 598 Research Not Related to Thesis. Variable credit.
IE 599 Master's Thesis Research. Variable credit.
IE 613 Systems Engineering I. (3-0) Three hours.
Prerequisite: Permission of the instructor.
Modern practices and theory of design and analysis of systems in industry.
IE 614 Systems Engineering II. (3-0) Three hours.
Prerequisite: IE 613.
Continuation of IE 613 Systems Engineering I.
IE 622 Quality Engineering. (3-0) Three hours.
Introduction to Taguchi methods, including loss function, orthogonal arrays, and parameter design experiments; and role of Taguchi methods in quality function deployment (QFD) process. (ES3)
IE 631 Occupational Biomechanics. (3-0) Three hours.
Prerequisites: IE 351 or IE 502 and GES 257 or GES 400/500.
The human musculoskeletal system; statics and dynamics of anthropometry; analysis and measurement of body motions; analysis of force systems in the body; and applications of biomechanics in the design of the workplace, tasks, and hand tools to improve productivity and reduce injuries. (ES1, ED2)
IE 632 Work Physiology. (3-0) Three hours.
Prerequisites: IE 351 or IE 502 and GES 257 or GES 400/500.
Theory and techniques for measurement of the physiological costs of physical work, with applications in job design and worker selection. (ES2, ED1)
IE 633 Human Information Processing. (3-0) Three hours.
Prerequisites: IE 351 or IE 502 and GES 257 or GES 400/500.
Human mental capabilities and limitations, human-machine interfaces, mental workload, human-computer interfaces, human error, and system design. (ES2, ED1)
IE 634 Research Techniques in Human Engineering. (0-3) Three hours.
Prerequisites: IE 526 or GES 526, and IE 631 or IE 632, or IE 633.
Research design, laboratory vs. field experiments, methods of measurement, observation, data collection, and statistical analysis. (ES2, ED1)
IE 667 Discrete Event Control in Flexible Manufacturing. (3-0) Three hours.
Prerequisites: Graduate standing, IE 566, some C-programming experience, and at least one of the following: IE 670, IE 678, IE 679, IE 680, or IE 682.
This course presents recent developments in the modeling and implementation of discrete event controllers for large-scale flexible manufacturing automation. Emphasis will be placed on formal discrete event modeling, analysis, and control techniques.
IE 671 Decision and Value Theory. (3-0) Three hours.
Prerequisite: GES 501 and IE 364.
Decision models; utility curves; subjective probability; uncertain payoffs; value of information; revision of prior probability; decision trees; multi-attribute utility models; and risk sharing and group decisions. (ES3)
IE 679 Nonlinear Programming. (3-0) Three hours.
Prerequisite: GES 501 or IE 363.
Theory of and solution algorithms for nonlinear programs; and optimality conditions, convexity, linear approximation, gradient methods, search techniques, and geometric programming. (ES3)

IE 680 Network Optimization. (3-0) Three hours.
Prerequisite: GES 501 or IE 363 or equivalent.
Theories, algorithms, and applications for networks and graphs: shortest path, K-shortest, traveling salesman, multi-terminal flow, minimum cost flow, and multi-commodity problems. (ES3)

IE 682 Integer Programming. (3-0) Three hours.
Prerequisite: IE 363 or GES 501 or MGS 500 or equivalent.
Optimization in integer variables by cutting planes, branch-and-bound, group theoretic, and implicit enumeration. (ES3)

DEPARTMENT OF MECHANICAL ENGINEERING (ME)
Professor Stephen Kavanaugh, Interim Head
Office: 290 Hardaway Hall
The department offers programs leading to the master of science in mechanical engineering degree and the doctor of philosophy degree in the area of mechanical engineering.
Two basic plans are available for earning an M.S. degree, one requiring a thesis (Plan I) and one not requiring a thesis (Plan II). During the first semester in residence, a student enrolled in any graduate program should form a supervisory committee and, in counsel with an adviser, submit a program of courses for the degree. Forms and information for this purpose can be obtained in the departmental office.
Research. The department brings together a broad spectrum of research skills in the general areas of acoustics, vibrations, dynamics, controls, automation, machine design, manufacturing, thermodynamics, heat transfer, and fluid mechanics. To support research, the department maintains well-equipped laboratories for engines; computer-aided automation; heating, ventilation, and air-conditioning (HVAC); numerical modeling; vibro-acoustics and sound quality; metrology and precision engineering; and robotics. The department also maintains a modularized area capable of supporting many separate projects, as well as a student machine shop. Students have easy access to modern computer facilities, including a departmental student computer room.

Admission Requirements
An applicant for a mechanical engineering graduate program should normally have a baccalaureate degree in mechanical engineering from an ABET-accredited curriculum. Other applicants will generally be required to remove deficiencies in certain areas by taking appropriate courses for which no graduate credit will be awarded. Additional information regarding admission is in the “Academic Policies” section of this catalog.

Degree Requirements
Plan I departmental degree requirements. The following are the department’s requirements for the Plan I master’s degree:

1. A minimum of 24 semester hours of approved courses that together satisfy all other course requirements for the degree
2. A minimum of 12 semester hours in a major area, of which 3 hours may be in a closely related supporting area; at least 12 of the major hours must be at the 500 and/or 600 level
3. A minimum of 6 semester hours of mathematics taken in the Department of Mathematics or the College of Engineering
4. A minimum of 6 semester hours in an approved minor [normally satisfied when (3) above is satisfied]
5. An approved thesis
Plan II departmental degree requirements. The following are the department’s requirements for the Plan II master’s degree:

1. A minimum of 33 semester hours of approved courses that together satisfy all other course requirements for the degree
2. A minimum of 18 semester hours in a major area, of which 6 hours may be in closely related supporting areas; at least 18 of the major hours must be at the 500 and/or 600 level
3. A minimum of 6 semester hours of mathematics taken in the Department of Mathematics or the College of Engineering
4. A minimum of 6 semester hours in an approved minor [normally satisfied when (3) above is satisfied]

Doctor of philosophy departmental degree requirements. The following are the department’s requirements for the Ph.D. degree:

1. A minimum of 48 semester hours of approved courses that together satisfy all other course requirements for the degree
2. A minimum of 24 semester hours of coursework in the major technical area, of which 9 hours may be in closely related supporting areas
3. A minimum of 12 semester hours in any minor technical areas included in the student’s program of study

Course Descriptions

ME 500 Intermediate Fluid Mechanics. (3-0) Three hours. Same as AEM 500.  
Prerequisites: MATH 253, ME 215, and AEM 311.  
For description, see AEM 500.

ME 501 Mechanical Engineering Analysis I. (3-0) Three hours.  
Prerequisites: ME 309, ME 349, and ME 372.  
Analysis of mechanical engineering systems; presentations and application of advanced analysis techniques for continuous and discrete dynamic systems.

ME 502 Transport Phenomena. (3-0) Three hours.  
Prerequisites: ME 215 and AEM 311.  
Steady and transient mass; energy and momentum transport in ideal and real substances.

ME 503 Intermediate Gas Dynamics. (3-0) Three hours. Same as AEM 503.  
Prerequisites: ME 215 and AEM 311.  
Basic equations and concepts of compressible flow; shock and expansion waves; and development of the generalized one-dimensional equations and solution of these equations for various types of flow, using computer software.

ME 506 Foundations of Thermal Power Generation. (3-0) Three hours.  
Prerequisite: Graduate standing. Not open to students who have taken ME 406.  
Thermal power systems; components, process analysis and modeling, fuels, combustion, environmental aspects, and availability analysis in steam and gas turbine plants. Examination of recent trends such as cogeneration and combined cycles.

ME 509 Intermediate Heat Transfer. (3-0) Three hours.  
Prerequisites: ME 309 and AEM 311.  
Intermediate treatment of conduction, convection, and radiation heat transfer.

ME 516 Foundations of Energy Conservation and Management. (3-0) Three hours.  
Prerequisite: Graduate standing. Not open to students who have taken ME 416.  
Analysis and management of energy use in residential, commercial, and industrial applications, including lighting, heating and cooling, controls, and energy management systems. Topics include economics, auditing, energy management, and alternative energy sources.
ME 517 Controlled Environment System Design. (3-0) Three hours. 
Prerequisites: Graduate standing and ME 407. Not open to students who have earned credit for ME 417. 
Design and simulation of conventional and unconventional environment control systems. Heating, ventilation, and air conditioning (HVAC), thermal storage, solar, geothermal, demand reduction, measurement, and control. 

ME 518 Principles of Combustion I. (3-0) Three hours. 
Combustion thermodynamics, flame temperature and equilibrium compositions, ignition processes, detonation and deflagration, diffusion flames, and similitude; assigned papers. 

ME 541 Introduction to Biomedical Engineering. (3-0) Three hours. 
Prerequisites: MATH 253, PH 106, and either AEM 201 or AEM 361. 
Introduction to the relationship between engineering and medicine. Modeling musculoskeletal and cardiovascular systems. Review of medical devices such as non-invasive imaging devices, biopotential electrodes and amplifiers, and assistive technology. 

ME 550 Advanced Mechanical Design. (3-0) Three hours. 
Constitutive relationships, Castigliano’s method, fatigue, stochastic relationships, time-dependent properties, and other advanced topics. 

ME 553 Mechanical Reliability. (3-0) Three hours. 
Prerequisites: ME 363 and ME 358. 
Probabilistic methodology for assessing the reliability of a mechanical system at the design stage. 

ME 561 Techniques in Experimental Research. (2-3) Three hours. 
Prerequisite: ME 360. 
Design of experimental research systems; study of instrumentation, transducers, and related electronic components; data acquisition, error analysis, experiment planning, and proposal writing. 

ME 562 Intermediate Dynamics. (3-9) Three hours. Same as AEM 562. 
Prerequisites: MATH 238 and AEM 265, or permission of the instructor. 
Dynamics of systems in moving coordinate frames; Lagrangian formulation and Hamilton’s principle; stability and perturbation concepts for rigid body motion; motion of systems of rigid bodies in three dimensions. 

ME 567 Robotics and Control Hardware. (3-0) Three hours. 
Prerequisites: Graduate standing and ME 360. 
Corequisite: ME 475. Not open to students who have earned credit for ME 467. Familiarizes graduate students with the design of robots and control systems, with an emphasis on hardware used in real-world implementations. Extra outside reading assignments and projects distinguish ME 567 from its undergraduate counterpart, ME 467. 

ME 570 Mechanical Vibrations. (3-0) Three hours. Same as AEM 570. 
Prerequisites: ME 372 and AEM 250. 
Formulation and solution of free and forced vibration problems with single and multiple DOFs. Both modal and frequency response techniques are discussed. 

ME 571 Fundamentals of Acoustics. (3-0) Three hours. Same as AEM 571. 
Prerequisites: MATH 253, PH 106, and either ECE 320 or ECE 225. 
Fundamental physical principles underlying wave propagation and resonance in mechanical systems. Introduces applications and provides experience in acoustic and audio measurements and the associated instrumentation. (ES2, ED1) 

ME 577 Advanced Linear Control. (3-0) Three hours. Same as AEM/ECE 577. 
Prerequisite: ME 475. 
For description, see ECE 577. 

ME 578 Nonlinear Control Systems. (3-0) Three hours. Same as ECE 674/AEM 578. 
Prerequisite: ME 475. 
For description, see ECE 674. 

ME 591 Special Problems (Area). Variable credit. 
Credit awarded is based on the amount of work undertaken.
ME 594 Special Project. Two to six hours.
Planning, executing, and presenting results of an individual project involving a research
design, analysis, or similar undertaking.

ME 598 Research Not Related to Thesis. Variable credit.

ME 599 Master's Thesis Research. One to six hours.
Prerequisite: ME 215.
Classical macroscopic thermodynamic analysis of systems, pure substances, mixtures,
and reacting systems.

ME 605 Classical Thermodynamics. (3-0) Three hours.
Prerequisite: ME 309 or equivalent.
Classical macroscopic thermodynamic analysis of systems, pure substances, mixtures,
and reacting systems.

ME 607 Conduction Heat Transfer. (3-0) Three hours.
Prerequisite: AEM 309 or equivalent.
Transient, multidimensional heat conduction in various geometries, and the mathematical
and numerical means to analyze them.

ME 609 Convection Heat Transfer. (3-0) Three hours.
Prerequisite: ME 309 or equivalent.
Laminar and turbulent internal and external flow, natural convection, and the mathematical
and numerical means to analyze them.

ME 611 Finite-Element Analysis of Convective Heat Transfer. (3-0) Three hours.
Prerequisites: ME 309, AEM 311, and ME 349; or permission of the instructor.
Introduction to finite-element theory; Galerkin method of weighted residuals; shape
functions; isoparametric elements; finite-element convective-diffusion equation; upwind
methods; turbulence modeling; and utilization of commercial finite-element codes for
analysis of convective heat transfer.

ME 615 Statistical Thermodynamics. (3-0) Three hours.
Prerequisite: Permission of the instructor.
Statistical ensembles: Maxwell-Boltzmann, Bose-Einstein, and Fermi-Dirac statistics.
Application of statistical mechanics to thermodynamic processes.

ME 618 Principles of Combustion II. (3-0) Three hours.
Prerequisite: ME 518.
Parameters of confined combustion; evaporation of fuel, velocity of flames, detonation,
and chamber design; dynamic effects; and measuring techniques. Assigned papers.

ME 620 Finite Difference Methods in Fluid Dynamics. (3-0) Three hours. Same as
AEM/AEM 620.
Prerequisites: GES 126, MATH 253, and AEM 311.
For description, see AEM 620.

ME 621 Boundary Layer Theory I. (3-0) Three hours. Same as AEM 621.
For description, see AEM 621.

ME 629 Radiation Heat Transfer. (3-0) Three hours.
Prerequisite: ME 309.
Physical laws of thermal radiation; implications of entropy and probability; view factors;
geometrical and spectral characteristics; and absorbing-scattering media.

ME 662 Advanced Dynamics. (3-0) Three hours.
Prerequisite: ME 562.
Stability of autonomous and non-autonomous dynamical systems; Hamilton mechanics
and canonical systems; analytical solution applying perturbation techniques; and analysis
of dynamic behavior using geometric theory.

ME 665 Advanced Design of Automated Manufacturing Systems. (3-0) Three hours.
Prerequisite: ME 465.
Advanced studies in the design of industrial robotic systems using analytical and inter-
active computer-graphics techniques. Topics include robot kinematics and dynamics,
the reverse kinematics problem, numerical techniques, adaptive control theory, robot
motion planning, and trajectory specifications.

ME 677 Optimal Control. (3-0) Three hours. Same as ECE 677.
Prerequisite: ME 577.
For description, see ECE 677.
ME 678 Advanced Topics in Control. (3-0) Three hours. Same as ECE 678.
For description, see ECE 678.
ME 691:692 Special Problems (Area). Variable credit. Credit awarded is based on the amount of work undertaken.
ME 693 Selected Topics (Area). One to three hours.
Topics of current research in dynamics and controls, solid mechanics and structures, or thermal/ fluid sciences; applications to mechanical engineering.
ME 694 Special Project. Two to six hours.
Planning, executing, and presenting results of an individual project involving a research design, analysis, or similar undertaking.
ME 698 Research Not Related to Dissertation. One to six hours.
ME 699 Doctoral Dissertation Research. Three to twelve hours.

DEPARTMENT OF METALLURGICAL AND MATERIALS ENGINEERING (MTE)
Professor Richard C. Bradt, Head

The department offers programs leading to the master of science in metallurgical engineering degree and to the doctor of philosophy degree in the area of materials/ metallurgical engineering. An interdisciplinary Ph.D. degree in materials science is also offered (see the section "Interdisciplinary Programs" in this catalog). The graduate program in metallurgical and materials engineering allows for close association between graduate students and the faculty.

Research interests of the department include computer modeling of solidification and other metallurgical processes, thermodynamics and kinetics of molten metal processes, chemical metallurgy, metal-casting, corrosion phenomena, electrodynamics of molten metals, metal matrix composites, thin- film technology, tribology, magnetic materials, microgravity effects in solidification, modeling microstructural evolution, and micromechanical behavior in cast materials, fracture mechanics, refractories, molten salts, and phase equilibria. Facilities are available for directional and high-speed solidification, levitation melting, sputtering and chemical vapor-deposition, optical and electron microscopy, X-ray diffraction, corrosion, nanoindentation, and electrochemistry. A metal-casting facility is equipped with up-to-date metal melting and casting equipment and is one of the finest facilities in the United States for teaching, research, and service to the metal-casting and processing industry. Well-qualified machinists are available for construction of highly specialized research equipment.

Computational facilities are comprehensive, ranging from workstations, minicomputers, and PC units with associated data-acquisition peripherals to access the campus mainframe equipment.

Admission Requirements
Admission requirements are outlined in the “Academic Policies” section of this catalog.

Degree Requirements
Master of science departmental degree requirements. Plan I is the standard M.S. degree plan. However, in exceptional cases, a student who has the approval of his or her supervisory committee may follow Plan II. A student who believes there are valid reasons for using Plan II must submit a written request detailing these reasons to the department head no later than midterm of the first semester in residence.

All graduate students, during the first part and the last part of their programs, will be required to satisfactorily complete MTE 595 Seminar (first part) and MTE 596 Seminar (last part). This hour of required credit is in addition to the other degree requirements.
Doctor of philosophy departmental degree requirements. The program for the degree of doctor of philosophy in the area of materials/metallurgical engineering is conducted jointly with The University of Alabama at Birmingham (UAB). This arrangement permits sharing of facilities, exchange of faculty, joint seminars, and a wide choice of dissertation advisers. The Ph.D. degree in the area of materials science is also offered, in collaboration with UAB and The University of Alabama in Huntsville. Full details of this program may be found in this catalog in the section "Interdisciplinary Programs."

Course Descriptions

**MTE 417 Casting of Iron-Base Alloys.** (2-3) Three hours.
Prerequisite: MTE 416.
Advanced study of application of fundamental sciences to processing, microstructure evolution, and properties of iron-base alloys. Physico-chemistry of liquid metal as applied to melting and refining. Solidification science and thermodynamics of iron-carbon alloys. Processing microstructure-properties correlation in steel and cast iron.

**MTE 418 Advanced Casting of Non-Ferrous Alloys.** (2-3) Three hours.
Prerequisites: MTE 416.
Advanced study of application of fundamental sciences to processing, microstructure formation, and properties of advanced nonferrous alloys. Thermodynamics of melting and refining. Solidification processing of nonferrous alloys including aluminum, aluminum-lithium, titanium, superalloys, and magnesium. Processing-microstructure-properties correlation in nonferrous alloys.

**MTE 439 Metallurgy of Welding.** (3-0) Three hours.
Prerequisite: MTE 243.
Corequisite: MTE 373.
Thermal, chemical, and mechanical aspects of welding using fusion welding process. The metallurgical aspects of welding, including microstructure and properties of the weld, are also covered.

**MTE 441 Chemical Metallurgy.** (3-0) Three hours.
Prerequisites: MTE 353 and MTE 362.
Application of thermodynamics, fluid flow, and heat and mass transfer to the design and operation of chemical metallurgical processes; roasting, agglomerating, oxidation and reduction reactions, smelting, converting, and refining.

**MTE 442 Magnetic Recording Media.** (3-0) Three hours. Same as ECE 442.
Prerequisite: ECE 341 or MTE 271.
For description, see ECE 442.

**MTE 445 Materials Design Project.** (3-0) Three hours.
Prerequisite: MTE 495.
Corequisite: MTE 441.
A senior Capstone design experience that involves conduct of study and preparing a proposal, verbal and written presentations.

**MTE 449 Powder Metallurgy.** (3-0) Three hours.
Prerequisites: MTE 353 and MTE 474.
Describing the various types of powder processing and how these affect properties of the components made. Current issues in the subject area, from high-production to nanomaterials, will be discussed.

**MTE 455 Mechanical Behavior of Materials.** (3-0) Three hours. Same as AEM 455.
Prerequisite: AEM 250.
Flow and fracture of solids; uniaxial stress-strain as a reference behavior; theories of terminal instability under impact, monotonic, sustained (creep) and repeated (fatigue) loadings of solids under various states of stress.

**MTE 476 Physical Ceramics.** (3-0) Three hours.
Prerequisite: MTE 271.
Topics include ceramic raw materials, refractories, processing, and advanced ceramics.
MTE 481 Analytical Methods for Materials. (3-3) Three hours.
Prerequisite: MTE 373.
Introduction to methods of X-ray diffraction, electron microscopy, and surface analysis.

MTE 487 Corrosion Science and Engineering. (3-0) Three hours.
Prerequisite: CH 102 or permission of the instructor.
Fundamental causes of corrosion problems and failures. Emphasis is placed on tools and knowledge necessary for predicting corrosion, measuring corrosion rates, and combining this with prevention and materials selection.

MTE 491:492 Special Problems (Area). One to three hours.
Assigned individual problem. Credit awarded is based on the amount of work undertaken.

MTE 495:496 Seminar. (1-0) One hour (each semester).
Phases of metallurgical engineering not included in other courses are reviewed. Specialized topics are presented by visiting lecturers. Abstracts and projects are prepared and presented by students.

MTE 519 Solidification Science. (3-0) Three hours.
Prerequisites: MTE 363 and MTE 373, MTE 353, or permission of the instructor.
Thermodynamics of solidification, atomic scale phenomena (nucleation and growth), microscale phenomena (interface dynamics and formation of microstructure), and macroscale phenomena (macro-mass and heat transfer and formation of macrostructure).

MTE 520 Solidification Processing of Eutectic Alloys. (3-0) Three hours.
Prerequisite: MTE 519.
Thermodynamics of the liquid-solid transformation in alloys; growth of normal and anomalous eutectics; thermodynamics of iron-carbon and related phase diagrams; solidification and properties of cast iron; preconditioning and liquid treatment of cast iron melts; solidification and properties of aluminum-silicon alloys; and solidification and properties of in-situ composites.

MTE 539 Metallurgy of Welding. (3-0) Three hours.
Prerequisite: MTE 243 or permission of the instructor.
Corequisite: MTE 373.
Thermal, chemical, and mechanical aspects of welding using fusion welding process. The metallurgical aspects of welding, including microstructure and properties of the weld, are also covered. Various topics on recent trends in welding research.

MTE 542 Magnetic Recording Media. (3-0) Three hours. Same as ECE 542.
Prerequisite: ECE 341 or MTE 271.
For description, see ECE 542.

MTE 546 Macroscopic Transport in Materials Processing. (3-0) Three hours.
Prerequisite: MTE 353.
Elements of laminar and turbulent flow; heat transfer by conduction, convection, and radiation; and mass transfer in laminar and in turbulent flow. Mathematical modeling of transport phenomena in metallurgical systems, including melting and refining processes, solidification processes, packed bed systems, and fluidized bed systems.

MTE 549 Powder Metallurgy. (3-0) Three hours.
Prerequisites: MTE 353 and MTE 373.
Describing the various types of powder processing and how these affect properties of the components made. Current issues in the subject area, from high-production to nanomaterials, will be discussed.

MTE 556 Strengthening Mechanisms in Materials. (3-0) Three hours. Same as AEM 556.
Prerequisite: MTE/AEM 455.
Topics include elementary elasticity, plasticity, and dislocation theory; strengthening by dislocation substructure, and solid solution strengthening; precipitation and dispersion strengthening; fiber reinforcement; martensitic strengthening; grain size strengthening; order hardening; dual phase microstructures, etc.
MTE 562 Metallurgical Thermodynamics. (3-0) Three hours.
Prerequisite: MTE 362.
Laws of thermodynamics, equilibria, chemical potentials and equilibria in heterogeneous systems, activity functions, chemical reactions, phase diagrams, and electrochemical equilibria; thermodynamic models and computations; and application to metallurgical processes.

MTE 574 Phase Transformation in Solids. (3-0) Three hours.
Prerequisites: MTE 373 and MTE 562.
Topics include applied thermodynamics, nucleation theory, diffusional growth, and precipitation.

MTE 579 Advanced Physics of Metals. (3-0) Three hours.
Prerequisite: MTE 373.
Graduate-level treatments of the fundamentals of symmetry, crystallography, crystal structures, defects in crystals (including dislocation theory), and atomic diffusion.

MTE 580 Advanced Phase Diagrams. (3-0) Three hours.
Prerequisite: Permission of the instructor.
Advanced phase studies of binary, ternary, and more complex systems and experimental methods of construction and interpretation.

MTE 583 Advanced Structure of Metals. (3-0) Three hours.
Prerequisite: Permission of the instructor.
The use of X-ray analysis for the study of single crystals and deformation texture of polycrystalline materials.

MTE 585 Materials at Elevated Temperatures. (3-0) Three hours.
Prerequisite: Permission of the instructor.
Influence of temperature on behavior and properties of materials.

MTE 587 Corrosion Science and Engineering. (3-0) Three hours.
Prerequisite: CH 102 or permission of the instructor.
Fundamental causes of corrosion problems and failures. Emphasis is placed on tools and knowledge necessary for predicting corrosion, measuring corrosion rates, and combining this with prevention and materials selection.

MTE 591:592 Special Problems (Area). One to three hours.
Advanced work of an investigative nature. Credit awarded is based on the work accomplished.

MTE 595:596 Seminar. (1-0) One hour total credit.
Discussion of current advances and research in metallurgical engineering; presented by graduate students and the staff.

MTE 598 Research Not Related to Thesis. One to six hours.

MTE 599 Master's Thesis Research. One to twelve hours. Pass/fail.

MTE 622 Advanced Solidification Science and Processing. (3-0) Three hours.
Prerequisite: MTE 519.
Advances in solidification processing (skull melting, continuous casting, pressure-assisted casting, semisolid casting, spray casting), advanced casting materials (super-alloys; aluminum-lithium, magnesium, and titanium alloys; intermetallics; metal matrix composites), issues in solidification science, and modeling of solidification.

MTE 643 Magnetic Recording. (3-0) Three hours. Same as ECE 643.
Prerequisite: ECE 341 or MTE 271.
For description, see ECE 643.

MTE 644 Optical Data Storage. (3-0) Three hours. Same as MTE 644.
Prerequisite: ECE 341 or MTE 271.
For description, see ECE 644.

MTE 655 Electron Microscopy of Materials. (3-3) Four hours.
Prerequisite: MTE 481, BSC 656 or permission of the instructor.
Topics include basic principles of operation of the transmission electron microscope; principles of electron diffraction; image interpretation; and various analytical electron-microscopy techniques as they apply to crystalline materials.

MTE 691:692 Special Problems (Area). Variable credit. Credit awarded is based on the amount of work undertaken.
MTE 693 **Selected Topics (Area).** One to three hours.
Topics of current research in computer modeling of solidification, electrodynamics of molten metals, corrosion phenomena, microstructural evolution, and specialized alloy systems.

MTE 694 **Special Project.** Two to six hours.
Proposing, planning, executing, and presenting the results of an individual project.

MTE 695:696 **Seminar.** (1-0) One hour total credit.
Presentations on dissertation-related research or on items of current interest in materials and metallurgical engineering.

MTE 698 **Research Not Related to Dissertation.** One to six hours.

MTE 699 **Doctoral Dissertation Research.** Three to twelve hours.
Admission requirements. The master of science degree offered through the College of Human Environmental Sciences reflects a diverse range of missions and objectives. Enrollment in all specializations is limited and competitive. Admissions are supervised by committees of the graduate faculty in each of the specializations. General application and admission requirements are outlined in the “Academic Policies” section of this catalog. Students with deficiencies in undergraduate preparation may be required to complete designated undergraduate requirements before admission to the program.

General degree requirements. The following is a brief summary of requirements; students should refer to the Graduate Handbook of the College of Human Environmental Sciences for additional information.

A program plan for completing course requirements for the master’s degree must be approved by the student’s major adviser and committee and filed in the office of the dean of the College of Human Environmental Sciences no later than the beginning of the second semester of graduate study. Program plans are based on undergraduate preparation, previous experiences, and expressed objectives for graduate study. Students pursuing the master of science in human environmental sciences can specialize in one of the following areas: clothing, textiles, and interior design; consumer sciences; human nutrition and hospitality management; human development and family studies; and general studies in human environmental sciences. Students may complete degree requirements following Plan I (with thesis) or Plan II (without thesis).

All Plan I students must earn a minimum of 24 semester hours of credit, including HES 509, one course in statistics, and 18 hours in courses in the area of specialization and in areas supporting the specialization. A grade of “B” or better must be earned in all courses taken in the College of Human Environmental Sciences for application toward degree requirements. In addition, all Plan I students must complete at least 6 semester hours of thesis research and write a thesis. The format of the thesis may vary, depending on the advice and consent of the thesis committee. A final oral examination is required upon completion of the thesis, and a manuscript of publishable quality based on the thesis research is expected of each Plan I degree candidate.

Students pursuing the master of science in human environmental sciences degree under Plan II complete 30 hours of coursework and a final evaluation as determined by departmental guidelines. A grade of “B” or higher must be earned in all courses taken in the College of Human Environmental Sciences for application toward degree requirements.

AREAS OF SPECIALIZATION

Clothing, textiles, and interior design. The specialization in clothing, textiles, and interior design provides preparation for careers in higher education, business and industry, and government services, and for admission to doctoral programs in clothing, textiles, and interior design and related fields. The specialization is designed to stimulate independent thought and develop skills in problem solving, creativity, and research methods. Individualized programs of study are planned to develop professional competence in the student’s area of interest. Students applying for admission to the specialization in clothing, textiles, and interior design refer to the requirements for admission detailed in an earlier section of this catalog. All applicants must submit test scores from either the
Graduate Record Examination or the Miller Analogies Test in support of the application. All applicants in interior design must also submit portfolios for review.

**Consumer sciences.** The consumer sciences specialization offers preparation for careers in government, consumer protection, financial services, and extension, and for further study leading to the doctoral degree. Each student’s curriculum is determined individually, based on career goals and research interests. Core courses required of all students include HES 509, ST 550, and ST 551. The student may also pursue complementary study in areas such as business, social work, gerontology, and communication.

Thesis research offers each student the opportunity to work with faculty. Current research topics in the field include family and personal expenditure patterns; effects of credit use; time use; and individual and family resource management.

Students applying for admission to the specialization in consumer sciences refer to the requirements for admission detailed in an earlier section of this catalog. All applicants must submit test scores from either the Graduate Record Examination or the Miller Analogies Test in support of the application.

**General studies in human environmental sciences.** The specialization in general human environmental sciences is designed to permit students to pursue work in more than one area of human environmental sciences and/or to strengthen professional competence by selecting courses that support or complement an area of human environmental sciences, including Hospitality Management, Interactive Technology, Sports Medicine/Sports Administration, and the Certificate in Family Financial Planning and Counseling. Students interested in this specialization may complete in-depth studies in interactive technology or restaurant and hospitality management. Family and consumer sciences teachers may wish to pursue the strengthened subject matter option (SSMO) through the general studies specialization. Students may work under Plan I or Plan II.

Students applying for admission to the specialization in general studies refer to the requirements for admission detailed in an earlier section of this catalog. A student with a cumulative grade point average of 3.0, a GPA of 3.0 in the last 60 hours of coursework, or a GPA of 3.0 in a master’s degree program is not required to submit standardized test scores.

**Human development and family studies.** The specialization in human development and family studies provides students with the theoretical foundation and research skills necessary for pursuing doctoral work and for advanced employment in a wide variety of occupations serving children, adults, and families. Students can choose to concentrate in life-span human development, child life, or family studies. Students interested in the family studies concentration can apply for admission into the marriage and family therapy curriculum. Completion of the marriage and family therapy curriculum enables students to take the licensure examination leading to Clinical Membership in the American Association for Marriage and Family Therapy. Opportunities for research and experiential learning are provided in the College’s child development laboratories.

Students in human development and family studies have opportunities to work with faculty members conducting research in the following areas: personality and social development of children and adolescents; psychosocial care of children in health care settings; risk factors associated with child development outcomes; assessment of early intervention programs; social support and well-being of adults; family strengths; and the work/family interface.

Students applying for admission to the specialization in human development and family studies refer to the requirements for admission detailed in an earlier section of this catalog. All applicants must submit test scores from either the Graduate Record Examination or the Miller Analogies Test in support of the application.

A Ph.D. in educational psychology with a concentration in human development is available through a collaborative arrangement with the Department of Human Development and Family Studies and the educational psychology program in the College of Education. Contact the chairpersons of the educational psychology program at (205) 348-7575 for more information.

**Human nutrition.** The specialization in human nutrition and hospitality management prepares students to pursue doctoral study and to practice dietetics at an advanced level. The program develops research skills, stimulates independent thought, and provides
detailed up-to-date knowledge of the subject matter. A student seeking eligibility to take
the national examination to become a registered dietitian may apply for admission to
the coordinated program in dietetics.

Students specializing in human nutrition and hospitality management must complete
NHM 560, NHM 561, NHM 562, and 9 hours of electives offered in the department. In
addition, students must attend NHM 595 Seminar in Nutrition and Food during each
semester they enroll for 6 or more hours of graduate credit.

The thesis for the human nutrition and hospitality management specialization should
focus on current nutritional concerns in which the student has a special interest. Stu-
dents also have opportunities to participate in research with faculty members. Examples
of faculty research include obesity and dieting practices, maternal and infant nutrition,
healthy eating patterns, nutrition education and service delivery, and nutrient analysis
of foods.

The program in human nutrition participates in the University Scholars Program.
Qualified students begin graduate study in the senior year. This program leads to the
completion of requirements for both the bachelor’s and master’s degrees. A student
who wishes to exercise this option will normally apply to Phase 1 of the program in the
sophomore year; however, students may apply directly to Phase 2 of the program at
the end of the junior year. Procedures are detailed in the “Academic Policies” section
of this catalog.

Students applying for admission to the specialization in human nutrition refer to the
requirements for admission detailed in an earlier section of this catalog. A student with a
cumulative grade point average of 3.0, a GPA of 3.0 in the last 60 hours of coursework,
or a GPA of 3.0 in a master’s degree program is not required to submit standardized
test scores.

GRADUATE PROGRAM LEADING TO THE MASTER OF
ARTS AND DOCTOR OF PHILOSOPHY DEGREES

Health studies. The Department of Health Science offers the program in health
studies leading to the master of arts degree. Students complete one of two concen-
trations: health promotion or sports medicine health care. Graduates are trained to
conduct needs assessments, develop intervention programs, and implement health
promotion programs in a variety of settings. The master’s degree program emphasizes
programming relative to adolescent health, minority health, community health, health
promotion, disease prevention (worksite and hospital), and sports medicine health care.
The degree may be pursued under Plan I (thesis) or Plan II (nonthesis), as described on

A student applying for admission to the master of arts in health studies graduate
program with a cumulative grade point average of 3.0, a GPA of 3.0 in the last 60 hours
of coursework, or a GPA of 3.0 in a master’s degree program is not required to submit
standardized test scores.

The concentration in sports medicine health care has received approval to participate
in the University Scholars Program. Qualified students begin graduate study in the senior
year. This program leads to the completion of requirements for both the bachelor’s and
master’s degrees. In some cases, the bachelor’s and master’s degrees may be awarded
simultaneously; the completion of the master’s degree, however, may require an ad-
ditional time period. A student who wishes to exercise this option will normally apply to
Phase 1 of the program in the sophomore year; however, students may apply directly to
Phase 2 of the program at the end of the junior year. Procedures are detailed in the
“Academic Policies” section of this catalog.

The doctor of philosophy (Ph.D.) degree is also offered, specializing in health educa-
tion and health promotion. Candidates are supervised under a mentoring model that
matches students with program faculty in areas of their research interests within the field
of health education and health promotion. The degree program is offered jointly by three
programs located in the College of Human Environmental Sciences at The University of
Alabama, the School of Public Health at The University of Alabama at Birmingham (UAB),
and the School of Education at UAB. Due to the nature of the program, it has special
admission and program requirements. For information, please contact the chairperson of the Department of Health Science, Box 870311, Tuscaloosa, AL 35487-0311.

Admission and degree requirements for the Graduate School are detailed in an earlier section of this catalog. Admission requirements specific to the program and in addition to those of the Graduate School, College, and department include the following:

- A grade point average of 3.0 overall (on a 4.0 scale), or in the last 60 hours in a bachelor-level program
- An acceptable score on the Graduate Record Examination general test or Miller Analogies Test
- A 3.25 grade point average in all graduate work
- In addition, the following criteria will be considered: (a) evidence of scholarship, (b) statement of career goals, and (c) recommendations from faculty or other health professionals capable of judging the applicant’s ability to complete graduate work

Students can be admitted to either the UA or UAB campus. In either case, students must be approved for admission by a joint admission committee of the Ph.D. program. Candidates for admission must have completed a bachelor’s or master’s degree from an accredited institution in health education or a health-related field.

COLLEGE OF HUMAN ENVIRONMENTAL SCIENCES (HES)
Professor Judith Bonner, Dean
Professor Milla Boschung, Assistant Dean
Professor Steven Thoma, Chair, Graduate Committee

HES 509 Research Methods. Three hours.
Introduction to theories and methods of research appropriate for home economics; examination and evaluation of current research. Selection and planning of a research project are required.

HES 510 Interpretation of Statistical Research Findings. Three hours.
Evaluation and analysis of research findings in the area of home economics.

HES 590 Special Problems. Three to six hours.

HES 598 Research Not Related to Thesis. One to three hours.
Development of a professional paper on a topic selected by the student and approved by the graduate committee.

HES 650 Special Topics in Human Environmental Sciences. Three hours.
Critical analysis of current issues in selected areas of human environmental sciences. May be taken up to a total of four times.

DEPARTMENT OF CLOTHING, TEXTILES, AND INTERIOR DESIGN (CTD)
Professor Carolyn Callis, Head

Information on prerequisites and scheduling of courses should be obtained from the department head.

CTD 425 Interior Design III. Four hours. One lecture, three laboratories.
Prerequisites: CTD 325 and CTD 326.
Problems in the design of the home environment are presented for individual and group problem solving. Emphasis is on historic preservation principles and practices for interior designers.

CTD 426 Interior Design IV. Four hours. One lecture, three laboratories.
Prerequisites: CTD 325 and CTD 326.
Problems in the design of business and professional interiors are presented for individual and group problem solving.
CTD 447 Textiles and Apparel in International Trade. Three hours. Prerequisites: EC 110 or EC 111, and CTD 281. Study of the evolution of the textile industry and its products, with emphasis on multinational characteristics and contemporary issues.

CTD 524 Advanced Programming and Project Development. Three hours. Problem analysis, research, and programming as a basis for design decisions in project development.

CTD 525 Interior Design V. Three hours. Planning, executing, and presenting results of an individual project, utilizing theories and applications to solve residential interior design problems.

CTD 526 Interior Design VI. Three hours. Planning, executing and presenting results of an individual project, utilizing theories and applications to solve contract interior design problems.

CTD 546 Cultural Dynamics of Apparel and Textiles. Three hours. Examination of the impact of cultural dynamics on apparel and textile production and marketing.

CTD 548 History of Costume. Three hours. Study of costume development from prehistoric to modern times; includes cultural forces in relation to the evolution of costume.

CTD 549 Socio-Psychological Aspects of Clothing. Three hours. Prerequisite: Six hours or equivalent in sociology and psychology. Application of behavioral-science theories to clothing.

CTD 550 Apparel Design. Three hours. Application of design principles to apparel through research and problem-solving techniques; recognition of special clothing needs.

CTD 561 Experimental Textiles. Three hours. Prerequisite: CTD 361 or CTD 461. Planning, executing, and reporting textile research based on experimental methods.

CTD 562 Textile Analysis and Evaluation. Three hours. One lecture, two laboratories. Study of chemical and physical analysis of fibers and fabrics.

CTD 581 Practicum in Clothing and Textiles. Three hours. Prerequisite: Permission of the department head and professor. Supervised experience in a business related to the major field of study.

CTD 582 Practicum in Interior Design. Three hours. Prerequisite: Permission of the department head and professor. Supervised experience in a business related to the major field of study.

CTD 590 Special Problems in Clothing. One to four hours. Independent investigation of selected topics in clothing.

CTD 591 Special Problems in Interior Design. One to four hours. Independent investigation of selected topics in interior design.

CTD 592 Special Problems in Textiles. One to four hours. Independent investigation of selected topics in textiles.

CTD 593 Readings in Clothing and Textiles. Three hours. Comprehensive review and critical evaluation of the literature in clothing and textiles.

CTD 594 Readings in Interior Design. One to four hours. Comprehensive review and critical evaluation of the literature in interior design.

CTD 595 Clothing, Textiles, and Interior Design Research I. Three hours. Discussions emphasizing contemporary issues, trends, relevant research, professional problems, and interests of students.

CTD 596 Research II in Clothing and Textiles. Three hours. Survey and evaluation of current research in interior design.

CTD 597 Research II in Interior Design. One to four hours. Survey and evaluation of current research in interior design.

CTD 598 Research Not Related to Thesis. One to three hours. Development of a professional paper on an apparel, textile, or interior design topic selected by the student and approved by the graduate program committee.

CTD 599 Thesis Research. One to six hours.
DEPARTMENT OF CONSUMER SCIENCES (CSM)
Professor Milla Boschung, Head
Office: 212 Adams Hall

Information on prerequisites and scheduling of courses should be obtained from the department head.

CSM 500 Personal Insurance Planning and Management. Three hours.
A survey of the myriad of personal risks facing consumers and families throughout the lifecycle. An emphasis is placed on the fundamentals of risk management. Includes a comprehensive study of insurance products.

CSM 501 Consumer Protection. Three hours.
Study of laws and agencies affecting the consumer’s well-being, sources of consumer information, and discussion of current consumer issues.

Addresses current social and economic problems facing the American family.

CSM 503 Recent Developments in Family Economics. Three hours.
Prerequisites: Undergraduate study in the area and a basic understanding of economic principles.
Current theories in the management of family resources, consumer behavior and demand, and wealth and welfare are presented.

CSM 504 Personal Investment Planning and Management. Three hours.
This course is about personal investing in marketable securities. It covers the basics of investing, including detailed definitions of investment terms, descriptive material on how securities are purchased and sold, theoretical models of security valuation and practical examples on how to calculate growth rates.

CSM 505 Public Policy: Analysis of Family and Community Resources. Three hours.
Identification, utilization, and evaluation of community resources; evaluation of the impact of public policy on families.

CSM 510 Personal Retirement Planning and Employee Benefits. Three hours.
Fundamentals of personal retirement planning and the selection of employee benefits.

CSM 520 Personal Estate Planning. Three hours.
Techniques of personal estate planning within the family life cycle.

CSM 521 Consumer Communications. Three hours.
Principles, methods, techniques, and resources used in developing, presenting, and evaluating a complete consumer communications program.

CSM 525 Consumer Conflict Resolution. Three hours.
Exploration of practical conflict management and a survey of the theory and practice of formal mediation. Explores the history, nomenclature, strategies, and approaches to conflict mediation.

CSM 530 Family and Consumer Law. Three hours.
The study of family and consumer law in specific issues of marriage, parent-child relationships, divorce, and the economic consequences of divorce, as well as consumerism and a general understanding of the legal system and adversarial proceedings.

CSM 537 Developing the Leader Within. Three hours.
In-depth analysis of leadership principles, qualities, styles and models with a focus on developing leadership skills, potential within the individual students. Designed to assist students in identifying opportunities for improvement.

CSM 540 Evaluation of Household Equipment. Three hours.
Designed for the student with limited undergraduate study in household equipment. Evaluation of equipment designed for use in the home; planning and conducting performance tests.

CSM 541 Development of Household Equipment. Three hours.
Prerequisite: CSM 240 or CSM 540.
Traces the development of household equipment from the focus group through all developmental processes to the final marketing.
CSM 545 Microcomputers in Consumer Sciences. Three hours.
Encompasses technical skills and scientific methodologies that can be used to create computer-based solutions to real problems encountered in home economics.

CSM 547 Digital Resources for Multimedia, Electronic Portfolio and Internet Applications. Three hours.
Prerequisites: Completion of required modules.
Provides students with skills to live and work in a digital environment by developing technological skills in use and application of computers, internet and other digital tools.

CSM 548 Web-Based Consumer Instruction. Three hours.
Prerequisites: Completion of required modules.
Provides consumer educators for the virtual training environment. Provides overview of processes used in developing a Web-based consumer course. Overview of online instructional techniques.

CSM 550 Consumer Economics. Three hours.
Examination of the role of the consumer in the economy; economic analysis of market and non-market consumption activities, incorporating relevant social, psychological, political, and ecological considerations.

CSM 554 Personal Income Tax Management and Planning. Three hours.
An analysis of personal income tax management and planning as it relates to consumers and families throughout the life cycle.

CSM 555 Food Economics. Three hours.
Study of the world’s food supplies and population; food consumption patterns and nutritional adequacy in the U.S.; and national and international policies and programs to combat hunger and malnutrition.

CSM 562 Cognition, Strategies, and Technology. Three hours.
This course lays some of the cornerstones of the program, guiding students in the development of their philosophy and understanding about the use of technology in teaching and learning as well as human interactions. Topics will include synchronous vs. asynchronous learning, paradigm shifts in how people learn, and a review of the theory serving to underpin this topic.

CSM 564 Multimedia Tools. Three hours.
The focus of this course is the use of a broad range of multimedia tools, including the skills considered core skills required to function in the asynchronous environment of this online degree program. Tools to be included are those related to the efficient use of e-mail and file sharing and editing in a collaborative environment; also included will be tools specific to the development of tutorials, presentation media and other development tools.

CSM 566 Multimedia Design and Development. Three hours.
Prerequisites: CSM 562 and CSM 564.
Students enrolled in this course will review the basic schools of thought and major theorists in the field of electronic design and development. In addition, students will learn advanced development tools in the context of actual design and development projects. Students will have an opportunity to combine an understanding of the theory of design and development with advanced tools.

CSM 568 Introduction to Networking Systems. Three hours.
Prerequisite: Graduate standing.
Network management will be introduced, including the basic components of a Local Area Network (LAN) and its application to an organization such as a school or other non-technical organization. Software associated with networking systems will be taught as well as specific conditions that may arise, such as filtering and tracking. Ethics and privacy issues will also be addressed.

CSM 570 Coordination and Delivery of Information Using Digital Technologies. Three hours.
An ever-growing range of options are available for delivering information via digital technologies, including web-based tutorials, online courses, video conferencing, multimedia presentations, computer-assisted instruction delivered over a network or at a free-standing machine, and, using wireless, hand held devices. Therefore, the tools needed to coordinate these technologies will be addressed from the viewpoint of developer and content manager.
CSM 572 Needs Assessment, Planning and Evaluation. Three hours.
Prerequisites: Graduate standing, CSM 562, CSM 564, CSM 568, and CSM 570.
Program evaluation strategies based on systems theory model for comprehensive planning, formative and summative evaluation.

CSM 575 Entrepreneurship in HES. Three hours.
Offers sound advice and vital practical help on developing an idea into a business and the different aspects of managing a home-based or small business. Examines each segment of creating and managing a small business.

CSM 580 E-Commerce at CHES. Three hours.
Gives sound advice and vital practical help on developing an idea into a business on the Internet. Addresses the different aspects of designing a Web site, Internet marketing, the role of search engines, and measuring the effectiveness of an Internet strategy.

CSM 581 Practicum. Three hours.
Prerequisite: Permission of the department head and professor.
Supervised experience in a related business, industry, or social agency.

CSM 586 Consumer/Employee Assistance Programs. Three hours.
A survey of the theory and practice of Employee/Consumer Assistance Programs (EAP).

CSM 590 Special Problems in Consumer Affairs. Two to six hours.

CSM 591 Special Problems in Consumer and Family Economics. Two to six hours.
Prerequisite: Study in family economics approved by the department.

CSM 592 Special Problems in Family Financial Planning and Counseling. Two to six hours.

CSM 595 Seminar. One to four hours.
Current developments and research in selected areas are presented.

CSM 599 Thesis Research. One to six hours.

DEPARTMENT OF HEALTH SCIENCE (HE)

Professor Stephen Nagy, Director 204 Foster Auditorium
Program in Health Education and Health Promotion
Professor Kenneth Wright, Director 200 Foster Auditorium
Sports Medicine Health Care Concentration

Course Descriptions (HAT)

An overview of current research and theories as they relate to the physically active population.

HAT 552 Seminar in Sports Medicine Health Care. Three hours.
A review of historical, philosophical, educational, and managerial issues in sports medicine health care.

HAT 554 Preventive Techniques in Sports Medicine Health Care. Three hours.
Designed to examine preventive techniques that reduce the occurrences of injury to physically active individuals.

HAT 555 Pharmacology and Pathology in Athletic Training. Three hours.
The study of acute and chronic illnesses and their response to, and impact on, physical activity. Discussion of pharmacological agents used on athletes and others engaged in physical activity.

Prerequisites: HAT 550, HAT 552, HAT 554, and HAT 560.
This course is designed to assist the allied health professional in submission of scholarly research for publication, development of technology / multimedia product, or obtainment of grant.
HAT 559 Management Strategies for Allied Health Professionals. Three hours. Designed for the entry-level allied health professional to study, review, and implement management strategies and competencies that relate to the physically active population.

HAT 560 Practicum in Sports Medicine Health Care. Three hours. Prerequisites: HAT 550, HAT 552, and HAT 554. Under the supervision of a qualified health care professional, the graduate student will experience scholarly activities related to job-specific tasks in a sports medicine health care setting.

HAT 570 Fellowship in Sports Medicine Health Care. Three to nine hours. Prerequisites: HAT 550, HAT 552, HAT 554, and HAT 560. Under the supervision of a qualified health care professional, the graduate student will experience scholarly activities related to job-specific tasks in a sports medicine health care setting.

Course Descriptions (HHE)
HHE 495:595 Workshop in Health Education. One to six hours. Short-term, concentrated course with emphasis on selected aspects of school, work site, community, or college programs in health education.

HHE 502 Current Research in Health Promotion. Three hours. A broad review of current published research in health promotion, with emphasis on practical application of research findings.

HHE 503 Problems in Health Education. Three hours. Detailed individual study of problems in health education and health promotion.

HHE 504 Health Counseling. Three hours. Diagnoses of individual needs and study of typical counseling cases; includes counseling, theory, and process related to health promotion.

HHE 505 Health Education Curriculum and Instruction. Three hours. Discussion of curriculum development. Emphasis is on evaluation of objectives, principles, methods, materials, and curriculum guides in health education.

HHE 506 Techniques of Research. Three hours. Designed to acquaint the student with the types of research and the methods and materials necessary for scientific inquiry; includes development of a research proposal, with emphasis on form and style.

HHE 515 Advances in Health Promotion. Three hours. Open to graduate students in all divisions of the University. Designed to provide understanding pertaining to advances in the health sciences.

HHE 520 Health Behavior. Three hours. Designed to review research literature regarding health behavior and to analyze various models developed to explain health behavior.

HHE 525 Human Sexuality and Sex Education for Educators. Three hours. Study of current scientific knowledge of human sexuality. Emphasis is given to the role of formal and informal educational approaches.

HHE 530 Health Promotional Techniques. Three hours. Study of current health promotional techniques and programs, designed to facilitate health behavioral change. Emphasis on review of scientific literature concerning the development, implementation, and evaluation of health promotion schemes.

HHE 540 Stress: Theory, Disease, and Management. Three hours. An examination of the physiological nature of stress and its interrelationships with health and disease. Emphasis is on review of scientific literature.

HHE 550 Minority Health Issues. Three hours. Designed to investigate health issues as they relate to minority populations. Emphasis is on development of strategies to effectively address health problems of minorities.

HHE 566 Evaluation in Health Education. Three hours. Formative, process, and outcome evaluation methods used to effectively evaluate health education/health promotion activities and programs in the community, school and worksite are reviewed.
HHE 585 Laboratory and Field Experience. One to six hours each. Provides for teaching laboratory, internship, and/or practicum experiences for students, according to individual needs and goals.

HHE 595 Workshop in Health Promotion. One to six hours. Advanced study of special topics in health education and health promotion.

HHE 596 Independent Study in Health Education. One to six hours. Designed to provide the opportunity for independent research in any area of health education.

HHE 598 Nonthesis Research. Three hours. Experimental or analytical investigation of health promotion problems.

HHE 599 Thesis Research. One to six hours. Research study in a selected area of health promotion.

HHE 602 Readings in Health Education. Three hours. An independent readings course for doctoral students.

HHE 603 Special Projects in Health Education. Three hours. Experimental or analytical investigations of problems in health education. Arranged on an independent basis for doctoral students.

HHE 604 Seminar in Health Education. Three hours. Critical and emerging issues in health education and health promotion.

HHE 605 Advanced Theoretical and Scientific Basis of Health and Health Promotion. Three hours. Examination of theoretical, scientific, historical, and philosophical issues that serve as a basis for health education and health promotion.

HHE 606 Planning and Administration of Health Education and Promotion Programs. Three hours. A comprehensive examination of models for planning health education and health promotion programs.

HHE 607 Health Communication Research. Three hours. An examination of theoretical tenets and practical applications of health communication initiatives.

HHE 667 Organization and Implementation of Health Education and Health Promotion Programs. Three hours. Study of planning and evaluation methods and procedures for health education and promotion programs; emphasis on review of current scientific literature.

HHE 685 Field Work and Laboratory Experience. One to six hours. Arranged on an independent basis for doctoral students. Participation and research in schools, communities, or work site settings.

HHE 698 Research. Three hours. Prerequisite: Doctoral student standing. Experimental or analytical investigation of problems in health.

HHE 699 Dissertation Research. Three to twelve hours. Design, research, and/or analytical investigation of a problem in the area of health to satisfy the dissertation requirement for the doctoral degree.
HD 501 Child Development. Three hours. Covers principles of growth and development, chief areas of concern in the field, and supporting research.

HD 502 Infant Development. Three hours. Examination of theoretical bases for behavior in infancy, and review of research literature on attachment behavior and various topics of major concern.

HD 512 Adult Development. Three hours. Theories of and research on development throughout adulthood — young adulthood, middle years, and aging are presented.

HD 513 Adult Development: Exploring Intergenerational Commonalities. Three hours. This course extends students’ cross-generational understanding through active learning, experiences with older adults.

HD 518 Adult Development: Exploring Intergenerational Commonalities. Three hours. Extends students a cross-generational understanding through active learning experiences with older adults.

HD 525 Infant/Toddler Curriculum and Program Design. Three hours. Offers students opportunities to evaluate appropriate curricular practices as they apply to infant and toddler programs. Through the study of past and contemporary educational thought, basic principles of curriculum and program design will be evaluated.

HD 533 Cultural Influences on Children and Families. Three hours. Study of the impact of cultural factors on the developing child and the family.

HD 535 Parent/Child Relationships. Three hours. Theories and research on parent/child relationships and an examination of how the parent/child relationship influences aspects of child development. Basic models of parent education and parent involvement are also examined.

HD 550 Hospitalized Children and Youth. Three hours. The developmental and psychological theories involved in the practice of child life in health care settings.

HD 551 Loss and Bereavement. Three hours. Provides students with a general overview of the grief processes as they impact children and families. Examines issues surrounding children’s grief/bereavement and studies issues surrounding complicated mourning.

HD 552 Clinical Skills Development in Child Life. Three hours. Seminar designed to examine basic assessment skills necessary for working in the field of child life.

HD 561 Theories in Family Studies. Three hours. Historical overview of and contemporary theoretical approaches for understanding family behavior. Theoretical perspectives (such as systems, exchange, developmental, behavioral, and symbolic interaction) are applied to family research and practice.

HD 562 Dynamics of Family Relations. Three hours. Study of interaction within the family, with emphasis on historical changes, major issues, marriage success and family strengths, and family processes such as communication and conflict patterns. A focus on ethnic and racial family forms is also included.

HD 566 Family Assessment. Three hours. Skills and methods for assessing relationships and families are presented.

HD 567 Pre-Practicum in Marriage and Family Therapy. Three hours. Prerequisite: Permission of the instructor. Provides students with preliminary supervised experience in a professional setting.
HD 568 Practicum in Marriage and Family Therapy I. Three hours.  
Prerequisite: Permission of the instructor  
Provides students with supervised practice in marriage and family therapy.

HD 576 Seminar in Human Sexuality. Three hours.  
Discussion and analysis of underlying issues in human sexuality research.

HD 577 Psychology of Morality. Three hours.  
An overview of the psychology of morality with a focus on the chief areas of research in the field, including measurement, gender, cross-cultural, and educational issues.

HD 591 Special Problems in Human Development and Family Studies. One to six hours.  
Prerequisite: Permission of the department head and professor.  
Provides an opportunity to pursue special needs and interests. Students work primarily on their own, but under supervision.

HD 592 Special Problems in Child Life. One to six hours.  
Prerequisite: Permission of the department head and professor.  
Provides an opportunity to pursue special needs and interests. Students work primarily on their own, but under supervision.

HD 595 Seminar in Human Development and Family Studies. One hour.  
Concerns, issues, and research trends and developments in the discipline of human development and family studies are covered.

HD 598 Research Practicum. One to six hours.  
Prerequisite: Permission of instructor.  
Participation in a cooperative faculty/student research project related to human development.

HD 599 Thesis Research. One to six hours.

HD 602 Advanced Infant Development. Three hours.  
Integration of theory and research related to infant behavior and development.

HD 603 Adolescent Development. Three hours.  
Theories of and research on adolescent development are presented. Includes an examination of physical, cognitive, and personality/social development within the context of the family, schools, and peer relations.

HD 612 Advanced Adult Development. Three hours.  
Evaluation of theories and research on development throughout adulthood.

HD 626 Observational Methods in Developmental Research. Three hours.  
An examination of the theory and practice of various observational techniques for studying children and parent-child interaction.

HD 631 Readings in Human Development. Three hours.  
With an interdisciplinary approach to issues and concerns in life-span development, the course examines theory and research on selected topics.

HD 661 Theoretical Issues in Family Studies. Three hours.  
Examination of contemporary theoretical approaches for understanding family behavior.

HD 664 Family Crises. Three hours.  
Research and theory related to family stresses, hardships, and coping strategies in response to normative and non-normative life events are presented. Emphasis is on the importance of family resources and social networks in stress management.

HD 667 Practicum in Marriage and Family Therapy II. Three hours.  
Prerequisite: Permission of the instructor and HD 567 and HD 568.  
Advanced supervised practice in marriage and family therapy.

HD 668 Internship in Marriage and Family Therapy. Six hours.  
Prerequisite: Permission of the instructor  
Supervised field experience in an appropriate job setting in marriage and family therapy.

HD 689 Practicum in Human Development. Three to six hours.  
Prerequisite: Permission of the department head and professor.  
Experience with human development in classroom teaching or agency settings.
HD 698 Nondissertation Research. Variable credit.
Prerequisite: Permission of the professor.
Participation in a cooperative faculty/student research project related to human development.

DEPARTMENT OF HUMAN NUTRITION AND HOSPITALITY MANAGEMENT (NHM)
Professor Olivia Kendrick, Graduate Coordinator
Office: 206 Doster Hall

Information on prerequisites and scheduling of courses should be obtained from the graduate coordinator.

NHM 501 Nutrition for Health Professionals. Three hours.
Practical application of principles of normal nutrition, including nutritive value of foods; introduction to nutrition in diseased states. Primarily for health-careers students.

NHM 509 Outcomes in Nutrition and Other Health-Related Services. Three hours.
Students will learn how outcome measures and indicators are used in clinical decision making, evaluation, and organizational and process improvement activities.

NHM 554 Experimental Food Science. Three hours.
Experimental approach to studying the chemical and/or physical nature of food; related research literature; and individual experimentation.

NHM 555 Recent Advances in Food and Nutrition. Three hours.
Individual study and group discussions of topics related to recent advances and current problems in food and nutrition.

NHM 557 Childhood Obesity. Three hours.
Focuses on the physiological, genetic, environmental, and behavioral factors that predispose children and adolescents to obesity; explores the clinical and public health strategies for treatment and prevention.

NHM 560 Nutrition in the Life Cycle. Three hours.
Application of basic principles and research findings to nutrition needs throughout the life cycle; origin of food habits; nutritional status; and malnutrition.

NHM 561 Advanced Nutrition. Three hours.
Lectures and reports on and discussions of the functions of vitamins and minerals in physiological processes.

NHM 562 Advanced Nutrition. Three hours.
Lectures and reports on and discussions of the functions of proteins, carbohydrates, and lipids in physiological processes.

NHM 565 Methods of Food and Nutrition Investigation. Three hours.
Principles of food science and nutrition research are covered.

NHM 566 Advanced Clinical Nutrition. Three hours.
Prerequisite or corequisite: NHM 561 or NHM 562.
Critical review of the physiological basis for nutritional management in the prevention and/or treatment of diseases of the cardiovascular, gastrointestinal, endocrine, hepatic, and renal systems.

NHM 567 Nutrition Support for the Critically Ill. Three hours.
Prerequisite or corequisite: NHM 561 or NHM 562.
Methods of assessing nutritional requirements of the critically ill patient and of delivering and monitoring enteral and parenteral nutrition are presented.

NHM 568 Strategies for Dietary Counseling. Three hours.
Counseling skills and selected counseling theories are examined for their applicability to and use in dietary counseling.

NHM 569 Advanced Community Nutrition. Three hours.
Analysis of the structure and function of community nutrition programs.
NHM 581 Practicum in Clinical Nutrition. Three to six hours.
Prerequisites: NHM 566 and NHM 567.
Planned clinical practice in specialized areas such as neonatal intensive care, pediatrics, gastroenterology, cardiology, nephrology, and nutrition support service.

NHM 582 Practicum in Community Nutrition. Three to six hours.
Prerequisite: NHM 569.
Supervised opportunity to apply knowledge and skills in areas such as nutrition service delivery, program planning, community assessment, and program evaluation.

NHM 587 Integration of Food Systems Management. Three hours.
Current problems in food systems management are presented, with emphasis on theories of management and integration of management functions.

NHM 590 Special Problems in Nutrition. Three to six hours.

NHM 591 Special Problems in Food Science. Three to six hours.

NHM 592 Special Problems in Institution Administration. Three to six hours.

NHM 595 Seminar in Nutrition and Food. One hour each semester.

NHM 598 Nonthesis Research. Three hours.
Prerequisite: Graduate status and permission of the instructor.
Experimental or analytical investigation of a food or nutrition-related issue.

NHM 599 Thesis Research. One to six hours.

NHM 601 Advanced Nutrition for Health Professionals. Three hours.
Study of normal nutrition as it relates to health promotion and disease prevention. Provides an introduction to nutrition in disease states.

NHM 625 Nutritional Epidemiology. Three hours.
Introduction to the principles of epidemiology and their application to nutrition. This course addresses the role of nutrition in investigating the epidemiology of chronic diseases. The course is intended for students in health-related professions.
The programs described below lead to the master of science and doctor of philosophy degrees in applied statistics. They provide broad yet thorough training in the methodology and theory of statistics, as well as an appreciation for the application of statistics in a variety of disciplines.

For more detailed information and recommendations, students are encouraged to consult the Applied Statistics Program Graduate Handbook, available at www.cba.ua.edu/~apstat.

Admission Requirements

The requirements for admission to the Graduate School are detailed in an earlier section of this catalog. The candidate for a graduate degree in applied statistics is normally expected to have completed courses in mathematics equivalent to three semesters of undergraduate calculus, and to have a working knowledge of computer programming and matrix algebra. The Graduate Record Examination general test is required of all applicants.

Degree Requirements

**M.S. degree requirements.** The general requirements for the M.S. degree in applied statistics are those set forth for the master's degree under Plan II, in the section on the academic policies of the Graduate School (see p. 96). A minimum of 36 credit hours is required, of which at least 24 must be in statistics. The required courses are ST 535, ST 552, ST 553, ST 554, ST 555, ST 560, ST 561, and ST 575. An interdisciplinary field requirement can be fulfilled by taking 6 hours of coursework in an approved field. The remaining 6 hours may be earned in additional coursework in statistics or related areas, with the approval of a faculty adviser. The program of related courses may vary from student to student, and depends on the student’s interests and academic background. When most of the coursework is completed, the student must pass a written comprehensive examination.

**Ph.D. degree requirements.** The general requirements for the Ph.D. degree in applied statistics are those set forth for the doctorate in the section on the academic policies of the Graduate School (see p. 100). A minimum of 57 hours of coursework and 24 hours of dissertation research is required. The program of study is arranged for each student by an advisory committee of graduate faculty representing the applied statistics program.

By the end of the second year of coursework, the student must pass a written qualifying examination covering all courses required for the M.S. degree. This exam is typically offered in January of the second year. If the student does not pass this exam on his or her first attempt, the student is allowed one more attempt in the following year. In addition to the courses required for the M.S. degree, the Ph.D. requires ST 603, ST 610, ST 640, and either ST 615, ST 635, or ST 675. An interdisciplinary field requirement can be fulfilled by taking 12 hours of coursework from one or two approved fields (such as management science, engineering, educational research, economics, finance, computer science, mathematics, and psychology). When most of the coursework is completed, the student must pass a written comprehensive examination.
Courses Applicable to the M.S. and Ph.D. in Applied Statistics

See the appropriate sections for descriptions of these courses. Other courses from these and other departments may also be approved.

**Statistics (ST)**
**Culverhouse College of Commerce and Business Administration**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ST 521</td>
<td>Statistical Data Management</td>
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<td>ST 531</td>
<td>Knowledge Discovery and Data Mining I</td>
</tr>
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<td>ST 535</td>
<td>Nonparametric Statistics</td>
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<tr>
<td>ST 552</td>
<td>Applied Regression Analysis**</td>
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<td>ST 553</td>
<td>Applied Multivariate Analysis</td>
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<td>ST 554</td>
<td>Mathematical Statistics I (same as MATH 554)</td>
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<tr>
<td>ST 555</td>
<td>Mathematical Statistics II (same as MATH 555)</td>
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<tr>
<td>ST 560</td>
<td>Statistical Methods in Research I*</td>
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<td>ST 561</td>
<td>Applied Design of Experiments*</td>
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<td>ST 570</td>
<td>Time Series Analysis</td>
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<td>ST 575</td>
<td>Statistical Quality Control</td>
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<td>ST 580</td>
<td>Analysis of Categorical-Level Data</td>
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<td>ST 591</td>
<td>Independent Study in Statistics</td>
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<td>ST 597</td>
<td>Special Topics in Statistics</td>
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<td>ST 598</td>
<td>Research in Statistics</td>
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<td>ST 599</td>
<td>Thesis Research in Statistics</td>
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<td>ST 603</td>
<td>Advanced Inference</td>
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<td>ST 610</td>
<td>Linear Models</td>
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<td>ST 611</td>
<td>Design and Analysis of Experiments</td>
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<td>ST 615</td>
<td>Theory of Regression</td>
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<td>ST 635</td>
<td>Multivariate Analysis</td>
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<td>ST 640</td>
<td>Statistical Computing</td>
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<td>ST 675</td>
<td>Advanced Statistical Quality Control</td>
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<td>ST 698</td>
<td>Research in Statistics</td>
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<tr>
<td>ST 699</td>
<td>Dissertation Research</td>
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**Mathematics (MATH)**
**College of Arts and Sciences**

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>MATH 554</td>
<td>Mathematical Statistics I (same as ST 554)</td>
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<tr>
<td>MATH 555</td>
<td>Mathematical Statistics II (same as ST 555)</td>
</tr>
<tr>
<td>MATH 556</td>
<td>Mathematical Statistics III</td>
</tr>
<tr>
<td>MATH 557</td>
<td>Stochastic Processes with Applications I</td>
</tr>
<tr>
<td>MATH 659</td>
<td>Seminar: Probability Models</td>
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**Educational Research (BER)**
**College of Education**

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>BER 540</td>
<td>Statistical Methods in Education*</td>
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<tr>
<td>BER 545</td>
<td>Analysis of Variance in Education*</td>
</tr>
<tr>
<td>BER 546</td>
<td>Regression Methods in Education**</td>
</tr>
<tr>
<td>BER 640</td>
<td>Multivariate Dependence Methods</td>
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<tr>
<td>BER 646</td>
<td>Structural Equation Modeling</td>
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**Industrial Engineering (IE)**
**College of Engineering**

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>IE 526</td>
<td>Design and Analysis of Experiments</td>
</tr>
<tr>
<td>IE 528</td>
<td>Advanced Design of Experiments</td>
</tr>
<tr>
<td>IE 577</td>
<td>Analysis of Queueing Systems</td>
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</tbody>
</table>

*A student may receive credit for either ST 560 and ST 561 or BER 540 and BER 545, but not for both pairs of courses.

**A student may not receive credit for both ST 552 and BER 546.
The University of Alabama (UA), The University of Alabama at Birmingham (UAB), and The University of Alabama in Huntsville (UAH) offer a joint interdisciplinary program leading to a doctor of philosophy degree in materials science. The Ph.D. program in materials science is coordinated by the Tricampus Materials Science Coordinating Committee. On each campus, the program is administered by the Campus Materials Science Program Committee.

For practical purposes, students will matriculate at a single campus. Once the student chooses a campus, that campus becomes the home campus, and the student’s records will be managed by the graduate school on that campus. However, once registered at one campus, a student is free to pursue, with minimum barriers, coursework or research opportunities at the other University of Alabama System campuses.

At all three universities, the interdisciplinary Ph.D. program in materials science draws on various academic divisions. At UA, the program is supported by departments in both the College of Arts and Sciences and the College of Engineering. At UAB, the Schools of Medicine, Dentistry, and Optometry are involved, as are the School of Engineering and the School of Natural Science and Mathematics. At UAH, the College of Engineering and the College of Science participate in the program.

A minimum of 48 credit hours of graduate coursework and 24 hours in activity related to the dissertation research are required. The degree awarded to each successful candidate is the Ph.D. degree in materials science.

Admission Requirements

In order to be regularly admitted to the doctoral program, a student must have satisfied the following minimum requirements common to all three universities:

1. A bachelor’s degree (or its equivalent) from an accredited college or university, in engineering or one of the physical sciences
2. "B"-level scholarship, either overall or for the last 60 semester hours of undergraduate and graduate credit
3. A minimum score of 1000 on the Graduate Record Examination general test
4. A TOEFL score greater than 550, for international students
5. Letters of reference

An applicant whose scholastic record reveals a deficiency in one of the first three categories above may, upon recommendation of the Campus Materials Science Program Committee chairperson (on the campus to which the student has applied) and with approval of the respective graduate dean, be admitted on a provisional basis, as provided in graduate school regulations at each campus. However, that student must follow the appropriate graduate school’s policies in achieving regularly admitted status prior to taking Program Examination I (the examination on core material).

Advisement. Students admitted to the program will be assisted in program planning and academic matters by a member of the Campus Materials Science Program Committee. This faculty member will serve as the student’s temporary faculty adviser. During this early stage of the program, students are encouraged to enter discussions with all faculty members in the intended area of specialization, as an aid in the development of appropriate programs of study and areas for dissertation research.

Also upon being accepted in the program, each student will be assigned to one of the participating departments as the temporary home department. Each student may apply for an assistantship; if one is awarded, the teaching or research duties would normally be assigned within the temporary home department, by the department chairperson. A student may choose to pursue dissertation research in a participating department other than the temporary home department. If the research project is acceptable to the Campus Materials Science Program Committee, a permanent adviser (normally the research supervisor selected by the student) will be assigned.
A graduate committee will be appointed for the Ph.D. student as soon as he or she passes Program Examination I and chooses a research project. The graduate committee normally includes the research adviser (as chairperson) and at least four other members. The graduate committee members are selected based on the student’s academic interests and area of research. At least one of the committee members is from the student’s research area at one of the other cooperating universities, and another is from a department other than the home department on the home campus. The graduate committee is charged with supervision and approval of the student’s research and course of study toward the completion of all requirements leading to the degree.

**Campus Materials Science Program Committee.** This committee administers the program on each campus. Coordination encompasses some functions that are usually handled by a single-discipline department. The Campus Materials Science Program Committee is chaired by the campus program director (coordinator or chairperson).

**Degree Requirements**

**Qualifying, comprehensive, and other program examinations.** Program Examination I is a four-part examination over the program’s core material. It qualifies the student to enter the advanced program. It is administered simultaneously system-wide by the Tricampus Coordinating Committee, at preannounced dates. The individual campus program committees will solicit input from the faculty and assist in preparing and grading the system-wide examination. The student may choose to take two, three, or four parts of Program Examination I at a sitting (unless only one part remains to be taken). All parts of the examination must be completed within a total of two years. Only two attempts may be made on each part of the examination. Failure to pass all parts of the examination after two attempts disqualifies a student from the advanced phase of the program.

Program Examination II is a comprehensive examination covering material in the student’s specialization. This examination is normally taken near the end of formal coursework.

Program Examination III is the final examination consisting largely of the defense of the dissertation. Program Examinations II and III are prepared, administered, and graded by the student’s graduate committee.

**Candidacy and dissertation requirements.** Admission to candidacy for the doctoral degree is contingent upon (a) the successful completion of Program Examination II, (b) satisfaction of the foreign language/research skill requirement, and (c) the successful presentation of a dissertation research proposal. Normally, a student is considered eligible to take Program Examination II when all of the required coursework has been completed. After being admitted to candidacy, the student must complete the remaining requirements for the degree, the principal such requirement being the doctoral research and dissertation. A minimum of 48 credit hours of graduate coursework and 24 hours in activity related to the dissertation research are required.

**Language/research skill requirement.** Students should contact the campus coordinator for information about language/research skill requirements.

**Residency requirement.** The minimum period in which the doctoral degree can be earned is three full academic years of graduate study. The student must spend the final or penultimate academic year in continuous residence as a full-time graduate student at one of the campuses.

**Time limits.** All requirements for the doctoral degree must be completed within a period of seven years after the completion of Program Examination II. Credits earned toward a master’s or Ed.S. degree may be applied to the doctoral degree, provided they are applicable to the area of specialization or to the core. Dated credits may be accepted, if recommended by a student’s graduate committee and by the Campus Materials Science Program Committee, and approved by the graduate school involved. Before dated credits are applied to the Ph.D. degree in materials science, however, the student may be required to demonstrate competence in the dated coursework.
Courses Applicable to the Ph.D. in Materials Science

See the appropriate sections for descriptions of these courses. The courses below are offered at the UA campus; consult the UAB and UAH catalogs for materials science courses at those campuses.

Track 1: Structure and Properties of Materials
(Must include one course in instrumentation, one in methods of chemical analysis, and one in spectroscopy.)

Chemistry (CH)

CH 501 Introduction to Graduate Inorganic Chemistry
CH 521 Introduction to Graduate Analytical Chemistry
CH 524 Advanced Analytical Chemistry I
CH 525 Advanced Analytical Chemistry II
CH 530 Introduction to Graduate Organic Chemistry
CH 531 Advanced Organic Chemistry I
CH 532 Advanced Organic Chemistry II
CH 541 Advanced Physical Chemistry I
CH 547 Materials Science
CH 549 Advanced Physical Chemistry II
CH 552 Research Techniques in Analytical Chemistry
CH 556 Research Techniques in Inorganic Chemistry
CH 570 Research Techniques in Physical Chemistry
CH 601 Advanced Inorganic Chemistry I
CH 602 Chemistry of Coordination Compounds
CH 604 Chemistry of the Main Group Elements
CH 605 Special Topics in Inorganic Chemistry
CH 609 Organometallic Chemistry
CH 635 Selected Topics in Organic Chemistry
CH 637 Spectroscopic Techniques in Organic Chemistry
CH 645 Selected Topics in Physical Chemistry

Metallurgical and Materials Engineering (MTE)

MTE 562 Metallurgical Thermodynamics
MTE 579 Advanced Physics of Metals
MTE 580 Advanced Phase Diagrams
MTE 583 Advanced Structure of Metals
MTE 585 Materials at Elevated Temperatures
MTE 587 Corrosion Science and Engineering

Physics (PH)

PH 551 Atomic and Molecular Physics
PH 581 Solid-State Physics
PH 585 and PH 586 Magnetic Materials I and II
PH 681 Advanced Solid-State Physics

Track 2: Macromolecular Materials
(Must include one course in advanced inorganic or organic chemistry, one in macromolecular chemistry, and one in macromolecular physics.)

Chemical Engineering (CHE)

CHE 551 and CH 651 Advanced Thermodynamics I and II
CHE 554 Chemical Reaction Engineering
CHE 595:596 Seminar
CHE 621 Diffusional Operations
CHE 699 Doctoral Dissertation Research
Chemistry (CH)
CH 501 Introduction to Graduate Inorganic Chemistry
CH 521 Introduction to Graduate Analytical Chemistry
CH 530 Introduction to Graduate Organic Chemistry
CH 531 Advanced Organic Chemistry I
CH 532 Advanced Organic Chemistry II
CH 541 Advanced Physical Chemistry I
CH 549 Advanced Physical Chemistry II
CH 601 Advanced Inorganic Chemistry I
CH 602 Chemistry of Coordination Compounds
CH 609 Organometallic Chemistry

Track 3: Electronic, Optical, and Magnetic Materials
(Must include one course in spectroscopy and two courses in the electronic, optical, or magnetic properties of materials.)

Chemistry (CH)
CH 501 Introduction to Graduate Inorganic Chemistry
CH 521 Introduction to Graduate Analytical Chemistry
CH 530 Introduction to Graduate Organic Chemistry
CH 541 Advanced Physical Chemistry I
CH 549 Advanced Physical Chemistry II
CH 570 Research Techniques in Physical Chemistry
CH 601 Advanced Inorganic Chemistry I
CH 645 Selected Topics in Physical Chemistry

Electrical Engineering (ECE)
ECE 542 Magnetic Recording Media
ECE 561 Quantum Electronics
ECE 562 Lasers
ECE 588 Microcontrollers
ECE 589 Microcontrollers Laboratory

Physics (PH)
PH 531:532 Electromagnetic Theory
PH 533 Optics and Lasers
PH 534 Digital Electronics and Computer Interfacing
PH 541:542 Quantum Mechanics
PH 551 Atomic and Molecular Physics
PH 561 Nuclear and Elementary Particle Physics
PH 571 Statistical Physics
PH 581 Solid-State Physics
PH 583 Magnetic Resonance
PH 585 and PH 586 Magnetic Materials I and II
PH 591 Advanced Laboratory
PH 681 Advanced Solid-State Physics
PH 682 Selected Topics in Physics

Track 4: Materials Processing
(Must include two courses in solidification or crystal growth and one course in processing technology.)

Chemical Engineering (CHE)
CHE 551 and CHE 651 Advanced Thermodynamics I and II
CHE 554 Chemical Reaction Engineering
CHE 595:596 Seminar
CHE 699 Doctoral Dissertation Research
Metallurgical and Materials Engineering (MTE)
MTE 519 Solidification Science
MTE 520 Solidification Processing of Eutectic Alloys
MTE 591:592 Special Problems
MTE 595:596 Seminar
MTE 699 Doctoral Dissertation Research

Aerospace Engineering and Mechanics (AEM)
AEM 546 Intermediate Solid Mechanics
AEM 552 Composite Materials
AEM 630 Continuum Mechanics
AEM 635 Finite-Element Method in Engineering Mechanics
AEM 637 Theory of Elasticity
AEM 648 Theory of Plasticity
AEM 655 Advanced Composite Materials
AEM 693 Selected Topics

Track 5: Biomaterials
(Must include two courses in the structure and properties of biomaterials and one course in biomaterials applications.)

Chemistry (CH)
CH 531 Advanced Organic Chemistry I
CH 532 Advanced Organic Chemistry II
CH 541 Advanced Physical Chemistry I
CH 549 Advanced Physical Chemistry II

Track 6: Mechanical Behavior of Materials
(Must include one course in ceramic, metallurgical, or polymer engineering; one course in the mechanical behavior of materials; and one course in the characterization of materials.)

Metallurgical and Materials Engineering (MTE)
MTE 591:592 Special Problems
MTE 699 Doctoral Dissertation Research

Aerospace Engineering and Mechanics (AEM)
AEM 546 Intermediate Solid Mechanics
AEM 630 Continuum Mechanics
AEM 635 Finite-Element Method in Engineering Mechanics
AEM 644 Engineering Fracture Mechanics
AEM 648 Theory of Plasticity
AEM 655 Advanced Composite Materials
AEM 679 Wave Motion of Continuous Solids
AEM 693 Selected Topics
AEM 695 Graduate Seminar
AEM 699 Doctoral Dissertation Research
MASTER OF SCIENCE IN NURSING PROGRAM

The Capstone College of Nursing offers the master of science in nursing (M.S.N.) to prepare the student to work as a case manager for rural populations. This program prepares advanced practice nurses to provide case management for rural populations. Case management has been defined as a “collaborative process which assesses, plans, implements, coordinates, monitors, and evaluates options and services to meet an individual’s health needs through communication and available resources to promote quality, cost-effective outcomes” (Smith, D. S., “Standards of Practice for Case Management: The Importance of Practice Standards,” in *Journal of Case Management*, 1 (3) 1995, p. 9). Specifically, the program will offer courses leading to preparation for the role of nurse case manager. Graduates of this program will be able to practice in a variety of settings assuming positions as nurse case managers.

Admission Requirements

Admission requirements are consistent with those of the Graduate School. Applicants for the M.S.N. degree program will be considered on a competitive basis. The following are minimum requirements for admission into the master of science in nursing program.

- **For admission to the master’s program**, an applicant must possess a functional level of capability to perform the duties required of an advanced practice nurse. These abilities include but are not limited to (a) adequate vision such as that required to observe changes in physical conditions, to read small print on labels and laboratory reports, and to discern subtle changes in color; (b) adequate hearing such as that required to distinguish muted sounds through a stethoscope; (c) fine motor skills and manual dexterity such as that required to turn and assist with lifting adults and to lift and carry children; (d) the mobility to respond quickly to emergency situations; (e) the ability to engage in two-way conversation and interact effectively with others orally and in writing; (f) the ability to detect odors; (g) the ability to implement the advanced practice role in delivering health care service in one or more delivery systems, including acute, ambulatory, managed, and integrated systems; and (h) the ability to consistently and dependably engage in critical thinking to make safe and ethical clinical judgments.

The graduate faculty of the Capstone College of Nursing has identified the skills and professional behaviors that are essential to pursue a course of study and to practice in an advanced practice role in nursing. These skills include but are not limited to the skills presented in *The Essentials of Master’s Education for Advanced Practice Nursing*, a publication of the American Association of Colleges of Nursing. If these skills and professional behaviors cannot be developed by the individual, either unassisted or with the dependable use of assistive devices, the faculty reserves the right to not admit the individual or to disenroll the student from clinical courses. A copy of *The Essentials of Master’s Education for Advanced Practice Nursing* is available upon request from the College’s Office of Nursing Student Services.

- **For regular admission**, a grade point average of at least 3.0 overall (based on a 4.0 system) or 3.0 for the last 60 semester hours of undergraduate work
For conditional admission, a grade point average of at least 2.5 overall (based on a 4.0 system) for undergraduate work, and a score of at least 1000 on the Graduate Record Examination (GRE) general test or at least 50 on the Miller Analogies Test (MAT)

Additional Requirements of All Applicants
- baccalaureate degree in nursing from an accredited school of nursing
- three letters of recommendation
- verification of the successful completion of an undergraduate course or equivalent in statistics, research
- evidence of basic computer literacy
- current RN licensure in the United States and eligibility for Alabama license
- two years’ experience in nursing practice prior to beginning the program

Degree Requirements
The degree of master of science in nursing will be awarded to the student who has met the following requirements:
- successful completion of the required 35 semester hours of coursework
- GPA of 3.0 or higher
- good standing at the time of graduation

To fulfill the research requirements of the program, students may choose from two options described below: thesis option or nonthesis option.

Thesis option. A thesis is an original piece of research conducted by one student and directed by the graduate committee. The student is awarded three semester hours of thesis research credit for a successfully completed thesis. An oral public defense of the thesis is required. The thesis must conform to the guidelines of the Graduate School.

Nonthesis option. Nonthesis students participate in courses, seminars, or other faculty-directed experiences that will give them an acquaintance with the methods of research and an appreciation of the place and function of original investigation in the field.

Curriculum
The master of science in nursing program can be completed in one year of full-time study or two or more years of part-time study.

Students in the nursing program at The University of Alabama who take specified core courses at UAB or UAH — institutions cooperating in UA’s M.S.N. (nurse case management) program — may transfer the courses to UA even if the overall GPA at the cooperating institution is below 3.0. Students must still have overall GPAs of 3.0 at UA in order to graduate.

SAMPLE PROGRAM OF STUDY (PART-TIME)

Fall (first semester)

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUR 501 Theoretical Models for Advanced Nursing Practice with Rural Populations</td>
<td>2</td>
</tr>
<tr>
<td>NUR 505 Advanced Health Assessment</td>
<td>3</td>
</tr>
<tr>
<td>NUR 5* Pathophysiology</td>
<td>3</td>
</tr>
<tr>
<td>NUR 502 Issues in Community-Based Care for Rural Populations</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>10</strong></td>
</tr>
</tbody>
</table>

*These courses may be taken at UAB, UAH, or USA if available. See faculty adviser for other options.
### Spring (second semester)

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHS 520 Basic Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>NUR 5__* Advanced Nursing Research</td>
<td>3</td>
</tr>
<tr>
<td>NUR 520 Case Management Role and Processes</td>
<td>4</td>
</tr>
<tr>
<td>NUR 522 Human Relations Management for Case Managers</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total: 13</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Summer (third semester)

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUR 530 Case Management Practicum</td>
<td>6</td>
</tr>
<tr>
<td>NUR 580 Fiscal Resource Management for Case Managers</td>
<td>3</td>
</tr>
<tr>
<td>NUR 592 Clinical Research Practicum</td>
<td>3</td>
</tr>
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<td><strong>Total: 12</strong></td>
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</tr>
</tbody>
</table>

### Thesis (optional)

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUR 599 Thesis Option</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total hours</strong></td>
<td>35–38</td>
</tr>
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</table>

**SAMPLE PROGRAM OF STUDY (PART-TIME)**

### Fall (first semester)

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUR 501 Theoretical Models for Advanced Practice</td>
<td>2</td>
</tr>
<tr>
<td>NUR 5__* Pathophysiology</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total: 5</strong></td>
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### Spring (second semester)

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHS 520 Basic Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>NUR 5__* Advanced Nursing Research</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total: 6</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Summer (third semester)

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUR 580 Fiscal Resource Management for Case Managers</td>
<td>3</td>
</tr>
<tr>
<td>NUR 505 Advanced Health Assessment</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total: 6</strong></td>
<td></td>
</tr>
</tbody>
</table>

*These courses may be taken at UAB, UAH, or USA if available and transferred to UA. See faculty adviser for other options.
### Fall (fourth semester)

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUR 502 Issues in Community-Based Care for Rural Populations</td>
<td>2</td>
</tr>
<tr>
<td>NUR 522 Human Relations Management for Case Managers</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>5</strong></td>
</tr>
</tbody>
</table>

### Spring (fifth semester)

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUR 520 Case Management Role and Processes</td>
<td>4</td>
</tr>
<tr>
<td>NUR 592 Clinical Research Practicum</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>7</strong></td>
</tr>
</tbody>
</table>

### Summer (sixth semester)

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUR 530 Case Management Practicum</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>6</strong></td>
</tr>
</tbody>
</table>

**Total hours:** 35

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### RN TO B.S.N./M.S.N. TRACK

The RN to B.S.N./M.S.N. track is an accelerated track for the experienced, highly qualified RN who holds an associate degree or diploma in nursing and who wants to obtain an advanced degree in nursing. RNs who meet M.S.N. program admission criteria can apply for early admission to the Graduate School while completing the B.S.N. requirements. The RN to B.S.N./M.S.N. track decreases the time required to complete both the B.S.N. and M.S.N. degree programs. The program of study includes six to eight semester hours of credit in each of the six semesters required of the track. The B.S.N. degree is awarded after completion of all B.S.N. requirements in the fourth semester, and the M.S.N. degree is awarded after completion of all M.S.N. requirements in the sixth semester.

### Admission Requirements

1. **Admission/promotion to the B.S.N. program**
   - a. Admission to lower division to complete current lower division requirements
     - Requirements:
       - 3.0 GPA in last 60 semester hours of coursework
       - Unencumbered RN license and eligibility for licensure in Alabama
       - Two years of clinical nursing experience
   - b. No later than the spring semester of the year of initial enrollment, apply for promotion to the upper division
     - Requirements:
       - 3.0 GPA in last 60 semester hours of coursework
       - Unencumbered Alabama RN license
       - Two years of clinical nursing experience

2. **Admission to Graduate School**
   - By October 15 of fall I of the program of study, apply for early, expedited admission to the M.S.N. program, contingent on completion of the first semester of B.S.N. coursework with a GPA of 3.0 or higher, and completion of all undergraduate core requirements.
Criteria:
- Completion of at least 97 semester hours of specified coursework in B.S.N. program
- 3.0 GPA in last 60 semester hours of coursework
- Unencumbered Alabama RN license
- Two years of clinical nursing experience

Degree Requirements
The degree will be awarded to students who (1) successfully complete the required hours of coursework with a 3.0 or higher GPA and (2) are in good standing at the time of graduation.

Curriculum
The RN to B.S.N./M.S.N. track can be completed in six semesters of part-time study.

SAMPLE PROGRAM OF STUDY

Fall I

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUR 341 Role Transition</td>
<td>3</td>
</tr>
<tr>
<td>NUR 449 Community Health for Registered Nurses</td>
<td>4</td>
</tr>
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</table>

Total: 7

(See undergraduate catalog for above course descriptions.)

Spring I

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 2NUR 5 Advanced Nursing Research</td>
<td>3</td>
</tr>
<tr>
<td>CHS 520 Basic Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>NUR 502 Issues in Community-Based Care for Rural Populations</td>
<td>2</td>
</tr>
</tbody>
</table>

Total: 8

Summer I

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>1NUR 580 Fiscal Resource Management for Case Managers</td>
<td>3</td>
</tr>
<tr>
<td>1NUR 505 Advanced Health Assessment</td>
<td>3</td>
</tr>
</tbody>
</table>

Total: 6

Fall II

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUR 501 Theoretical Models for Advanced Nursing Practice with Rural Populations</td>
<td>2</td>
</tr>
<tr>
<td>1NUR 522 Human Relations Management</td>
<td>3</td>
</tr>
<tr>
<td>2NUR 5 Pathophysiology</td>
<td>3</td>
</tr>
</tbody>
</table>

Total: 8

1Courses count toward completion of B.S.N. and M.S.N. degree requirements.
2These courses may be taken at UAB, UAH, or USA if available and transferred to UA. See faculty adviser for other options.
JOINT M.S.N./M.B.A. PROGRAM

The Capstone College of Nursing and the Manderson Graduate School of Business offer a joint degree program including both the master of science in nursing (M.S.N.) and the master of business administration (M.B.A.). This dual-degree program addresses the dynamic changes in nursing and health care services in the United States. Concerns about quality, cost, and delivery of health care have increased demands for nurse executives who have expertise in nursing case management systems, as well as cutting-edge knowledge in business and administration. This demand is especially true for health care institutions that service or penetrate rural markets. The highly specialized program of study allows students to gain expertise in both advanced practice nurse case management and business. The program is multidisciplinary in approach and gives highly qualified students an opportunity to learn from the finest faculty in both professional schools. This program is supplemented with superlative clinical practica in research, nursing case management, and a summer internship in business management. Students will be exposed to top executives in both business and nursing. Graduates of this program will be exceptionally competitive in the job market and will be prepared to make major contributions in patient care management in hospitals, community settings, and group practice sites, or to pursue positions in business and consulting.

More information about the joint M.S.N./M.B.A. degree program may be obtained by contacting the director of the M.B.A. program and the graduate coordinator in the Capstone College of Nursing. To complete the degree students should be prepared to attend full time for six consecutive semesters including both summer sessions.

Admission Requirements

To be accepted into the M.S.N./M.B.A. Program, a student must apply for admission to the Graduate School, meet criteria for admission to the master of science in nursing and the master of business administration, and be recommended for admission by both the Capstone College of Nursing (CCN) graduate program and the Manderson Graduate School of Business.

Degree Requirements

The degree will be awarded to students who (1) successfully complete the required hours of coursework with a 3.0 or higher GPA and (2) are in good standing at the time of graduation.

Curriculum

The joint M.S.N./M.B.A. degree program can be completed in two years of full-time study.
**PROPOSED SAMPLE PROGRAM OF STUDY**  
(course requirements subject to change)

### Fall I

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC 521 Concepts of Financial and Managerial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>MGT 517 Organizational Theory and Behavior</td>
<td>3</td>
</tr>
<tr>
<td>MKT 518 Survey of Marketing</td>
<td>3</td>
</tr>
<tr>
<td>ST 509 Statistics for Business Applications</td>
<td>3</td>
</tr>
<tr>
<td>Professional Development</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>13</strong></td>
</tr>
</tbody>
</table>

### Spring I

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC 500 Managerial Economics</td>
<td>3</td>
</tr>
<tr>
<td>FI 504 Foundations of Financial Management</td>
<td>3</td>
</tr>
<tr>
<td>MGS 516 Production Management</td>
<td>3</td>
</tr>
<tr>
<td>MIS 511 Management Information Systems</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

### Summer I

Internship (arranged by the Manderson Graduate School of Business)

### Fall II

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>GBA 525 Strategy Formulation and Implementation</td>
<td>3</td>
</tr>
<tr>
<td>MGT 542 Management Communication</td>
<td>3</td>
</tr>
<tr>
<td>NUR 501 Theoretical Models for Advanced Nursing Practice with Rural Populations</td>
<td>2</td>
</tr>
<tr>
<td>NUR 502 Issues in Community-Based Care for Rural Populations</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>10</strong></td>
</tr>
</tbody>
</table>

### Spring II

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUR 5__* Advanced Nursing Research</td>
<td>3</td>
</tr>
<tr>
<td>NUR 520 Case Management Role and Processes</td>
<td>4</td>
</tr>
<tr>
<td>NUR 524 Legal and Ethical Issues in Health Care (course being developed)</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>10</strong></td>
</tr>
</tbody>
</table>

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*This course may be taken at UAB, UAH, or USA if available. See faculty adviser for other options.
Summer II

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUR 530 Case Management Practicum</td>
<td>6</td>
</tr>
<tr>
<td>(arranged by Capstone College of Nursing)</td>
<td></td>
</tr>
<tr>
<td>NUR 592 Clinical Research Practicum</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>9</strong></td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total hours</strong></td>
<td><strong>54</strong></td>
</tr>
</tbody>
</table>

DUAL M.S.N./M.A. PROGRAM

The Capstone College of Nursing and the Culverhouse College of Commerce and Business Administration offer a dual degree program including the master of science in nursing (M.S.N.) and the master of arts (M.A.) in management. This program provides students with an educational background for clinical practice in nursing case management as well as health care management. Admission to this program of study is available in the fall semester.

Admission Requirements

To be accepted into the M.S.N./M.A. Program, a student must apply for admission to the Graduate School, meet criteria for admission to the master of science in nursing and the master of arts in management, and be recommended for admission by both the Capstone College of Nursing (CNN) graduate program and the College of Commerce and Business Administration.

Degree Requirements

The degree will be awarded to students who (1) successfully complete the required hours of coursework with a 3.0 or higher GPA and (2) are in good standing at the time of graduation.

If a student is enrolled in both programs and opts out of one of them, the student should complete the “regular” version of the degree program. That is, the student would not be able to earn the degree by completing only the truncated set of requirements for the dual-degree program.

If a student opts out of the degrees and completes the other, then later decides to pursue the remaining degree, the student can not complete the truncated version of that program’s requirements to earn the degree. The “maximum 6 hours from a previous degree” policy would be in effect for the second degree.

Curriculum

The dual M.S.N./M.A. degree program can be completed in two years of full-time study. Part-time study is available.
## SAMPLE PROGRAM OF STUDY

### Fall I

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCM 576 Advanced Principles of Long-Term Care or HCM 473 Health Care Issues</td>
<td>3</td>
</tr>
<tr>
<td>MGT 542 Management Communication</td>
<td>3</td>
</tr>
<tr>
<td>NUR 501 Theoretical Models of Advanced Practice Nursing with Rural Populations</td>
<td>2</td>
</tr>
<tr>
<td>NUR 502 Issues in Community-Based Care for Rural Populations</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>10</strong></td>
</tr>
</tbody>
</table>

### Spring I

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGT 527 Strategic Human Resource Management</td>
<td>3</td>
</tr>
<tr>
<td>MGT 532 Employee Relations</td>
<td>3</td>
</tr>
<tr>
<td>NUR 5__* Advanced Nursing Research</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>9</strong></td>
</tr>
</tbody>
</table>

### Summer I

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUR 580 Fiscal Resource Management for Case Managers</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>3</strong></td>
</tr>
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### Fall II

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGT 520 Change Management</td>
<td>3</td>
</tr>
<tr>
<td>MGT 597 Contemporary Issues in Performance Management</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>6</strong></td>
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### Spring II

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUR 520 Case Management Roles and Processes</td>
<td>4</td>
</tr>
<tr>
<td>MGT 511 Recruitment, Selection, Placement</td>
<td>3</td>
</tr>
<tr>
<td>HCM 577 Advanced Principles of Ambulatory Care or HCM 575 Advanced Principles of Managed Care</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>10</strong></td>
</tr>
</tbody>
</table>

### Summer II

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUR 530 Practicum in Case Management</td>
<td>6</td>
</tr>
<tr>
<td>NUR 592 Research Practicum</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>9</strong></td>
</tr>
</tbody>
</table>

**Total hours** ........................................................................................................... **47**

*This course may be taken at UAB, UAH, or USA if available and transferred to UA. See faculty adviser for other options.*
POST-MASTER’S CERTIFICATE IN NURSING

The master of science in nursing program, upon which the post-master’s track is based, is designed to prepare advanced practice nurses at the master’s level to practice as case managers for rural populations. Nurses who are already prepared at the master’s level for roles such as nurse practitioner, clinical specialist, or nurse administrator and who need case management knowledge and expertise to enact the nurse case manager role can apply for the post-master’s track. Students in the post-master’s track will enroll in the existing case management courses, but they will not be required to complete the nursing core courses, such as research and theory, if they were completed in the master’s program.

Admission Requirements

Requirements for admission are limited to the following:

1. Master’s degree in nursing from an accredited graduate program in nursing.
2. Current unencumbered RN licensure and eligibility for licensure in Alabama.

Applicants will follow the existing Graduate School admission process.

Application for Certification

Candidates for certification must apply in writing to the associate dean for academic programs in the Capstone College of Nursing one semester before completion of certification requirements is anticipated.

Sample Program of Study

Fall

Course                                                      Semester Hours
NUR 522 Human Relations Management .......................................................... 3

Total: 3

Spring

Course                                                      Semester Hours
NUR 520 Case Management Role and Processes ........................................ 4

Total: 4

Summer I

NUR 530 Case Management Practicum ........................................................... 6
NUR 580 Fiscal Resource Management for Case Managers .............................. 3

Total: 9

Total hours                                                                 16
The student’s transcript and portfolio will be assessed for the following courses or proven expertise. In the absence of transcript credit or expertise evidenced via the portfolio, the courses must be completed.

NUR 501 Theoretical Models for Advanced Nursing Practice with Rural Populations
NUR 502 Issues in Community-Based Care for Rural Populations
NUR 592 Clinical Research Practicum
NUR 5__*Advanced Nursing Research
NUR 5__*Pathophysiology
NUR 505 Advanced Health Assessment
CHS 520 Basic Epidemiology

**Course Descriptions**

**NUR 501 Theoretical Models for Advanced Nursing Practice with Rural Populations.** Two hours.
Pertinent theories with relevance to health care for rural populations from nursing and related fields will provide the framework for consideration of nursing roles in case management. Specifically, the content will be derived from rural nursing theory, ethics, teaching/learning, communication, nursing, health care delivery systems, management theory, change, role delineation, and decision making. Students will apply the theoretical bases to their advanced practice case management role.

**NUR 502 Issues in Community-Based Care for Rural Populations.** Two hours.
Students will examine selected issues that affect health care. The organization and financing of health care for rural populations will receive considerable attention. The advanced practice nurse case manager student will gain understanding of the development of health care policy and the ethical, political, economic, sociocultural, and technological forces influencing the delivery of care.

**NUR 505 Advanced Health Assessment.** Three hours.
This course will assist the graduate nursing student to further develop health assessment skills for obtaining and recording a systematic health history as well as advanced holistic health assessment of individuals across the life span.

**NUR 520 Case Management Role and Processes.** Four hours.
Includes the case manager functions of assessing, planning, intervening, monitoring, and evaluating. Emphasized in the course are clinical, financial, and satisfaction goals; responding to complex patient demands and systems requirements; implementing a coordinated, multidisciplinary, collaborative approach to care; and developing, using, and refining case management plans of care. Application of these concepts is begun in the clinical portion of the course.

**NUR 522 Human Relations Management for Case Managers.** Three hours.
Focuses on establishing relationships with clients and families, group dynamics, team building, leadership and management skills, negotiation, human diversity in health and illness, conflict management, and rural health issues relevant for case management of rural populations.

**NUR 530 Case Management Practicum.** Three hours.
Provides a synthesis experience for students regarding assessing, planning, intervening, monitoring, and evaluating health care. Opportunities for student interaction to facilitate synthesis are provided.

*These courses may be taken at UAB, UAH, or USA if available and transferred to UA. See faculty adviser for other options.

**These courses are offered at UA. The additional courses in the curriculum may be offered through UAB, UAH, or USA. Full curriculum outlines are available through the Capstone College of Nursing administrative offices.
NUR 580 Fiscal Resource Management for Case Managers. Three hours. Addresses principles of fiscal resources management and their application to case management. Concepts include cost analysis, budgeting, contract development, financial aspects of program development and evaluation, and cost accounting and tracking for rural populations.

NUR 592 Clinical Research Practicum. Three hours. Provides a synthesis experience in which students evaluate outcome research strategies to effectively manage health care for rural populations. Opportunities for student interaction are provided in a seminar experience.

NUR 599 Thesis Project. Three hours. Focuses on the actual implementation of the research process, including the development of the proposal, institutional review board (IRB) approval, data collection, data analysis, and writing the research report.
The School of Social Work offers educational programs leading to the master of social work degree and the doctor of philosophy degree.

At the master’s level, the School prepares social workers to plan, administer, deliver, and evaluate social services for citizens of the state, region, and nation. The master of social work prepares the graduate for advanced, specialized practice. The doctor of philosophy prepares graduates to develop and impart knowledge to advance the profession. The faculty of the School engages in research and professional activities designed to enrich educational programs, improve social conditions, and meet special needs of the state, region, and nation.

The School is housed in Little Hall in the central area of the University campus. The building is designed to provide access and mobility for persons with physical disabilities. The Social Work Reading Room is located in the Gorgas Library and is staffed to provide assistance to students and faculty.

MASTER OF SOCIAL WORK PROGRAM
Professor Carol S. Drolen, Chairperson
Office: 118 Little Hall

Admission Requirements

Admission. Admission requirements of the School of Social Work are consistent with those of the Graduate School. To be considered for admission to the Master of Social Work Program, a person must meet the following requirements:

1. A bachelor’s degree from an accredited institution, including completion of a minimum of four courses in the humanities, four in the social sciences, one in human biology, one in college mathematics, and two in English composition (or the equivalent)

2. For regular admission. A grade point average of at least 3.0 overall (based on a 4.0 system) or 3.0 for the last 60 semester hours of undergraduate work based on transcripts from all institutions attended

   For conditional admission. A GPA of at least 2.5 overall (based on a 4.0 system) for undergraduate work, and at least 50 on the Miller Analogies Test (MAT) or a combined score of 900 or higher on the Graduate Record Exam (GRE) on the general test verbal and quantitative sections. In addition, the faculty will consider the score on the analytical writing section of the GRE in light of the score the applicant receives on the two essays submitted to the School of Social Work as part of the application to the M.S.W. program.

3. A two-part written statement of purpose satisfactory to the M.S.W. admissions committee

4. Three letters of reference that indicate to the admissions committee that the applicant is likely to be successful in M.S.W. study

5. Reactivated admissions, transfers, and intermitting students will be evaluated according to admission policies and procedures for the academic year in which admission is requested.

6. International students must meet the Graduate School’s requirements for admission including the equivalent of a four-year bachelor’s degree from an accredited institution. A student whose first language is not English must submit an official score report for the Test of English as a Foreign Language (TOEFL) or must have earned a degree from an accredited U.S. college or university. The minimum score for conditional admission to the Graduate School is 550, or 213 on the computer-based TOEFL.

No academic credit, course waivers, or credit for field practicum shall be granted for life experience or previous work experience.
Admission with advanced standing. Students who hold the bachelor of social work degree from an institution accredited by the Council on Social Work Education may be admitted to the M.S.W. program with advanced standing. Advanced-standing students enroll in M.S.W. study for one full summer session and one full academic year. In addition to the satisfaction of all admission requirements of the School, admission with advanced standing also requires a “B” average or better in all professional foundation courses, with no more than one “C” in professional courses and grades of “B” or better in field education courses.

The admissions committee reserves the right to make exceptions to admissions requirements in highly unusual situations and to determine the number of students that can be admitted to each program. In addition, the committee will seek to admit a class of students that is diverse in sex, racial and ethnic background, and geographic origin.

Application procedure. Applicants must provide the following:

1. Application for admission to The University of Alabama, including nonrefundable $25 fee (payment of the fee must be in the form of a check or money order payable to The University of Alabama or payment online when applying online)
2. Application materials for admission to the Graduate School
3. Supplemental application materials or online application for admission to the School of Social Work
4. Score report for the Graduate Record Examination or Miller Analogies Test, if required

In order for an application to be ready for review by the admissions committee of the School of Social Work, the Graduate School file must be completed and forwarded to the School. Applicants must specify on the application whether they are applying for the regular two-year program, the Saturday program, or the advanced-standing program. Applications to the School of Social Work should be completed by February 1 for priority consideration for admission in the summer or fall term and for financial aid awards. However, the Graduate School requests that their components of the application be received in their office six weeks prior to February 1. Applications may be accepted until April 1 for admission with advanced standing or to the Saturday program, and until July 1 for admission in the fall term on a space-available basis.

Students from other universities applying for admission as second-year students must complete their applications by April 1 to provide the time necessary to evaluate their previous educational experience.

Application forms and other information may be obtained by writing to The University of Alabama, Associate Dean of the School of Social Work, Box 870314, Tuscaloosa, AL 35487-0314.

Financial aid. Financial assistance through stipends, grants, and scholarships is available through the School of Social Work. Some grants are available directly from the School; others are related to traineeships, with specified field education placements and/or curriculum requirements. Traineeships that may be available include Alabama Department of Human Resources stipends; an Alabama Disabilities Advocacy Program stipend; child welfare traineeships; Sparks Clinics traineeships; Pediatric Pulmonary Health Care traineeships; Taylor Hardin Secure Medical Facility stipends; Bryce State Psychiatric stipends; Alabama Department of Youth Services traineeships; and Veterans Administration traineeships. Additional traineeships become available on a year-by-year basis.

Contact The University of Alabama, Associate Dean of the School of Social Work, Box 870314, Tuscaloosa, AL 35487-0314 (telephone 205/348-6791) for application forms and further information. Students may also contact the UA Office of Student Financial Aid, Box 870162, Tuscaloosa, AL 35487-0162 (telephone 205/348-6756) for applications for University-sponsored and other financial aid such as federal loans.

Degree Requirements

M.S.W. degree requirements. The master of social work degree will be awarded to the student who has met the following requirements:
1. Successful completion of 60 hours of approved courses including field education or 42 hours for students admitted with advanced standing

2. Evidence of the capacity to perform in all aspects of the student’s educational program at a satisfactory and responsible level, as judged by the faculty, and promise of further professional development (see the Master’s Degree Program Student Handbook for further details)

3. Students are expected to demonstrate writing proficiency at a graduate level. Writing skills may be evaluated through specialized assignments in foundation or advanced-standing courses, or through a proficiency examination. The student may be required to attend tutorial sessions until proficiency is demonstrated.

Residency requirement and time limit. Students must be registered full-time (a minimum of 9 semester hours) for two successive semesters during the second year of the M.S.W. program. Work toward the M.S.W. degree must be completed within six calendar years from the time the first class is taken.

M.S.W. Program

The goal of the master of social work program of the University of Alabama School of Social Work is to educate social workers for advanced practice and leadership roles. The goal encompasses education for advanced practice in specific types of direct practice and in program assessment and administration, advocacy, and policy and reform roles. The M.S.W. program emphasizes preparation for practice in critical public and not-for-profit social service systems. The program emphasizes preparation for practice specifically intended to benefit disadvantaged or oppressed people at the state and regional levels, and the program provides opportunities for students to prepare for practice based on this commitment at the national and international levels.

Building on the professional social work foundation, and within a focused area of study, the objectives of the program prepare graduates

• for advanced social work practice in an area of concentration
• who will provide leadership in planning, administering, delivering, and evaluating social services
• who will advocate for social causes and justice, and work on reform efforts
• who will demonstrate a commitment to practice and service to benefit poor, oppressed, and other socially disadvantaged people, and to work toward the elimination of poverty, oppression, and discrimination
• who value human diversity and display sensitivity to the uniqueness, commonalities, and richness of cultures and their constituents
• who are committed to the values and ethics of social work
• who engage in a continuous process of professional development through systematic inquiry, analysis, reflection, and participation in organized professional educational opportunities
• who will contribute to the development of the profession of social work within the state, region, and nation and/or international communities

Curriculum. The M.S.W. program is fully accredited by the Council on Social Work Education. The curriculum follows the curriculum policy requirements of the Council on Social Work Education and provides a balanced, integrated approach that includes a professional foundation and a choice of concentrations. The professional foundation curriculum taken the first year consists of coursework in the following:

• Social work practice. This area of the curriculum is designed to provide practice knowledge and competencies in working with individuals, groups, families, communities, and organizations.
• Human behavior and the social environment. This area of the curriculum helps the student to understand the whole person and the process of growth, change, adaptation, social functioning, and dysfunctioning in the environmental context, including family,
groups, formal organizations, and communities. Courses in this area cover prenatal stages through the process of aging.

- **Social welfare policy and services.** This area of the curriculum is designed to help the student identify, appraise, analyze, and understand social change in its dynamic perspectives; the role and responsibility of social work as a profession in influencing social policy; and the delivery of service to individuals and society.

- **Social research.** This area of the curriculum is designed to help the student understand social work and related research and the use of research for the improvement of services to individuals, groups, organizations, and communities.

- **Field education.** This area of the curriculum provides opportunities for students to integrate and apply knowledge, skills, and values in a social work practice context.

In the second year, students select one of five concentrations: services to children, youth, and families; services in health; services in mental health; social work practice with older persons and their families; or program and agency administration.

**M.S.W./M.P.H. DUAL-DEGREE PROGRAM**

The University of Alabama School of Social Work in Tuscaloosa and the University of Alabama at Birmingham School of Public Health’s Department of Maternal and Child Health jointly offer an M.S.W./M.P.H. dual-degree program designed for people with career goals in community-oriented health services for families and children. A program of study leading to both degrees requires 80–83 semester hours of coursework. Contact Chairperson, M.S.W. Program, School of Social Work, The University of Alabama, Box 870314, Tuscaloosa, AL 35487-0314; telephone (205) 348-3935; or e-mail cdrolen@sw.ua.edu for more information.

**PROGRAM REQUIREMENTS**

**First-year foundation core requirements.** The professional foundation year of common core courses prepares students to use a range of social work knowledge, methods, and skills to facilitate change within a continuum of client systems, from individual to societal. Field education in the foundation year is generic in focus, exposing students to a wide range of clients and programs.

**Challenge examinations.** The master of social work program permits admitted M.S.W. students to demonstrate a mastery of specific course content areas by passing a challenge examination. Challenges are permitted in the areas of policy, research, and human behavior. Thus, students in the advanced program may request to challenge SW 576 Intermediate Social Work Research, SW 577 Components of Human Development and Social Systems, and/or SW 578 Social Welfare Policies and Delivery Systems, Social Problems, and the History of Social Welfare. Students in either the Saturday program or the regular weekday program may request to challenge SW 500 Social Welfare Policy: History, Problems, Programs, and Analysis; SW 510 Human Behavior and Social Environment; and/or SW 520 Research Methods for Social Work Practice. A student who successfully challenges a course will be permitted to take a substitute course in lieu of the required foundation course. The degree-hour requirements remain the same.

**First-Year Required Courses**

Note: First-year courses in Saturday, Hong Kong, and other locations may vary slightly, but are the same total number of hours.

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to the Social Work Profession and the M.S.W. Program</td>
<td>0</td>
</tr>
<tr>
<td>SW 500 Social Welfare Policy — History, Problems, Programs, and Analysis</td>
<td>3</td>
</tr>
<tr>
<td>SW 510 Human Behavior and Social Environments</td>
<td>3</td>
</tr>
</tbody>
</table>
Saturday program. The School offers a Saturday program that provides students the opportunity to complete first-year classroom coursework on Saturdays. Saturday program students are also required to complete a 500-clock-hour field experience. The field experience cannot be completed on Saturdays. Students will not be able to complete the second-year requirements through the Saturday program. Concentration courses are offered only in weekday sessions, with a few courses available evenings.

Advanced-standing program. Students admitted with advanced standing must complete 12 hours of coursework in the summer preceding the second year of the M.S.W. program.

Required Courses — Advanced-Standing Students (Summer Prior to Second Year of M.S.W. Program)

- SW 576 Intermediate Social Work Research ........................................ 3
- SW 577 Components of Human Development and Social Systems .......... 3
- SW 578 Social Welfare Policies and Delivery Systems,
- SW 579 Components of Social Work Practice .................................... 3

Total hours .................................................................................. 12

Hong Kong courses. The School of Social Work, under contract with Hong Kong Shue Yan College, allows students to complete the first year of the master’s degree program in Hong Kong. All standards and policies of the School of Social Work and the Graduate School, including admissions requirements, apply to students taking these courses.

Field education placement procedures. The major objective in the placement process is to match the student with the field education setting that offers the best potential for promoting the student’s professional development. The School is responsive to personal factors related to location of placements and specific agencies, but it cannot assure an assignment tailored to personal situations. In accepting admission to the School and registering in the M.S.W. program, the student has agreed to accept field education placements assigned by the School of Social Work, as per the statement signed by the student on the admission application.

Students who are employees of organizations that meet the School’s criteria for field education agencies and that agree to the School’s requirements may apply to the coordinator of field education to arrange a placement with that agency as one of the required field education experiences.

Field placements are in the Tuscaloosa area and throughout the state. Students are responsible for arranging transportation and paying any expenses related to field education.

Students may not enroll in field education unless they have completed the required courses for the year in which they are enrolled, or unless they are concurrently enrolled in those courses. A student who has a grade of “I” on his or her record will not be allowed to
enter field education. Any incompletes must be removed prior to entering field education, unless a specific exception has been made by the M.S.W. Program Committee.

A student who is unable to meet minimum standards in field education may be dropped from field education at any time. A student dropped from field education is also discontinued from other courses requiring concurrent enrollment in field education.

**Washington, D.C., placements.** The M.S.W. program provides the opportunity for students to complete the second-year field education requirement and other program requirements in Washington, D.C. A limited number of these placements are available for students in all five concentrations. These placements offer special opportunities to obtain field experience not ordinarily available in Alabama.

**Second-year concentrations.** The purpose of the second, or concentration, year of the social work curriculum is the preparation of social workers for advanced practice in one of five concentrations: services to children, youth, and families; services in health; services in mental health; social work practice with older persons and their families; and program and agency administration. The concentration year is built on a liberal arts perspective and professional foundation content, with particular emphasis on populations at risk.

The curriculum stresses specialized knowledge; the ability to understand complex theories, methods, and models of social work practice; and the ability to apply knowledge and skills differentially in the process of selecting alternatives in both policy and practice. Concentrations, other than program and agency administration, focus on the delivery of services to clients. The concentration is oriented toward preparing students to assume program and agency administration positions within human service organizations. All concentration elective courses must be approved by the student’s adviser.

A concentration will be offered only if a minimum of 10 students elect to pursue it. The School reserves the right to alter the concentration requirements as necessary.

All students in the concentration year are required to take the following courses:

**Required Courses for ALL Concentrations**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SW 525 Evaluative Research</td>
<td>3</td>
</tr>
<tr>
<td>SW 550 Professional Seminar in Social Work Practice</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>9</td>
</tr>
<tr>
<td>Total hours</td>
<td>15</td>
</tr>
</tbody>
</table>

**Required Courses — Services to Children, Youth, and Families**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>SW 543 Family Oriented Practice</td>
<td>3</td>
</tr>
<tr>
<td>SW 575 Family Oriented Policy</td>
<td>3</td>
</tr>
<tr>
<td>SW 595 Field Education in Children, Youth, and Families</td>
<td>9</td>
</tr>
<tr>
<td>Total hours</td>
<td>15</td>
</tr>
</tbody>
</table>

**Required Courses — Services in Health**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SW 521 Social Work Health Policy and Population Health Issues</td>
<td>3</td>
</tr>
<tr>
<td>SW 548 Social Work Practice in Health Care</td>
<td>3</td>
</tr>
<tr>
<td>SW 595 Field Education in Health</td>
<td>9</td>
</tr>
<tr>
<td>Total hours</td>
<td>15</td>
</tr>
</tbody>
</table>
Required Courses — Services in Mental Health

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SW 517 Social Work Practice with Adults with Mental Illness</td>
<td>3</td>
</tr>
<tr>
<td>SW 518 Social Work Practice in Mental Health with Children, Adolescents, and Their Families</td>
<td>3</td>
</tr>
<tr>
<td>SW 595 Field Education in Mental Health</td>
<td>9</td>
</tr>
</tbody>
</table>

Total hours: 15

Required Courses — Social Work Practice with Older Persons

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SW 580 Aging in a Social Context</td>
<td>3</td>
</tr>
<tr>
<td>SW 581 Social Work Practice with Older Persons and Their Families</td>
<td>3</td>
</tr>
<tr>
<td>SW 595 Field Education in Practice with Older Persons and Their Families</td>
<td>9</td>
</tr>
</tbody>
</table>

Total hours: 15

Required Courses — Program and Agency Administration

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SW 506 Social Service Planning and Program Development</td>
<td>3</td>
</tr>
<tr>
<td>SW 536 Social Service Program and Agency Administration</td>
<td>3</td>
</tr>
<tr>
<td>SW 595 Field Education in Program and Agency Administration</td>
<td>9</td>
</tr>
</tbody>
</table>

Total hours: 15

Electives —

All students must complete 9 hours of electives. Electives may be taken at any time after admission into the program (i.e., interim term, summer, fall or spring semesters). Electives may include, if openings exist, required courses from other concentrations. Students are encouraged to consult their advisor to plan their academic program.

Course Descriptions* (SW)

Admission to 500-level courses is limited to graduate social work students only, unless consent of the instructor and the associate dean is obtained. See the School of Social Work Master’s Degree Program Student Handbook for additional course eligibility requirements.

**SW 500 Social Welfare Policy: History, Problems, Programs, and Analysis.** Three hours.

Overview of the evolution of social welfare policies and services, and of how social problems affect societal groups. Includes examination of the tools and approaches that social workers might use in analysis and policy formulation.

**SW 506 Social Service Planning and Program Development.** Three hours.

Prerequisite: Second-year standing.

Application and analysis of theory applicable to the field of planning and developing social services and programs.

*Subject to modification without advance notice.
SW 510 Human Behavior and Social Environments. Three hours.
Critical concepts, theories, and research related to human bio-psychosocial development across the life span; human development and behavior in the environmental contexts of family, groups, organizations, and communities; and the impact of human diversity on human development and behavior.

SW 514 Chemical Dependency. Three hours.
Introduction to major theories of addiction, state and federal policies regarding drug control, and the effects of substance abuse.

SW 515 Psychopathology. Three hours.
Prerequisite: Second-year standing.
Presents diagnostic criteria used in recognition and treatment of mental disorders, and theory and research on the etiology of these disorders.

SW 517 Social Work Practice with Adults with Mental Illness. Three hours.
Prerequisite: Second-year standing.
Presents social work practice approaches used with adults who have selected mental-health problems.

SW 518 Social Work Practice in Mental Health with Children, Adolescents, and Their Families. Three hours.
Prerequisites: Second-year standing.
Covers social work practice with children, adolescents, and families in mental health settings.

SW 520 Research Methods for Social Work Practice. Three hours.
First of a two-course sequence. Upon completion, the student should recognize and apply exploratory and descriptive research and descriptive statistics.

SW 521 Social Work Health Policy and Population Health Issues. Three hours.
Prerequisite: Second-year standing.
Students analyze health care policies and the policy-making process, learning basic epidemiological methods and identification of determinants of health.

SW 523 Family Preservation. Three hours.
Prerequisite: Enrollment in the M.S.W. program or permission of the instructor.
Overview of family preservation theory and practice. Students demonstrate skills with high risk children and families in their home setting.

SW 524 Family Violence. Three hours.
Prerequisite: Enrollment in M.S.W. program or permission of the instructor.
Students learn about various forms of family violence, selected theories and their application in prevention and intervention.

SW 525 Evaluative Research. Three hours.
Prerequisite: Completion of SW 520.
Students design a practice or program evaluation project, demonstrating the link between designing and conducting research and the practice of social work.

SW 526 "Isms" and Advocacy in Social Work. Three hours.
Prerequisite: Enrollment in M.S.W. program or permission of the instructor.
Introduction to various forms of oppression, social injustice and advocacy to prevent and intervene.

SW 529 Advanced Clinical Social Work Practice. Three hours.
Prerequisite: Enrollment in M.S.W. program or permission of the instructor.
Skills necessary to assess and identify goals for intervention.

SW 534 Integrative Seminar I. Three hours.
Corequisite: SW 590.
Integration of foundation course content and field education.

SW 536 Social Service Program and Agency Administration. Three hours.
Prerequisite: Second-year standing.
Students learn selected theoretical frameworks and apply the knowledge and skills for administration of social service programs and agencies.

SW 539 Social Work Practice Skills Laboratory. Three hours.
Practice techniques and their application to individuals, families, small groups, organizations, and communities are explored. Required integrative seminar for SW 540, SW 541, and SW 542.
SW 540 Social Work Practice with Individuals and Families. Two hours.
Prerequisite or corequisite: SW 510.
Theory and practice of social work with individuals and families are explored.

SW 541 Social Work Practice with Groups. Two hours.
Prerequisite or corequisite: SW 510.
Theory and principles of small group structure, dynamics, and process, with selected models of small-group practice.

SW 542 Social Work Practice with Communities and Organizations. Two hours.
Prerequisite or corequisite: SW 510.
Exploration of theories of social work practice for intervention at the community level, including selected macro-models of practice, and community practice within human-service organizations.

SW 543 Family Oriented Practice. Three hours.
Prerequisite: Second-year standing.
Advanced interviewing, assessment, planning, intervention, and evaluation skills emphasizing collaboration and the strengths of families.

SW 548 Social Work Practice in Health Care. Three hours.
Prerequisite: Second-year standing.
Prepares students for practice in institutional and community health care organizations.

SW 549 Crisis Intervention. Three hours.
Focuses on treatment theories and models of intervention that provide a focused approach to the client in crisis.

Corequisite: SW 595.
Integration of foundation and concentration content with field education.

SW 553 Independent Study. Three hours.
Prerequisite: Permission of the instructor, adviser, and the M.S.W. program chairperson and associate dean. Proposals must be approved by the last day of class of the semester prior to the semester in which the course is to be taken. Independent learning experience, under faculty direction, with a contract for an outcome such as a publishable research document.

SW 557 Selected Topics in Social Work Practice. Variable credit.
Intensive study of an area of or specific approach to social work practice. Topics vary from semester to semester. May be repeated.

SW 559 Pediatric Pulmonary Care: An Interdisciplinary Approach. Three hours.
Prerequisite: Second-year standing.
Introduces social work students to pediatric pulmonary diseases and to research literature in this area of health care. Offered according to demand.

SW 575 Family Oriented Policy. Three hours.
Prerequisite: Second-year standing in the M.S.W. program.
Students examine several major policy domains and consider the web of legislation, regulations, and judicial decisions that affect the environment of practice with families.

Prerequisite: Admission to advanced standing in social work.
Required for advanced standing students. Prepares the student to engage in research at a level of sophistication and complexity appropriate for entry in the second-year research course.

SW 577 Components of Human Development and Social Systems. Three hours.
Prerequisite: Admission to advanced standing in social work.
Required for advanced standing students. Provides students with instruction in the major psychological and sociological theories of human behavior that support and enhance social work practice.

Prerequisite: Admission to advanced standing in social work.
Required for advanced standing students. Prepares advanced standing students for second-year policy and policy-related courses.
SW 579 Components of Social Work Practice. Three hours.
Prerequisite: Admission to advanced standing in social work.
Required for advanced standing students. Designed to provide a foundation for social work practice with individuals, families, groups, and communities, in preparation for second-year practice courses.

SW 580 Aging in a Social Context. Three hours.
Prerequisite: Second-year standing.
Examines aging in social, economic, and political contexts. Special attention is given to various social theories of aging; needs and problems of disadvantaged subpopulations of older people; and social policies and programs affecting older people.

SW 581 Social Work Practice with Older Persons and Their Families. Three hours.
Prerequisite: Second-year standing.
Focuses on the identification and understanding of social work practice concepts, skills, models, and theories, as they apply to practice with older persons and their families.

SW 583 Physical, Spiritual, and Psychological Aging in a Social Context. Three hours.
Examination of normal and problematic physiological, social, and psychological processes of aging among diverse populations. Concepts of spirituality are explored.

SW 589 Social Work with the Dying and Bereaved. Three hours.
Prerequisite: Second-year standing or permission of the instructor.
Seminar dealing with social work practice with the dying and bereaved.

SW 590 Field Education I. Nine hours.
Prerequisites: SW 500, SW 510, SW 540, SW 541, and SW 542.
Corequisite: SW 534.
Planned field experience in human service programs. The student is typically required to be in the field four days and in class one day each week, for a 16-week period. The objective of SW 590 is broad experience in social work practice.

SW 595 Field Education II. Nine hours.
Prerequisite: Completion of SW 590, concentration courses, and SW 525.
Corequisite: SW 550.
Placements are individualized according to each student’s concentration, career interest, and educational needs. The time requirements are the same as for SW 590.

Pending Graduate School approval, other electives may include the following:

Resource Development. Students learn how to identify and attain organizational resources. They practice skills in managing resources for primarily the nonprofit agency and social service program.

Spirituality in Social Work Practice. Examination of the issues pertaining to spiritually sensitive social work practice. Through the introduction to different spiritual orientations, students are prepared to address spirituality with their clients. Research associated with spirituality and physical and mental health is emphasized.

FIELD EDUCATION AGENCIES
The following list is subject to change.

Tuscaloosa Area
Alabama Disabilities Advocacy Program
Alice M. Kidd Intermediate Care Facility
Bibb County Department of Human Resources
Brewer-Porch Children’s Center
Bryce Hospital
Caring Hands Hospice
Children’s Rehabilitation Service
Community Service Programs of West Alabama

Counseling Center, The University of Alabama
DCH Employee Assistance Program
DCH Northport
DCH Regional Medical Center
Department of Public Health
East Tuscaloosa Family Resource Center
Family Counseling Service of Tuscaloosa County
**FOCUS**
- Gambro
- Indian Rivers Mental Health Center
- Indian Rivers Mental Health Center, Bibb County
- Legal Services Corporation of Alabama
- Mary Starke Harper Geriatric Psychiatry Center
- Northport Hospital–DCH
- Salvation Army
- Taylor-Hardin Secure Medical Facility

**Birmingham Area**
- Area Agency on Aging
- Baptist Medical Center Hospice, Montclair
- Bradford Health Services
- Bread and Roses
- Carraway Medical Center, Bessemer
- Carraway Methodist Medical Center
- Children’s Aid Society
- Department of Youth Services, Vacca and Chalkville
- Eastside Mental Health Center
- Family and Child Services
- Family Life Center
- Frank Kay Psychiatric Clinic
- Gateway
- Glenwood
- Hill Crest Hospital
- Hoover City Schools
- Jefferson, Blount, and Shelby Mental Health Authority

**North and East Alabama**
- Alabama Department of Public Health, Decatur
- Behavioral Medicine Center, Decatur
- Blount County Department of Human Resources
- Boaz Albertville Medical Center, Boaz
- Calhoun-Cleburne Mental Health Center, Anniston
- Calhoun County Department of Human Resources, Anniston
- Catholic Social Services, Huntsville
- Cherokee-Etowah-DeKalb Mental Health Center, Gadsden
- Cullman County Department of Human Resources, Cullman
- Department of Public Health, Anniston
- Etowah County Department of Human Resources
- Family Options, Florence

**School of Social Work**

**Temporary Emergency Services**
- Tuscaloosa City Schools
- Tuscaloosa County Department of Human Resources
- Tuscaloosa County Schools
- Tuscaloosa Housing Authority
- Veterans Affairs Medical Center
- W. D. Partlow Developmental Center
- Walker Baptist Medical Center
- Walker County Department of Human Resources

**Jefferson County Department of Human Resources**
- Jefferson County Housing Authority
- Jewish Family Services
- Shelby County Department of Human Resources
- Spain Rehabilitation Center
- St. Clair County Department of Human Resources
- United Way of Central Alabama Inc.
- University of Alabama at Birmingham, University Hospital and Children’s Hospital
- University of Alabama at Birmingham, Departments of Psychiatry and Pediatrics, Hospice, Geriatric Medicine Clinic, Substance Abuse, Civitan International Research Center — Sparks Clinics, and Division of Gerontology/Geriatric Medicine
- Veterans Affairs Medical Center
- Visiting Nursing Association

**Family Services, Huntsville**
- Florence City Schools
- Madison County Department of Human Resources, Huntsville
- Marshall County Department of Human Resources, Guntersville
- Morgan County Department of Human Resources, Decatur
- Mt. View Baptist Hospital, Gadsden
- North Central Mental Health Center, Decatur
- Northeast Alabama Kidney Clinic, Anniston
- Parkway Medical Center, Decatur
- Riverbend Center for Mental Health, Florence
- Riverview Regional Medical Center and Home Health, Gadsden
- Therapeutic Foster Care, Florence
### Montgomery Area
- Alabama Department of Human Resources
- Alabama Department of Public Health
- Baptist Medical Center
- Capitol Hill Nursing Home
- Catholic Social Services
- Children’s Rehabilitation Services, Selma
- Department of Youth Services, Mt. Meigs and Autauga Campus

### Central Alabama
- Alabama Baptist Children’s Home, Troy
- Alabama Institute for the Deaf and Blind, Talladega
- Cheaha Mental Health Center, Sylacauga
- Hale County Department of Human Resources

### South Alabama
- Baldwin County Department of Human Resources, Bay Minette
- Cahaba Mental Health Center, Selma
- Catholic Charities, Mobile
- Charter Woods, Dothan
- Crenshaw Hospital
- Franklin Clinic, Mobile
- Henry County Department of Human Resources, Abbeville
- Mobile County Department of Human Resources

### Washington, D.C.
- Administration on Aging: HHS
- Administration for Children and Families, U.S. Department of Health and Human Services
- American Healthcare Association
- Bethesda Baptist House for Children & Families
- Catholic Social Services
- Children’s National Medical Center
- Commission on Mental Health Services – D.C. Government
- Consortium for Child Welfare
- Fairfax County Schools
- Family Therapy Institute of Washington
- First Baptist Church Community Ministries Meadhaven
- Montgomery AIDS Outreach
- Montgomery Area Mental Health Authority
- Montgomery County Department of Human Resources
- Montgomery Rehabilitation Hospital

### Montgomery Area
- Macon County Department of Human Resources, Tuskegee
- Perry County Department of Human Resources, Marion
- Veterans Affairs Medical Center, Tuskegee
- West Alabama Mental Health Center, Demopolis

### Central Alabama
- Mobile Infirmary Medical Center
- Mobile Mental Health Center
- Monroe County Department of Human Resources, Monroeville
- Monroe County Home Health, Monroeville
- Thomas Hospital, Fairhope
- United Methodist Children’s Home, Selma
- Vaughn Regional Medical Center, Selma

### South Alabama
- Lutheran Social Services
- National Center for Social Policy and Practice, National Association of Social Workers
- National Institutes of Health
- St. Elizabeth Hospital
- United Cerebral Palsy Association
- United Planning Organization
- U.S. Congress: House and Senate
- U.S. Soldiers and Airmen’s House
- Walter Reed Army Medical Center
- Washington Hospital Center
- Washington Urban League
- Whitman-Walker Clinic
Admission Requirements

Graduate School requirements. The Graduate School first determines eligibility for regular or conditional admission, primarily on the basis of standardized test scores and previous academic record. Successful applicants must meet the minimum admission requirements of the Graduate School, which are as follows:

- a grade point average (GPA) of at least 3.0 on a 4.0 scale (overall) or a GPA of at least 3.0 for the last 60 hours of the previous degree program, or 3.0 for a completed graduate degree program
- an acceptable score on an appropriate entrance examination as set by the department or school

You may be considered for conditional admission if you have a GPA of 2.5 overall and an acceptable score on the appropriate admission examination, or a GPA of 3.0 and less than the minimum score on the admission examination.

Ph.D. program requirements. Once the application is complete, it is sent to the Ph.D. program office in the School of Social Work for evaluation. Listed below are the requirements for unconditional admission to the social work Ph.D. program:

- a minimum composite score of 1000 on the Graduate Record Examination (GRE) general test verbal and quantitative sections. In addition, the faculty will consider the score on the analytical writing section of the GRE in light of the score the applicant receives on the essay submitted to the School of Social Work as part of the application to the Ph.D. program. Also, if you are from a non-English-speaking country, you must submit evidence of language proficiency by means of a Test of English as a Foreign Language (TOEFL) score of at least 550, or 213 on the computer-based TOEFL.
- letters from three references, one of whom must be an experienced social worker with firsthand knowledge of the applicant’s capability, and one of whom must be a former university instructor who has personal knowledge of the applicant’s intellectual and scholarly abilities. If the applicant has earned the M.S.W. degree, at least one letter must be from a former instructor in that M.S.W. program.
- a statement of purpose indicating the reasons you wish to pursue a doctoral degree in social work
- evidence of scholarly and conceptual ability, supported by evidence you supply (e.g., a paper published in a journal or presented at a conference or workshop, a design of a service program or a research proposal, and/or a course syllabus written by you)

The Ph.D. program office reviews application materials and a recommendation is made to the Graduate School, which formally notifies you of the admission decision. Applicants seeking admission to the program who do not meet the above requirements are considered on an individual basis by the Ph.D. admissions committee. If you desire such consideration, you should file all application materials as directed above. In addition to the materials required of all students, you should file, along with your School of Social Work application form, a petition for exemption from one or more requirements. The petition should state the requirement from which you seek exemption and should provide information supporting your petition. After your file is complete and referred to the Ph.D. program by the Graduate School, you may be invited to schedule an interview with the program chair or other member of the admissions committee, in order to assess individually your qualifications for doctoral studies in social work. A summary of this interview and your petition for an exception will be made available to the admissions committee members for their consideration and recommendation.
If you are seeking exemption from the requirements, you should be aware that you may be required to register for courses other than the standard curriculum, including courses at the M.S.W. level. The amount and type of such work may be decided both by the admissions committee before admission and by your adviser after admission.

**The M.S.W. degree.** In addition to the above program requirements, it is *recommended* that you also possess the following:

- a master’s degree in social work from a program accredited by the Council on Social Work Education (C.S.W.E.) at the time of your graduation
- a minimum of two years of full-time employment (or its equivalent) in social work after earning the master’s degree

Many schools of social work require the M.S.W. degree and at least two years of post-M.S.W. practice experience for admission to the doctoral program in social work. *In this program, they are highly recommended but not required.* There are certain advantages to having the M.S.W. and practice experience. First, students may be able to transfer up to 12 hours of M.S.W. coursework into the Ph.D. program, subject to Graduate School policies on transfer of credit. Second, students with the M.S.W. and practice experience will have more context in which to interpret the content of social work core courses. Finally, the B.S.W. or M.S.W. and practice experience will permit you, under current C.S.W.E. accreditation standards, to engage in the full range of teaching and advising assignments at accredited schools of social work. Thus, you will have a competitive advantage in the job market over someone who does not have the M.S.W. and post-M.S.W. practice experience.

If you are admitted without the M.S.W., your adviser and/or your concentration chair will probably decide early in the planning process that you need to take makeup courses. These will most likely be M.S.W. courses in order to give you the background you need to get maximum benefit from your doctoral courses. While the number of hours needed will obviously vary from one situation to another, a minimum of twelve hours of social work courses are required for students admitted without the M.S.W.

Inquiries concerning the program or application may be made to the following address:
The University of Alabama School of Social Work, Office of Admissions — Doctoral Program, Box 870314, Tuscaloosa, AL 35487-0314

**Special students.** A few experienced social workers who are not seeking the doctoral degree may be admitted as special students. Special programs are arranged for them.

**Ph.D. Degree Requirements**

In all, the Ph.D. requires a minimum of 51 semester hours of credit for coursework. Credit earned to fulfill the statistical research requirement and credit earned for dissertation research may not be counted toward this 51-hour minimum. Specific requirements of the doctor of philosophy in social work degree program are as follows:

1. Twenty-seven semester hours of core social work courses, including four courses in substantive areas and five courses in research methodology (credit for prior graduate work may be granted, based on the student’s own particular program of study and research; consult the program chairperson for details)
2. Twelve semester hours in a minor field taken from one or more areas outside the School
3. A statistical research competency demonstrated by successful completion of a research sequence of courses chosen from the educational research course sequence BER 540, BER 545, and BER 546; the political science course sequence PSC 522 and PSC 621; the College of Community Health Sciences course sequence CHS 525 and CHS 526; or the biostatistics course sequence at the UAB School of Public Health, PHG 501 and PHG 502.* Alternatives may be approved.

*Many students in the Ph.D. program choose public health as a minor field or earn the master of public health degree at UAB.*
4. A dissertation showing the student’s ability to conduct independent research that adds to the knowledge of the profession (includes a minimum of 24 hours of dissertation credit)

5. Completion of all courses with a grade point average of “B” or better

These requirements are minimum standards. Additional work may be required, depending on the student’s preparation and career interests. Doctoral study must be completed within seven years.

Residency requirements. The minimum period in which the Ph.D. degree can be earned is three academic years of full-time graduate study (or the equivalent in a set of shorter segments). Both the fall and spring semesters of either the second or third academic year of study must be spent in continuous residence as a full-time student (as an alternative, the full-time residence may be completed by full-time enrollment during a summer session, including both summer terms, preceded or followed by a regular semester). Full-time residence study is defined as an academic load of 9 semester hours or more during a period when the student’s principal activity is academic work. Planned part-time study is possible.

Ph.D. program. The purpose of this program is to prepare persons who hold the master’s degree in social work, or related discipline or profession, for scholarly roles by advancing their knowledge and increasing their skills in theory-building, research methods, and the critical evaluation of social work policies and practice.

The doctoral program builds on a base of professional knowledge and practice in social work. It provides all students with advanced knowledge of research, social policy, and practice. In addition to a grounding in research methodology, the program offers students the opportunity to develop a comprehensive understanding of a selected area of concentration and, through the dissertation, contribute to knowledge development in that area. To supplement this concentration area, students may select a minor area in a single academic discipline or develop a comprehensive interdisciplinary minor. As soon as they enter the program, students are assigned to a Ph.D. faculty adviser for program planning and guidance.

The program is notable among social work doctoral curricula for the range and depth of its research foundation courses and electives. Exceptional opportunities are available for students interested in research in mental health, aging, and child welfare. There are opportunities for overseas experience as well as for collaboration with the Institute for Social Science Research, the Program in Rural Services and Research, with other colleges and departments of the University, and with various units of The University of Alabama at Birmingham (UAB).

Obtaining information. Inquiries about the program and requests for application materials should be made to: The University of Alabama School of Social Work, Ph.D. Program Office, Box 870314, Tuscaloosa, AL 35487-0314; telephone (205) 348-3946; fax (205) 348-9419.

Financial aid. Some financial aid is available from the School of Social Work, such as the Ben Avis Orcutt and the Leslie J. Shellhase endowed scholarships, which are administered by the Ph.D. program. For information on financial aid from other sources, see p. 47.

Financial aid commonly takes the form of graduate teaching or research assistantships, special grants or fellowships, tuition scholarships, student loans, work-study, and/or part-time employment in a local agency.

Course Descriptions* (SW)

SW 600 Social Work and the Welfare State. Three hours.
Prerequisite: Admission to the doctoral program or permission of the instructor.
Analysis of historical, social, and philosophical bases of the welfare state, and an examination of the social work profession’s role in the welfare state, as well as current issues.

*Subject to modification without advance notice
**SW 620 Social Work Research.** Three hours.
Prerequisite: Admission to the doctoral program or permission of the instructor.
Prerequisite or corequisite: Completion of the statistics requirement.
Examines the theoretical constructs, concepts, issues, and methods essential to the understanding of and conduct of social work research.

**SW 621 Measurement and Data Analysis in Social Work Research.** Three hours.
Prerequisites: Admission to the doctoral program or permission of the instructor, and SW 620.
Examines a number of approaches to data collection in social work research: surveys, scales, observational techniques, case studies, content analysis, qualitative methods, use of existing records, and trace measures. Measurement and data analysis are included.

**SW 622 Instrumentation and Measurement.** Three hours.
Prerequisites: Admission to the doctoral program and completion of the statistics requirement and SW 621, or permission of the instructor.
Instrument construction and validation, with integration of measurement techniques appropriate to both survey and practice-related research; multiple and partial correlation, factor analysis, scale construction, and validation strategies.

**SW 623 Seminar in Qualitative Research.** Three hours.
Prerequisites: Completion of the doctoral core courses and statistics requirement and SW 621, or permission of the instructor.
Intensive study of and practice in many of the qualitative research methods of most value in social work, including content analysis, grounded theory development, and participant observation.

**SW 624 Seminar in Research on Practice.** Three hours.
Prerequisites: Completion of the doctoral core courses and statistics requirement and SW 621, or permission of the instructor.
Intensive study of selected research problems and relevant research methods concerning social work practice.

**SW 625 Research Seminar in Social Welfare History.** Three hours.
Prerequisite: SW 620 or permission of the instructor.
Introduction to historical research in social welfare, examination of major works in the history of American social welfare, and completion of an original investigation based on primary sources.

**SW 628 Research Practicum.** Three hours.
Prerequisite: SW 621.
Participation in ongoing research, under faculty supervision.

**SW 629 Seminar in Special Topics in Social Work Research.** Three hours.
Prerequisite: SW 621 or permission of the instructor.
Intensive study of selected research problems, with emphasis on innovative approaches to the research task.

**SW 640 Conceptualizations of Social Work Practice.** Three hours.
Prerequisite: Admission to the doctoral program or permission of the instructor.
Critical analysis of conceptualizations of practice; development of research topics.

**SW 648 Special Topics: Selected Professional Issues.** Three hours.
Prerequisite: Admission to the doctoral program or permission of the instructor.
Integrative seminar on special topics.

**SW 660 Independent Study.** Three hours.
Prerequisite: Completion of the doctoral core courses or permission of the instructor.

**SW 698 Nondissertation Research.** Variable credit.
### DEPARTMENTAL, COURSE, AND PROGRAM ALPHA SYMBOLS

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<tr>
<th>Department or Program</th>
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<th>College</th>
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