The Graduate School

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Points of Contact

The Graduate School is open 7:45-11:45 A.M. and 12:45-4:45 P.M., Monday through Friday.

Telephone: (334) 844-4700. Fax: (334) 844-4348.

E-mail: gradadm@auburn.edu Web: www.grad.auburn.edu

Mailing Address: 106 Hargis Hall, Auburn University, AL 36849-5122.

Assistantships: Call the head or chair of the department in which the student wishes to enroll.

Graduate Assistantships

Graduate assistant appointments are temporary. Continuation depends upon availability of funds, level of enrollment, and research needs. Salaries are paid in accordance with the budget policies and payroll procedures of the University. The Board of Trustees is obligated to pay certain fixed charges against the institution and thereafter pay salaries in full insofar as funds are available. If for any reason beyond the control of the Board of Trustees funds are not available, salaries will be prorated.

Each graduate assistant must be in a degree-seeking program and registered in the classification of MST, EDS, PHD, EDD, or GPR. The student also must be registered for at least one course (during each academic term of the assistantship), must satisfy the minimum course load specifications of the individual departments and must be making satisfactory progress toward the degree.

Work loads for graduate assistants are defined on the basis of a normal teaching load or the equivalent time in other duties as determined by each department head and the dean of the school or college in which the assistant is employed. For example, a one-third work load is one-third of a normal teaching load. Graduate students may hold multiple assistantships and the assistantships may come from different units on campus, but together they cannot add up to more than a 100 percent appointment. Maximum course loads for graduate assistants are determined by individual departments. It is recommended that graduate students working more than half-time not carry a full academic load.

International graduate students on F1 visas cannot hold a greater than 50 percent work appointment. International graduate students on F2 visas cannot hold a work appointment. Multiple assistantships for international graduate students cannot add up to more than a 50 percent work appointment.

International graduate teaching assistants who are assigned to scheduled lecture or laboratory sections must first be certified in spoken English proficiency. Certification may be attained through a minimum score of 50 on the Test of Spoken English (TSE) offered by the Educational Testing Service or approval by the director of the English as a Second Language Program (ESL). Applicants who hold a baccalaureate degree from an accredited institution whose instruction is in English may be exempted from this requirement.

Non-Alabama resident graduate assistants may receive an out-of-state tuition waiver if they are on at least a 25 percent graduate assistantship and are paid a minimum monthly stipend set each year by the Provost. Such graduate assistants who have been on assistantship for at least two consecutive semesters will automatically have their out-of-state tuition waived for the next semester whether or not they are on assistantship that semester.

Presidential Graduate Fellowships

Auburn University provides in-state tuition fellowships to a subset of its doctoral students holding graduate assistantships. Though administered through the Graduate School, applicants should contact the specific academic departments concerning eligibility and availability.

Oak Ridge Associated Universities

Auburn University has been a sponsoring institution of the Oak Ridge Associated Universities (ORAU) since 1946. ORAU is a private, not-for-profit consortium of 82 colleges and universities and a management and operating contractor for the U.S. Department of Energy (DOE) with principal offices located in Oak Ridge, Tennessee. Founded in 1946, ORAU provides and develops capabilities critical to the nation's technology infrastructure, particularly in energy, education, health and the environment. ORAU works with and for its member institutions to help faculty and students gain access to federal research facilities; to keep members informed about opportunities for fellowship, scholarship and research appointments; and to organize research alliances among our members in areas where their collective strengths can be focused on issues of national importance.

ORAU manages the Oak Ridge Institute for Science and Education (ORISE) for DOE. ORISE is responsible for national and international programs in science and engineering education, training and management systems, energy and environment systems and medical sciences. ORISE's competitive programs bring students at all levels, K-12 through postgraduate, and university faculty members into federal and private laboratories. Other ORAU activities include the sponsorship of conferences and workshops, the Visiting Scholars program and the Junior Faculty Enhancement Awards. Contact Dr. Bryan A. Chin, (334) 844-4784, for more information about ORAU programs.

General Regulations

Regulations governing the Graduate School equal or exceed the standards of the Conference of Southern Graduate Schools and the Commission on Colleges and Universities of the Southern Association of Colleges and Schools. Regulations listed here represent the minimums of the Graduate School. However, individual departments may impose more stringent requirements and students will be governed by them.

Application for Admission

To apply for graduate study, one must submit to the Office of Graduate Admissions:

1. A formal application. Applications for admission may be made online at www.grad.auburn.edu or forms may be obtained from the Graduate School offices at 106 Hargis Hall, Auburn University, Auburn, AL 36849-5122. Domestic applications must be accompanied by a fee of $25; international applications must be accompanied by a fee of $50. These fees may be paid online via credit cards or by checks or money orders (made payable to Auburn University).
2. Two official transcripts of all undergraduate- and graduate-level study from each school previously attended. An applicant who, because of current enrollment, cannot provide final transcripts at the time of application, must submit transcripts of all completed study, as well as incomplete transcripts from the current institution. Applicants do not need to provide transcripts for credits earned at Auburn University.
3. Standardized Graduate Record Examinations (GRE) general test scores. Management, Finance, Marketing, Business Administration, and Accounting applicants must submit scores on the Graduate Management Admission Test (GMAT). Management will accept the GRE or GMAT. The Master of Business Administration program will allow the substitution of the GRE for the GMAT under some circumstances..

   International applicants must also submit Test of English as a Foreign Language (TOEFL) scores. In addition to the GRE General Test, the following departments require the GRE Subject Test for admission to their doctoral programs: Discrete and Statistical Sciences, English, Mathematics and Biological Sciences. Applications and dates for these tests may be obtained at many colleges and universities; by writing the Educational Testing Service, P.O. Box 6000, Princeton, NJ 08541-6000; by telephoning (609) 771-7670 for the GRE, (609), 771-7330 for the GMAT, or (609) 951-1100 for the TOEFL; or by accessing the Educational Testing Service web site at www.ets.org.
4. Additional Materials. Academic programs typically require additional materials in order to evaluate an applicant's potential for graduate study. Prospective students must also contact the department in which they wish to study to obtain information regarding additional

admission requirements, such as writing samples and letters of recommendation. With the exception of the application, official transcripts, and standardized test scores, which should be sent to the Graduate School, materials requested by programs should be sent directly to the academic department.

Admission to any graduate degree program is granted by the Dean of the Graduate School upon the recommendation of the department of proposed study. Applications and all other relevant material must be received by the Graduate School at least forty-five days before the first day of class of the semester in which the student wishes to begin graduate study. International applicants should submit all required materials at least ninety days before the first day of class of the semester in which the student wishes to begin graduate study. Deadlines set by the Graduate School are listed in the front of the *Auburn University Bulletin*. However, most academic units make admission decisions several months in advance. Thus, applicants should check with the department to which they seek admission to determine when materials should be submitted. Approval is valid for a maximum of twelve months beyond the entrance date given on the application. If the student does not register during this period, a new request for approval must be submitted. Application materials become the property of Auburn University and may not be returned to the applicant or forwarded to other institutions.

Admission Requirements

Departments make admissions decisions based on the compatibility of the applicant's goals with departmental resources, the availability of spaces for new students, and a holistic evaluation of the applicant's potential for success in the program. Other considerations might typically include standardized test scores, grades and/or GPAs, letters of recommendation, writing samples, research or applied experience, and interviews.

To be considered for admission, the applicant must satisfy the following requirements:

1 The applicant must hold a bachelor's degree from an accredited U.S. institution, or the equivalent from an international institution.

2. The applicant must be in academic good standing at the institution last attended.

3. The applicant must submit standardized examination scores (GRE, GMAT, and/or TOEFL). Applicants with an earned doctorate (Professional, Ed.D., Ph.D.) from an accredited institution whose instruction is in English may be exempted from this requirement.

4. The successful applicant normally will meet one of the following: a) a grade point average (GPA) of at least 2.75 on all undergraduate course work at an accredited United States institution in fulfillment of the requirements for a baccalaureate degree; b) a GPA of at least 3.0 on the last 60 semester hours of undergraduate course work at an accredited United States institution in fulfillment of the requirements for a baccalaureate degree; c) a GPA of at least 3.0 on all graduate course work at an accredited United States institution in fulfillment of the requirements for a graduate degree; or d) an acceptable GRE or GMAT score as determined by the program to which the applicant applies.

5. Applicants whose native language is not English must submit TOEFL scores of at least 550 on the written test, or 213 on the computer-based test.

6. The applicant must be recommended for admission by the graduate faculty in the applicant's area of study. Departments may (and frequently do) establish higher standards than those described here, and may require that applicants submit additional materials. Applicants should contact the department to which they seek admission for information about additional requirements.

Final evaluation of application files will not occur until all of the above requirements have been met. Applicants will be notified by the Dean of the Graduate School when an admissions decision has been made. Some departments, operating with a limited number of spaces for students each year, make final decisions for the fall semester in early spring.

Admission of Transient Graduate Students

A graduate student in good standing in an accredited college or university may be admitted as a transient when faculty and facilities are available. To be eligible, the student must submit a special Graduate Transient Form prior to the beginning of the semester for which transient status is requested. The form, available from the Graduate School or on the web at www.grad.auburn.edu, must bear the signature of the student's graduate dean or his/her designee. Transient status is granted for one semester only and does not constitute admission or matriculation as a degree candidate.

Student Classifications

For administrative purposes, Auburn University students are assigned to a class level. Those that apply to graduate students are:

MST - Students who hold full admission to *Master's* programs.

EDS - Students who hold full admission to *Specialist in Education* programs.

EDD - Students who hold full admission to *Doctor of Education* programs.

PHD - Students who hold full admission to *Doctor of Philosophy* programs.

GND - Special admission for *non-degree* purposes for students who meet all admissions requirements to Graduate School or who hold master's degrees from accredited institutions and seek professional improvement leading to AA certification or other *non-degree* objectives.

GPR - Students who meet requirements for *provisional* admission except that they have not taken the GRE or GMAT. This classification is for one semester only, and satisfactory scores must be submitted by the end of that semester. This classification cannot be used by international students, who must submit satisfactory scores on all required examinations before they are admitted.

Non-Graduate Students and Graduate Work

An Auburn University student who will receive a bachelor's degree from this institution may register for graduate courses provided that the following conditions are met: the student has at least a 3.0 GPA, is within 30 semester hours of graduating, has the written consent of the instructor of each graduate course, and obtains approval in advance from the Graduate School. A maximum of 6 semester hours of graduate course work taken in this option later may be applied toward a graduate degree at Auburn University with the approval of the student's advisory committee provided that appropriate arrangements are made in advance with the Graduate School and a grade of B or higher is achieved on all courses used for graduate credit. The total course load taken at the time the undergraduate student is in a graduate course does not exceed 16 semester hours. The same guidelines apply to undergraduate students taking graduate courses for undergraduate credit. A student may not use the same graduate course for both undergraduate and graduate credit.

Any post-baccalaureate, non-degree student desiring enrollment in a graduate course must receive written consent of the instructor and approval of the Graduate Dean in order to register for such a class.

Undergraduate Courses, S/U Option and Auditing Courses

A graduate student may register for undergraduate courses (1000-4000-level). For students enrolled in Graduate School, grades earned in undergraduate courses will not be used in calculation of the GPA for either retention or graduation, but will appear on the graduate transcript. This policy took effect with the posting of grades fall 1998. For courses taken before fall 1998, grades earned in undergraduate courses may be used in calculation of the GPA for retention, but not for graduation. A graduate student may elect any course to be graded under the Satisfactory (S)-Unsatisfactory (U) option, except for courses required on the Plan of Study, if the major professor so recommends. Students are not allowed to select this option after the 15th class day. Courses listed on the Plan of Study must be graded A, B, C, D, or F except for those designated as S/U. Similarly a graduate student may elect to audit any course not on the Plan of Study. The student may not change from audit to credit after classes begin, but may change from credit to audit before the 15th class day. All use of the S/U and audit option require approval of the Graduate School.

Transfer of Credit from Other Institutions

Graduate credit taken in residence at another approved graduate school may be transferred to Auburn University. No prior commitment is made concerning whether transfer credit will be accepted. A student must earn at least 24 semester hours, or half of the total hours required for a master's degree, whichever is greater, at Auburn University. A program that requires 30 hours of credit will be limited to 6 semester hours of transfer credit. No such limitation is applied to doctoral degrees except 18 semester hours must be earned as a grad-

uate student at Auburn University in graded course work at the 7000-level or above. The credit must be acceptable to the student's advisory committee and be pertinent to the student's Plan of Study. No transfer credit will be approved without two official transcripts. No course on which a grade lower than B was earned may be transferred. Additionally, credit will not be allowed if the combined GPA on graduate work taken at other schools is less than 3.0 on a 4.0 scale, nor may transfer credit be used to improve the GPA on courses taken at Auburn University. All transferred credit to be counted toward a master's or specialist degree must have been earned within five years of the date the Auburn degree is awarded. There is no such time limit on credit for doctoral degrees.

Two-Campus Studies

A student seeking a graduate degree at Auburn University, Auburn University at Montgomery, the University of Alabama, the University of Alabama at Birmingham, or the University of Alabama at Huntsville may take up to half the course work at another of these institutions. The courses taken must be approved in advance by the student's Advisory Committee and the respective graduate deans. All credit must be earned at the two institutions in which the student is working, and none may be transferred from another institution.

Registration and Graduation Requirements

Every student expecting credit toward a graduate degree must be registered with the Graduate School, and no student is considered a candidate for a degree unless properly registered. The student also must be registered in the semester of graduation and in any other semester during which the staff or the facilities of the university are used for work on a thesis or dissertation, for the taking of oral examinations, or for removal of an "incomplete" grade. Registration for GRAD 7000 (Clearing Registration) suffices for removal of "incomplete" grades and for graduation, but not for other purposes, such as work on a thesis or dissertation, or obtaining final approval of a thesis or dissertation.

No student will be permitted to graduate who does not have an approved Plan of Study on file in the Graduate School and who fails to submit a graduation check request to the Graduate School prior to the semester of expected graduation. Graduation day is the official last day of each semester and, therefore, is the deadline for approved plans of study and graduation checks for graduation the following semester. It is the responsibility of graduate students to check records for compliance with graduation requirements. Students who have completed a Plan of Study and graduation check for a previous term must notify the Graduate School of pending graduation before the 15th class day of subsequent semesters. Graduate degrees are awarded at the end of each semester. Candidates wishing to graduate in absentia must inform the Registrar's Office.

A graduate student may carry a maximum course load of 16 hours per semester. This includes undergraduate courses, but does not include 7990 (Research and Thesis) and 8990 (Research and Dissertation) when required of all graduate students in a department each semester. Graduate students must carry nine hours per semester or enroll in GRAD 7900/8900 with concurrent enrollment for a minimum of one hour of GRAD 7990/8990 to be classified as full-time students. Enrollment in GRAD 7900/8900 requires the completion of a certification available at the Graduate School or on the web at www.grad.auburn.edu. Master's (thesis option only) students are eligible for up to three semesters of GRAD 7900; doctoral students for up to six semesters of GRAD 8900.

Calendar

The university operates on the semester system. The Graduate School calendar on page 5 of this *Bulletin* is also available at the Graduate School and contains the dates of various deadlines of importance. It should be followed carefully.

Advisers

The dean of the Graduate School is the general counselor to all graduate students. A faculty adviser or major professor will be designated for each student by the head or chair of the major department. There also will be an advisory committee for each student. Some required forms and reports regarding the student's program must be approved by the major professor, advisory committee, department head or chair and the dean of the Graduate School. Students should ascertain which signatures must be obtained.

Due Process

Each graduate student's progress toward a degree will be monitored by the student's advisory committee. If a graduate student is deemed not to be making satisfactory progress toward the degree, the student may be dropped from the Graduate School. Issues of professional and personal development may be considered in determining satisfactory progress toward the degree.

Withdrawing from Courses

Courses may be dropped without academic penalty on or before mid-semester. A course may be dropped after mid-semester only under unusual conditions. When the Graduate Dean approves dropping the course under such circumstances, a W will be assigned only when the instructor indicates that the student is clearly passing the course. Otherwise a grade of WF (Withdrawn Failing) is assigned. A student dropping the only course or all courses for which the student is registered after the first class day must resign for the semester on a separate form obtained from the Graduate School.

Transfer to a Different Degree Program

For a student to transfer from one department to another requires a new application for admission and the usual application fee. Changes in application status (master's to doctoral, doctoral to master's) or enrollment status (master's to doctoral, doctoral to master's) must be requested by the applicant/student involved and endorsed by the department head or chair, major professor, and advisory committee for enrolled students and approved by the Dean of the Graduate School. Current international students must recertify full financial sponsorship for the issuance of a "new" I-20 form.

Grades

To receive a graduate degree at Auburn University, a student must earn a cumulative GPA of 3.0 on a 4.0 scale on all courses carrying graduate credit. No more than nine hours beyond the student's Plan of Study is allowed in obtaining the cumulative graduate GPA (CGGPA). No grade below C (including unsatisfactory grades for courses taken under the S/U option) is acceptable for credit toward a graduate degree. Each graduate course in which a grade below C is received must be repeated at Auburn University whether or not it is listed on the student's Plan of Study. Both the original grade and the grade for the repeated course will be counted in calculating the CGGPA. Course credits transferred from another institution may not be used to satisfy this requirement. Courses retaken will not count against the nine-hour limit beyond the student's Plan of Study in obtaining the minimum CGGPA.

Academic Standing

Only grades in Auburn University courses approved for graduate credit will be used in determining the overall GPA for continuation in the Graduate School. Incomplete grades will be computed as C for continuation purposes. If at the end of any semester the cumulative graduate GPA (CGGPA) falls below 3.0, the student will be placed on academic probation. If the CGGPA remains below 3.0 after the next nine credit hours of graduate enrollment (both graded and ungraded), the student will be placed on academic suspension. The student may be readmitted only after completion of a remediation plan recommended by the academic unit and approved by the Dean of the Graduate School. No course work taken as part of the remediation plan may count toward the student's degree or CGGPA. Graduate-level courses for which grades below C were earned may not be repeated during the remediation period.

Incompletes

A grade of "incomplete" must be removed within the following six months or it will be recorded permanently as an F and the course will have to be repeated. This applies regardless of the student's enrollment status. A student not enrolled during the following six months is not exempt from this rule. Pending removal or recording as an F, an "incomplete" is counted as a C in determining eligibility for continuing

in Graduate School. No student may graduate until "incomplete" and "no record" grades are removed, and the removal must be completed at least three weeks before the date of graduation, regardless of whether the course is included on the Plan of Study.

Graduate Study and University Employees

An Auburn University faculty member or employee may pursue a graduate degree outside the school or college of employment with the approval of the head or chair of the employing department and the dean of the employing school or college. Inquiries should be made to the Dean of the Graduate School.

Correspondence Work Unacceptable

Study by correspondence shall not be counted toward a graduate degree.

Research Involving Humans

Auburn University established the Institutional Review Board for the Use of Human Subjects in Research (IRB) to evaluate research for compliance with the guidelines and policies of the U.S. Department of Health and Human Services, the Public Health Service, the Food and Drug Administration and other federal, state and local regulations. All research in which human subjects are used, whether by faculty, staff or students, must be approved in advance by the IRB, regardless of the source of funding, lack of funding or any other consideration. Research involving human subjects not approved in advance may be disallowed and may incur severe penalties for non-compliance with institutional policy. Information and review forms may be obtained from the Administrator for Special Programs, 307D Samford Hall, (334) 844-5966.

Activities Involving Animals

Auburn University's Animal Resources Program requires compliance with the Animal Welfare Assurance negotiated with the Office of Protection from Research Risks/National Institutes of Health (OPRR/NIH). A major part of that Assurance involves the Institutional Animal Care and Use Committee (IACUC) that ensures compliance with the Assurance, the policies of the U.S. Department of Health and Human Services, the U.S. Department of Agriculture and all other federal, state and local regulations concerning care, treatment and use of animals. All activities, whether teaching, research, production or display of animals, and whether or not the activity is funded, must be approved in advance by the committee. The use of animals for any purpose that is not approved in advance by the IACUC may involve severe penalties for non-compliance with institutional policy and could jeopardize the University's Animal Welfare Assurance filed with the OPRR and the NIH. Information may be obtained from the Director of Animal Resources, (334) 844-5667.

The Master's Degree Program

The minimum requirements for most master's degrees can be satisfied in one academic year of two semesters or nine months. In practice, however, many students need three semesters or longer. Certain departments have special requirements as outlined in this *Bulletin*. In addition, those students who hold assistantships or fellowships, those who engage in time-consuming work off-campus, or those with scholastic deficiencies of any sort cannot meet all requirements in the minimum time. Also, research is unpredictable and frequently requires more time than anticipated. Certain departments offer a master's degree under two plans, referred to as the Thesis Option and the Non-Thesis Option.

The Master of Science

The Master of Science is offered in Aerospace Engineering, Agricultural Economics, Animal and Dairy Sciences, Biological Sciences (Botany, Microbiology and Zoology), Biomedical Sciences (Anatomy, Physiology and Pharmacology; Large Animal Surgery and Medicine; Pathobiology; Radiology; and Small Animal Surgery and Medicine), Chemical Engineering, Chemistry, Civil Engineering, Communication Disorders, Computer Science and Software Engineering, Consumer Affairs, Counseling and Counseling Psychology, Curriculum and Teaching, Discrete and Statistical Sciences, Economics (thesis and non-thesis option), Educational Foundations Leadership and Technology, Electrical and Computer Engineering, Finance (thesis and non-thesis option), Fisheries and Allied Aquacultures, Forestry and Wildlife Sciences, Geology (thesis and non-thesis option), Health and Human Performance, Horticulture, Human Development and Family Studies, Industrial and Systems Engineering, Integrated Textile and Apparel Science (thesis and non-thesis option), Management (thesis and non-thesis option), Marketing and Transportation (thesis and non-thesis option), Materials Engineering, Mathematics, Mechanical Engineering, Nutrition and Food Science, Pharmacal Sciences, Pharmacy Care Systems, Physics (thesis and non-thesis option), Plant Sciences (Agronomy and Soils, Entomology, and Plant Pathology), Poultry Science, Rehabilitation and Special Education, and Sociology.

The Master of Arts

The Master of Arts is offered in Communication (thesis and non-thesis option), English (thesis and non-thesis option), French, History (thesis and non-thesis option), Sociology and Spanish.

Special or Professional Master's Degrees

These special or professional degrees are offered: Master of Accountancy, Master of Aerospace Engineering, Master of Agriculture (Agricultural Economics, Agronomy and Soils, Animal and Dairy Sciences, Entomology, Horticulture, Plant Pathology, and Poultry Science), Master of Applied Mathematics, Master of Aquaculture, Master of Building Construction, Master of Business Administration, Master of Chemical Engineering, Master of Civil Engineering, Master of Communication Disorders, Master of Community Planning, Master of Computer Software Engineering, Master of Education (Counseling and Counseling Psychology, Curriculum and Teaching, Educational Foundations Leadership and Technology, Health and Human Performance, and Rehabilitation and Special Education), Master of Electrical Engineering, Master of Forestry, Master of French Studies, Master of Hispanic Studies, Master of Industrial Design (thesis and non-thesis option), Master of Industrial and Systems Engineering, Master of Management Information Systems, Master of Materials Engineering, Master of Mechanical Engineering, Master of Probability and Statistics, Master of Public Administration, Master of Technical and Professional Communication, and Master of Biological Studies.

Advisory Committee

The student works under the direction of an advisory committee composed of three members recommended by the appropriate department head or chair. This committee will approve the student's program of study, conduct required examinations and direct the required field project or thesis. Students in a teaching field (e.g., music education, science education, foreign language education) work under a committee composed of at least two members from the College of Education and one member from a related academic field.

Courses for Graduate Students

At least one-half of all credit hours toward the minimum degree requirement must be earned in 7000- and 8000-level courses, which are courses for graduate students only. The remainder may be in 6000-level courses.

Plan of Study

Early in the graduate program, each student should confer with the appropriate departmental adviser or major professor to select courses and discuss research interests. Then a Plan of Study should be prepared and submitted to the Graduate School. The Plan of Study form is available on the web at www.grad.auburn.edu or in the Graduate School. For full-time students, the Plan of Study must be submitted no later than the end of the first semester in Graduate School. For part-time students, the Plan of Study must be submitted before registration for the fourth course taken in Graduate School. Notification of all changes must be provided before the beginning of the final semester. One to three changes may be made by using the simplified "Change in Existing Plan of Study Form" available at the Graduate School or on the web. Four or more changes require a new Plan of Study. The student is responsible for carrying out the planned program and for asking the major professor to make necessary changes.

No student will be permitted to graduate who fails to submit a Plan

of Study and a graduation check to the Graduate School prior to the semester of expected graduation. Graduation day is the official last day of each semester and, therefore, is the deadline for submitting Plans of Study and graduation checks for graduation the following semester.

Language Requirement

Some departments require a reading knowledge of one foreign language. These requirements are outlined in the departmental statements later in this section. Arrangements to take the foreign language examination should be made with the student's major professor and the head or chair of the department. The student must apply at the Graduate School by the deadline for each semester listed in the calendar.

Residency Requirement

A master's degree student under the thesis option must spend one semester, or a ten-week term, on campus as a full-time student. This requirement concerns academic residency only; it has nothing to do with residency for fee purposes. There is no residency requirement for master's degree students under the non-thesis option.

Time Limit

All graduate work toward a master's degree must be completed within a period of five calendar years.

Master's Degree Options

The following general regulations are minimum requirements. The professor or committee in charge of a student's work may require more than the specified minimum in order to achieve a well-rounded program. All programs require a minimum of 30 semester hours and at least 50 percent must be at the 7000-level or above.

The Thesis Option

The Master of Arts, Master of Science and Master of Industrial Design are offered under the thesis option.

Majors and Minors Subjects: A student under the thesis option must earn a minimum of 30 semester hours, of which at least 21 semester hours must be in a major area of concentration. Depending on departmental requirements or the wishes of the student's advisory committee, the remainder of the course work may be taken within the major field or in a separate but closely related area. Specific requirements are set forth in this *Bulletin*.

If a student has not met all undergraduate pre-requisites in any field chosen for major or minor work, these should be scheduled as soon as possible, preferably before graduate work begins. The major professor will indicate these on the student's Plan of Study.

The topic selected for the thesis must be approved by the student's major professor and advisory committee. The student conducts the research and prepares the thesis under the direction of the major professor. The course entitled "Research and Thesis" is number 7990 in all departments. The student must register for a minimum of four credit hours of this course but may register for as many hours as desired. No more than six hours may be counted toward meeting degree requirements. The student may register for one or more hours at a time. No grade is assigned for this course.

The Guide to the Preparation and Submission of Theses and Dissertations, which contains information about requirements for the thesis, is available in the University Bookstore or on the web at www.grad.auburn.edu. The Graduate School accepts only theses prepared according to the *Guide*. The Graduate School Calendar on page 5 lists the deadline for acceptance of final copies of theses by the Graduate School each semester. "Final copies" means that the thesis is perfected and ready for binding. A format check may be obtained at the Thesis and Dissertation Office in the Graduate School. If final copies are found to need corrections, the student's graduation may be delayed at least one semester.

All candidates under the thesis option must pass a comprehensive examination covering the major and minor field, as well as the research and thesis. This usually is a two-hour oral examination, but the student's advisory committee also may require a written examination. Members of the Graduate Faculty not on the advisory committee may attend any oral examination as visitors. The major professor will schedule the oral examination not later than the deadline indicated in the Graduate School Calendar. Successful completion requires the unanimous support of all members of the advisory committee. If a student fails the examination, one re-examination may be given on recommendation of the advisory committee and approval by the Dean of the Graduate School. Further examinations will be allowed only under exceptional circumstances and with the approval of the Graduate Council.

The Non-Thesis Option

Information on special or professional master's degrees not requiring a thesis may be found in this *Bulletin*. Students in these programs must pass a comprehensive examination just as do students under the thesis option. The examination covers the major and minor and any research and special project involved. Credit hours for 7990 Research and Thesis cannot be counted toward graduation requirements for non-thesis degree programs. If a student fails the examination, one re-examination may be given on recommendation of the advisory committee and approval by the Dean of the Graduate School. Further examinations will be allowed only under exceptional circumstances and with the approval of the Graduate Council.

Summary of Procedures for Master's Degree Program

The student should:

1. Obtain application forms from the Graduate School and apply for admission by submitting completed forms and other required materials as outlined in this *Bulletin*.
2. Apply for an assistantship, if pertinent, with the department involved.
3. Become familiar with requirements for the desired degree as outlined in this *Bulletin*.
4. Consult with departmental adviser and become oriented to departmental procedures.
5. Plan schedule of study for the first semester with adviser.
6. Establish an advisory committee through the department head or chair and departmental adviser; usually done during the first semester of course work.
7. Prepare a proposed Plan of Study in consultation with the advisory committee. Submit a plan approved by the committee and department head to the Graduate School no later than the second semester.
8. Consult with the adviser on approval for the thesis plan, if pertinent, and become familiar with the *Guide to the Preparation and Submission of Theses and Dissertations*, available in the University Bookstore and on the web (www.grad.auburn.edu).
9. Fulfill language requirements, if any.
10. Request graduation check in the Graduate School no later than the last day of the semester (graduation day) prior to the semester of graduation.
11. Notify the Graduate School of the intent to graduate no later than the fifteenth class day of the semester of graduation.
12. Prepare thesis manuscript, if pertinent.
13. Arrange for final oral examination with advisory committee.

Second Master's Degree

For a second master's degree, the student fulfills all major requirements applicable to any other master's degree, including the thesis, if appropriate. The student may, on recommendation of the advisory committee, transfer credit hours from the previous master's degree. The student must earn at least 24 semester hours, or half of the total hours required for the master's degree, whichever is greater, in the second master's program at Auburn University.

The Specialist In Education Degree

This degree is designed for professionals in education and human services areas who want increased competence in a field of specialization. Areas of specialization are offered in the various departments in the College of Education.

Admission

Scholarship, interpersonal orientation and potential for leadership are considered in the screening procedure. Appropriate experience in teaching or a leadership position in education or a human services area is requisite. All work beyond the baccalaureate must have been

of high quality with a GPA of at least 3.0 on a 4.0 scale. Students holding a master's degree from Auburn University are not required to resubmit GRE scores.

Advisory Committee

The student works under the direction of an advisory committee composed of three members recommended by the appropriate department head or chair. This committee will approve the student's program of study, conduct required examinations and direct the required field project. Students in a teaching field (e.g., music education, science education, foreign language education) work under a committee composed of two members from the College of Education and one member from a related academic field.

Requirements for Degree

A minimum of 30 semester hours beyond the master's degree must be taken in a program approved by the student's advisory committee. The Plan of Study should be submitted to the Graduate School no later than the second semester of study. Professional educators pursuing sixth-year certification are responsible for adapting their Plans of Study to requirements in the states in which they will need advanced certification. A relevant field project, approved in advance by the student's committee, must be completed under the supervision of the major professor. A final written report on the field project will be submitted to the advisory committee by the student. The advisory committee will conduct a final examination on the area of specialization and the field project. The student has five calendar years to complete the degree.

No student will be permitted to graduate who fails to submit a Plan of Study and graduation check to the Graduate School prior to the semester of expected graduation. Graduation day is the official last day of each semester and, therefore, is the deadline for submitting Plans of Study for graduation the following semester.

Doctoral Degrees

The Doctor of Philosophy is offered in Aerospace Engineering, Animal and Dairy Sciences, Biological Sciences (Botany, Microbiology and Zoology), Chemical Engineering, Chemistry, Civil Engineering, Computer Science and Software Engineering, Consumer Affairs, Counseling and Counseling Psychology, Curriculum and Teaching, Discrete and Statistical Sciences, Educational Psychology, Electrical and Computer Engineering, English, Fisheries and Allied Aquacultures, Forestry and Wildlife Sciences, Health and Human Performance, History, Horticulture, Human Development and Family Studies, Industrial and Systems Engineering, Management, Materials Engineering, Mathematics, Mechanical Engineering, Nutrition and Food Science, Physics, Plant Sciences (Agronomy and Soils, Plant Pathology, and Entomology), Poultry Science, Psychology, Public Administration and Public Policy, and Rehabilitation and Special Education, plus interdepartmental programs in Biomedical Sciences (Anatomy, Physiology, and Pharmacology; Large Animal Surgery and Medicine; Pathobiology; Radiology; and Small Animal Surgery and Medicine), Economics (Agricultural Economics and Forestry), Integrated Textile and Apparel Science (Consumer Affairs and Textile Engineering), and Pharmaceutical Sciences (Pharmacal Sciences and Pharmacy Care Systems).

The Doctor of Education is offered in the following departments: Counseling and Counseling Psychology; Educational Foundations, Leadership and Technology; and Health and Human Performance.

Admission

Prospective candidates for the degrees of Doctor of Philosophy and Doctor of Education are admitted under the same procedures and requirements outlined in the General Regulations elsewhere in this *Bulletin*. A student must be admitted to a specific doctoral program, but admission does not mean admission to candidacy for the degree, which occurs only after satisfactory completion of the general oral examination.

Advisory Committee and Plan of Study

After the student has enrolled in the doctoral program, an advisory committee should be selected by the student, major professor and department head or chair. The advisory committee is responsible for developing the student's Plan of Study and conducting the doctoral general and final examinations. It should consist of at least three members of the faculty. At least two, including the major professor, must be members of the Graduate Faculty. The formal appointment of the advisory committee occurs when the Plan of Study is approved by the Graduate School.

The Plan of Study should be prepared by the student and the advisory committee and filed with the Graduate School as soon as feasible. It should not be delayed beyond the second semester of doctoral work. The Graduate School recognizes that changes may be warranted, and a form is available for amendments as required by student needs, research interests and course availability.

Residency Requirement

A significant part of the Doctor of Philosophy or Doctor of Education program is the residency year. This can be satisfied by the student's completing a minimum of 18 semester hours of on-campus course work during two consecutive semesters following classification as a doctoral student (EDD or PHD designation). At least 9 of these 18 hours shall be in graded (e.g., A,B,C) course work. During this residency year, the doctoral student shall enroll for a minimum of 9 hours each semester, no fewer than 3 hours of which shall be in graded (e.g., A,B,C) course work. During a single summer, one 10-week term or its equivalent may count as one semester for residency purposes. The residency requirement may not be satisfied by residence during summer semesters only. Interruption of a student's program for the summer semester does not constitute a break in continuity. The Dean of the Graduate School is authorized to approve alternative residency options in exceptional cases and on an individual basis. The proposed schedule for accumulation of residency must be submitted to the Graduate School by the department prior to the initiation of the residence year. A form is available at the Graduate School. Several alternative residency options are available for students in Education. Students should check with their advisers.

General Doctoral Examination

A general examination, often called the "preliminary examination," is required of all applicants for the degrees of Doctor of Philosophy and Doctor of Education. It consists of written and oral testing by the student's advisory committee in the student's major and minor. The written portion of the examination does not require approval in advance by the Graduate School. The oral portion, however, does require such approval. Arrangements for the oral examination must be made by application to the Graduate School at least one week in advance of the examination. The primary purpose of the general examination is to assess the student's understanding of the broad body of knowledge in a field of study. The examination also affords the advisory committee an opportunity to review the student's proposed research and understanding of research methods and literature in the chosen field. If the general examination reveals deficiencies in any of these areas, the advisory committee may recommend remedial work, reexamination, or discontinuation of doctoral study.

The general oral examination should be conducted immediately after the successful completion of the written examination and well before the final examination. At least one complete semester (preferably more than one) must intervene between the general oral and final examinations. The two examinations thus cannot be taken either in the same semester or in consecutive semesters. Some departments have specific requirements for conducting these examinations, and the student should become familiar with these. Successful completion of the oral examination requires unanimous support of the student's advisory committee. If the general oral examination is failed, a re-examination may be given on recommendation of the committee and approval by the dean of the Graduate School. Further examinations require exceptional circumstances and approval by the Graduate Council.

The student becomes a candidate for the degree on successful completion of the general examination and has four calendar years thereafter to complete all additional requirements. If unable because of reasons beyond the candidate's control to complete the requirements on time, the student may petition the Dean of the Graduate School for an extension. Otherwise, the student will revert to the status of an applicant and must petition the Dean of the Graduate School to retake the general oral examination.

Final Examination

After the first draft of the dissertation has been completed and has been approved by the student's advisory committee, it is submitted to the Graduate School. An outside reader (representing the University's graduate faculty and the Graduate School) will be appointed to review the dissertation. However, the student's adviser may request appointment of the outside reader at any time rather than waiting until after the dissertation is drafted. When the Graduate School has approved the dissertation, the student may apply for the final examination on a form obtained from the Graduate School. The application must be filed with the Graduate School at least one week in advance of the final examination. The examination is administered by the student's advisory committee. The representative of the university's graduate faculty, the outside reader, also attends and participates. The examination, which generally is oral but may be both oral and written, includes the major and minor fields and a defense of the dissertation. Successful completion requires unanimous support of all members of the committee, including the outside reader. Any member of the Graduate Faculty may attend.

If a student fails the final examination, a re-examination may be given on recommendation of the advisory committee and approval by the Dean of the Graduate School. Further examination requires exceptional circumstances and approval of the Graduate Council. In addition to successful completion of all examinations, final copies of the dissertation must be submitted to the Graduate School before the degree is conferred (see Graduate School calendar on page 5 for deadline).

The Doctor of Philosophy Degree

The Doctor of Philosophy is conferred in recognition of the mastery of a special field of learning as shown by the satisfactory completion of a prescribed course of study and investigation, the successful passing of general examinations covering the major and minor fields, the preparation of an acceptable dissertation reflecting high achievement in scholarship and independent original investigation, and the passing of a final examination on the dissertation and related subjects. The degree is a research degree. It is not conferred merely upon fulfillment of technical requirements, but awarded in recognition of the ability to think and work independently, originally, and creatively in a chosen field. Some departments have special requirements for the degree, and the student will be governed by those, including the ones listed in departmental statements under Courses of Instruction elsewhere in this *Bulletin*.

Language Requirements

Language requirements for graduate degrees vary with departments. The Department of Foreign Languages offers proficiency courses in a number of languages. The department also offers reading proficiency examinations for those students who wish to demonstrate proficiency without taking a course. Such students must apply to the Graduate School for these examinations by the deadline listed in the Graduate School calendar on page 5.

Course Requirements

The Graduate School requires a minimum of 30 semester hours of graded (e.g. A, B, C) graduate course work (7000-level and above) beyond the bachelor's degree, at least 18 hours of which must be completed as a graduate student at Auburn University. A doctoral student must also complete 30 semester hours of additional course work (may include ungraded courses, 6000-level courses, 7990 and 8990). However, some departments require more, and requirements may vary according to a student's background and interests. A maximum of 4 hours of 7990 (Research and Thesis) from a completed master's program may be counted.

All doctoral students must complete a minimum of 10 hours of 8990. Enrollment in 8990 may take place at any time the student and the advisory committee deem appropriate. During any one semester, the number of hours of 8990 in which the student enrolls should reflect the amount of time being spent on the dissertation and the degree to which university resources are being utilized. Students may enroll, during any one semester, for as few as one hour or as many as 16 hours of 8990. The requisite 10 hours of 8990 should be included in the Plan of Study. No grade is assigned.

The Dean of the Graduate School is authorized to approve alternatives to these course work requirements in exceptional cases and on an individual basis.

Dissertation

A dissertation is required of all candidates for the degree of Doctor of Philosophy. It shall constitute an original contribution to knowledge. The student conducts the research and prepares the dissertation under the direction of the major professor. Only dissertations prepared according to *The Guide to the Preparation and Submission of Theses and Dissertations*, available at the University Bookstore and on the web at www.grad.auburn.edu, are accepted by the Graduate School. All dissertations must be microfilmed by University Microfilms International of Ann Arbor, Michigan, which publishes the abstract in Dissertation Abstracts. The student is required to pay for this service.

The Doctor of Education Degree

The Doctor of Education is a professional degree conferred in recognition of ability and achievement in some special field or fields of education. This is shown by satisfactory completion of a prescribed course of study, application of scientific principles in classroom teaching, administration, the supervision of instruction, or other aspects of educational programs; preparation of a dissertation demonstrating ability to investigate an education problem with originality and independence of thought; successful completion of examinations showing a satisfactory grasp of a field of specialization and its relation to allied subjects; and recognized leadership in a specialty as shown by at least three years of successful experience.

Course Requirements

The major is divided into general professional education, area of specialization and other approved courses. General professional education includes courses in such areas as research methodology and statistics; evaluation of learning, individuals, or programs; human behavior, development, or learning; and social or political perspectives on education. The College of Education requires a minimum of 30 semester hours of graded (e.g., A,B,C) graduate course work (7000-level and above) beyond the bachelor's degree, at least 18 hours of which must be completed at Auburn University. A doctoral student must also complete 30 semester hours of additional course work (may include ungraded courses, 6000-level courses, 7990 and 8990). However, some programs require more, and requirements may vary according to a student's background and interest. A maximum of 4 hours of 7990 (Research and Thesis) from a completed master's program may be counted).

All doctoral students must complete a minimum of 10 hours of 8990. Enrollment in 8990 may take place at any time the student and the advisory committee deem appropriate. During any one semester, the number of hours of 8990 in which the student enrolls should reflect the amount of time being spent on the dissertation and the degree to which university resources are being utilized. Students may enroll, during any one semester, for as few as one hour or as many as 16 hours of 8990. The requisite 10 hours of 8990 should be included in the Plan of Study. No grade is assigned.

The Dean of the Graduate School is authorized to approve alternatives to these course work requirements in exceptional cases and on an individual basis.

Dissertation

A dissertation is required of all candidates for the degree of Doctor of Education. It shall be a critical study of a significant education problem, an original work in a significant field of education, or a creative work involving new and original procedures for the improvement of education. The student conducts the research and prepares the dissertation under the direction of the major professor. Only dissertations prepared according to *The Guide to the Preparation and Submission of Theses and Dissertations*, available at the University Bookstore and on the web at www.grad.auburn.edu, are accepted by the Graduate School. All dissertations must be microfilmed by University Microfilms International of Ann Arbor, Michigan, which publishes the abstract in Dissertation Abstracts. The student is required to pay for this service.

Summary of Procedures for Doctoral Degree Programs

The student should:

1. Obtain application forms from the Graduate School and apply by submitting all required materials to the Graduate School by the deadlines published in this *Bulletin*. The Graduate School forwards the application to the appropriate departmental screening committee. The department head or chair then makes a recommendation to the Dean of the Graduate School, who sends a letter notifying the applicant of the decision.
2. Apply for an assistantship, if applicable, through the department involved.
3. Become familiar with the requirements for the doctoral degree as published in this *Bulletin*.
4. Consult with the departmental adviser and become familiar with departmental procedures.
5. Plan a schedule of study for the first semester with adviser.
6. Submit a proposed schedule for fulfilling the residency requirements. Forms are available at the Graduate School or on the web at www.grad.auburn.edu.
7. Establish an advisory committee through the major professor and department head or chair. Official appointment of the advisory committee occurs when the Plan of Study is approved by the Graduate School.
8. Prepare a Plan of Study approved by the advisory committee and department head or chair and submit to the Graduate School.
9. Complete course work, including language requirements, if any, as detailed in the Plan of Study.
10. Arrange for the general written and oral examinations through the advisory committee. After the written examination, schedule the general oral examination at least one week in advance using a form obtained from the Graduate School.
11. Submit the dissertation proposal for approval by the advisory committee and become familiar with *The Guide to the Preparation and Submission of Theses and Dissertations*, available at www.grad.auburn.edu or the University Bookstore.
12. Request graduation check in the Graduate School no later than the last day of the semester (graduation day) prior to the semester of graduation.
13. Notify the Graduate School of the intent to graduate no later than the fifteenth class day of the semester of graduation.
14. Prepare dissertation and submit a committee-approved first draft to the Graduate School for review and approval by the outside reader (representative of the graduate faculty).
15. Study recommendations of the outside reader and make appropriate changes in the dissertation.
16. On approval of the dissertation by the dean of the Graduate School, arrange for final oral examination.

Graduate Degrees Offered

Accountancy — M.Ac.

The Master of Accountancy is a professional non-thesis degree program in accounting. Criteria for admission and degree requirements are established by the School of Accountancy. This program is available to individuals with the equivalent of an undergraduate major in accounting.

Requirements for the M.Ac. include 30 semester hours of course work including a capstone course (ACCT 7710). The curriculum offers students the flexibility to tailor the program to meet their specific career objectives. Students take only four core courses and choose three accounting electives and three business electives. The M.Ac. degree can be earned as a traditional, on-campus student or through the video-based outreach program.

Information concerning specific requirements may be obtained by contacting the Director of Graduate Programs, School of Accountancy.

Aerospace Engineering — M.A.E., M.S., Ph.D.

Graduate study in aerospace engineering leads to the degrees of Master of Science, Master of Aerospace Engineering and the Doctor of Philosophy. The graduate program prepares students for careers in the aerospace industry, in government laboratories and in academia. Studies for the Ph.D. also are designed to produce research scholars.

Applicants should have a bachelor's degree in aerospace engineering or its equivalent from an institution of recognized standing, plus satisfactory GRE scores. Degrees in mathematics, physics and certain other engineering disciplines may also be appropriate for entrance into the graduate program. Applications must be approved by the department's committee on graduate study.

For the Master of Science degree, the student must complete an approved program of at least 30 credit hours in aerospace engineering or closely related supporting subjects, with a minimum of 20 hours at the 7000 level or above. The Master of Science degree requirements include the completion of a thesis under the supervision of a major professor and an advisory committee.

The Master of Aerospace Engineering degree is a non-thesis degree for which the student must complete an approved program of at least 32 hours of course work with a minimum of 22 hours at the 7000 level or above. A suitable project in aerospace engineering, culminating in a final written report approved by the student's advisory committee, may be substituted for three credit hours of course work. An oral presentation is also required for the M.A.E. degree.

For the Doctor of Philosophy degree, the student must complete a minimum of 61 credit hours beyond the bachelor's degree. A plan of study will be arranged on an individual basis and students may elect to specialize in the general areas of aerodynamics, astrodynamics, control theory, flight dynamics, propulsion, structures or structural dynamics. A written qualifying examination and a general doctoral examination, with both written and oral parts, are required of all doctoral candidates. An oral defense of the doctoral dissertation is also required of each student.

There is no language requirement for the master's or Ph.D. degree.

Agricultural Economics — M.S., M.Ag., Ph.D.

The Master of Science and Master of Agriculture are offered in both Agricultural Economics and Sociology (Rural). Also, the non-thesis Master of Agriculture is available in either Agricultural Economics or Rural Sociology. The Doctor of Philosophy in Agricultural Economics is offered through the interdepartmental doctoral program in Economics. Admission to any of the masters degree programs requires a bachelors degree from an accredited institution with courses in economics (agricultural) or sociology (rural), as appropriate to the desired degree. All students must have the equivalent of 15 credit hours in courses closely related to the student's masters degree program area. Such courses might include economic theory, quantitative methods and statistics, and/or closely related subjects acceptable to the major professor and advisory committee.

The M.S. in Agricultural Economics requires a minimum of 30 semester hours of graduate credit, including four credit hours of thesis research. At least 20 hours must be taken in the department for the major and the remaining six may be in closely related and approved areas. The program of study, including course work and the thesis, will be planned in the student's special field of interest which may be farm management, agricultural marketing, production economics, prices and pricing, resources and the environment, agricultural finance, agricultural policy or other approved areas.

Graduate study in rural sociology in either the M.S. or M.A. degree is available through the interdepartmental graduate program in sociology. The interdepartmental program involves rural sociologists from the Department of Agricultural Economics and Rural Sociology and sociologists and anthropologists from the Department of Sociology, Anthropology and Social Work. More information can be found in the Sociology section under Interdepartmental Programs and from the Rural Sociology program.

The Master of Agriculture in either agricultural economics or rural sociology requires no thesis but the student must complete a minimum of 32 graduate credit hours, 18 of them in the major, as approved by the major professor and the advisory committee. A final oral examination given by the advisory committee is also required.

The M.B.A. in agribusiness or natural resources and environmental management is offered in a program coordinated between the College of Business and the Department of Agricultural Economics and Rural Sociology. Requirements include 36 graduate credit hours, consisting of 24 hours in business and 12 hours in agricultural economics or a closely related field, as approved by the director of the M.B.A. program and the major professor in agricultural economics.

The Ph.D. is offered through the interdepartmental doctoral program in economics administered jointly through the Department of Agricultural Economics and Rural Sociology and the School of Forestry and Wildlife Sciences. Students must complete 30 graduate credit hours beyond the M.S. degree, or 60 graduate credit hours beyond the baccalaureate degree, plus a minimum of 10 hours of dissertation research. Students must also pass a general doctoral examination that includes a written qualifying examination in the areas of microeconomics, macroeconomics and quatitative methods followed by an oral examination on the student's field of specialization and proposed research. The final oral examination covers disciplinary subjects and defense of the dissertation.

Agronomy and Soils — M.S., M.Ag., Ph.D.

Graduate training in this department enables outstanding students to achieve a high level of scholarly attainment in the soil, crop and environmental sciences. Within these broad areas, research training and experience may be gained in the specialized fields of soil fertility and plant nutrition; soil chemistry; soil genesis, morphology and classification; soil mineralogy; soil physics; soil microbiology; plant breeding and genetics; weed science; forage, fiber and grain crop production; crop ecology; environmental quality; and turf management.

Majors and minors are offered in crops and soils. Students majoring in soils usually have a minor in chemistry, crops, entomology, plant pathology, plant physiology or physics. Crops majors usually take a minor in botany, soils, chemistry, entomology, plant pathology, plant physiology, statistics or zoology.

There is no specific schedule of courses for graduate students in this department. The course of study is determined by the student and advisory committee.

There is no foreign language requirement.

Three degrees are offered: the Master of Science, earned only under the thesis option; the Master of Agriculture earned under the non-thesis option; and the Ph.D., which requires a dissertation. The department also participates in the interdisciplinary minor in environmental studies.

Graduate students in a program requiring a thesis or a dissertation will register for at least one hour of AGRN 7990 or AGRN 8990 per semester. Research Associates who also are graduate students are exempt from this requirement but must complete 10 hours of 7990 in the master's program or 20 hours of 8990 if in a Ph.D. program.

Anatomy, Physiology and Pharmacology

(See Biomedical Sciences)

Animal and Dairy Sciences — M.S., M.Ag., Ph.D.

Graduate study in animal and dairy sciences is directed toward the master's and doctoral degrees. The Master of Agriculture (M.Ag.) is offered as a non-thesis degree and prepares students for careers in secondary education and agribusiness. Graduate programs leading to the Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees provide advanced education and technical training in preparation for careers in public and private sectors related to animal science and technology, food science and technology, animal biotechnology, agribusiness and university level research and education. Areas of specialization include animal nutrition, biochemistry and molecular biology, microbiology, behavior, growth biology, meat science and muscle biology, quantitative genetics and reproductive biology. Interdepartmental minor programs in cell and molecular biosciences, ecology and environmental sciences are also available.

The M.Ag. degree requires successful completion of a minimum of 30 credit hours, 21 of which must be in the agricultural or related sciences. Additional courses may be required for individual students.

Admission to the M.S. degree program requires that the student have the bachelor's degree or evidence satisfactory progress toward attainment of the bachelor's degree in animal sciences or a related area. Applicants lacking suitable preparatory course work in the basic sciences will be required to correct deficiencies by satisfactorily completing additional courses. The M.S. requires a minimum of 30 credit hours of graduate work, including at least 21 credit hours in the major field of study. The remainder may be in a minor area selected by the student and upon approval by the advisory committee. A research-based thesis is required.

Admission to the Ph.D. degree program usually requires that the student have a master's degree from a recognized graduate program. However, evidence of exemplary potential may be considered as a criterion for admission with a bachelor's degree. The doctoral program emphasizes original, scholarly research and includes significant advanced course work. The Ph.D. degree requires a minimum of 60 credit hours beyond the bachelor's degree and a dissertation describing original research. There is no foreign language requirement, but knowledge of a foreign language may be recommended by the student's advisory committee.

All graduate students are expected to be engaged in service to the department's research and education programs as deemed appropriate by the academic adviser and department head. All students receiving departmental assistantships must be registered as full-time students each term, and all M.S. and Ph.D. students must register for at least one credit hour of thesis or dissertation research each term. Classified (FLSA-exempt) research associates holding full admission status in the Graduate School for work toward a graduate degree are exempt from this requirement, bur must complete 10 hours of thesis research in a M.S. program or 20 hours of dissertation research in a Ph.D. program following completion of a master's degree. A Ph.D. degree program undertaken by classified (FSLA-exempt) research associates but not preceded by a master's degree must include 30 hours of dissertation research credit.

Biological Sciences — M.S., M.B.S., Ph.D.

The Department of Biological Sciences offers graduate training leading to the M.S. and Ph.D. degrees in biological sciences; a non-thesis master's degree is optional. Candidates for advanced degrees should have an undergraduate degree in an appropriate area from an accredited institution, with adequate training in biology, chemistry, physics and mathematics. Qualified students lacking pre-requisite subjects can be admitted, but may be required by the departmental graduate studies committee to make up the pre-requisites. A satisfactory score on the general GRE is required (suggested minimums of 500 on verbal and quantitative tests).

A major of at least 20 and 40-53 semester hours may be taken for the M.S. and Ph.D. degrees, respectively. M.S. and Ph.D. students must present at least one departmental seminar on their research during the semester of their oral or final examination. There is no foreign language requirement.

Interdisciplinary minors may be taken in biochemistry, cell/molecular biology, ecology, environmental studies and plant or microbial molecular biology.

Building Science — M.B.S.

Graduate studies in Building Science leading to the Master of Building Science provide a unique, individualized course of study for a select number of students seeking advanced construction education. The Master of Building Science is a non-thesis degree program requiring a minimum of 35 semester hours of academic credit, including a core of 15 hours of BSCI graduate courses. Applicants holding an undergraduate degree unrelated to construction will be required to take additional course work.

Admission to the program is competitive; enrollment is limited. Minimum requirements include a baccalaureate degree from an accredited four-year college or university and satisfactory scores on the General Test of the GRE. Departmental evaluations are based on exam scores, undergraduate GPA, written statement of purpose, letters of recommendation, professional vita and a personal interview.

For more information, see www.bsc.auburn.edu/html/graduate.html

Business Administration — M.B.A., M.S., Ph.D.

Graduate programs in Business are fully accredited by the American Assembly of Collegiate Schools of Business (AACSB) and include the Master of Business Administration, the Master of Accountancy, the Master of Management Information Systems, the Master of Science and the Doctor of Philosophy in Management.

Application for admission to graduate programs in business should be made directly to the Graduate School. The application should be accompanied by test scores on the Graduate Management Admission Test (GMAT), except for applications to the M.S. in Economics which should be accompanied by test scores on the Graduate Record Examinations (GRE). Supplemental application forms are also required for the M.B.A. program.

The M.B.A. is a broad managerial program that prepares students for positions of leadership in the competitive environment of public and private enterprises. It is an integrative program that is responsive to the changing business environment and is based on the six themes of leadership: quality, global perspective, entrepreneurial spirit, technology, and ethics and social responsibility.

The M.B.A. program consists of 36-42 credit hours. These include integrated core classes and electives, that allow students the flexibility to choose an area of concentration, some of which are Production/Operations Management, Management Information Systems, Finance, Marketing and Health Care Administration. Foundation course work, or the equivalent, is required in the areas of accounting, economics, finance, management, marketing, calculus and statistics. The program can be completed in three semesters and a summer of full-time study.

An M.B.A. degree can be earned: as a traditional, on-campus student; through the video-based outreach program; or through one of the Executive program options. The Video Outreach program has maximum flexibility. The Executive program includes several short campus residency periods, an international study trip and a lockstep, 21-month format. Electives are chosen to provide specialized options for physicians, senior general managers with at least eight years of full-time experience or younger technical managers with undergraduate degrees in engineering or computer science. The Outreach and Executive programs allow individuals working anywhere in the U.S. to complete their degrees while maintaining full-time employment.

Additional information and applications may be obtained by contacting the M.B.A. program office in Lowder 503, calling (334) 844-4060, or on the web at www.mba.business.auburn.edu

For programs in accountancy, economics, finance, management and marketing, see individual department listings.

Chemical Engineering — M.Ch.E., M.S., Ph.D.

The Chemical Engineering Department offers graduate programs leading to the degrees of Master of Science and Doctor of Philosophy. Specialized courses and research training are provided in a wide variety of specialties within chemical engineering or related interdisciplinary areas. Some of these specialties include: surface science, biochemical engineering, catalysis, pulp and paper engineering, environmental engineering, waste conversion, computer-aided process design and simulation, novel bioseparations systems, chemical kinetics and reactor design, biomedical engineering, process control and optimization, thermodynamics, advanced energy research, mass and energy transfer, electrochemical engineering, polymer engineering, interfacial phenomena, process synthesis, material science, and space science. Additionally, individualized interdisciplinary programs which cross the traditional departmental boundaries are encouraged. These may include collaborative work in chemistry, engineering disciplines, physics, mathematics, agriculture, forestry, biology, microbiology, genetics and health sciences or other areas.

The applicant must hold a bachelor's degree or its equivalent from an institution of recognized standing and must have the pre-requisite undergraduate experience in areas of study relevant to the proposed graduate program. If the applicant's undergraduate degree is other than chemical engineering, an individualized plan of study will be developed to impart the critical skills inherent in the bachelor's chemical engineering program. All applicants will be evaluated on an individual basis by the Chemical Engineering Graduate Committee.

The Master of Science degree may be earned only under the thesis option. There is no language requirement for this degree. A total of 30 semester hours of work is necessary, including formal courses, seminars and directed reading. Select three of the following courses: CHEN 7100, CHEN 7110, CHEN 7200 and CHEN 7250. In addition, students must take CHEN 7700 and CHEN 7710.

The Master of Chemical Engineering, a non-thesis degree oriented toward engineering design and practice, is also offered. It has no residency requirement and can be earned entirely through the Engineering Outreach Program. The degree requires 32 semester hours with a minimum of 16 at the 7000 level. In-depth understanding is provided through a minimum of 21 graduate course hours in the major, chemical engineering, plus nine graduate course hours in technical electives from engineering, science, mathematics, or business which are tailored individually to the student's background and interests. There are three core courses: CHEN 7100, CHEN 7200 and CHEN 7250.

The Doctor of Philosophy provides for advanced course work and emphasizes original, creative research. A dissertation embodying the results of this research represents the major portion of the requirements for this degree. A minimum of 60 semester hours of graduate work past the bachelor's degree is necessary.

Four calendar years beyond the bachelor's degree or three past the master's degree usually are needed to complete the Ph.D.

The written General Examination must be taken by those seeking a Ph.D. It is offered each year and students are encouraged to take it in their first year of graduate study. It consists of three parts: a written examination based on undergraduate course work, a graduate course work evaluation based on CHEN 7100, CHEN 7110, CHEN 7200, CHEN 7250, CHEN 7710 and CHEN 7950 and a research proposition for evaluation of research potential.

There is no language requirement for the Ph.D.

Chemistry — M.S., Ph.D.

Graduate study in chemistry leads to the M.S. and Ph.D. degrees. Entering students must take four of the five required core courses: CHEM 7610, CHEM 7620, CHEM 7630, CHEM 7640 and CHEM 7650, with consent of their adviser. By the end of the second semester, graduate students must submit a plan of study which details the courses which will be taken. This is done with the assistance of the major professor and with the consent of the student's advisory committee. For the M.S., the plan of study will consist of a minimum of 30 hours, including the core courses listed above, 12 hours; and CHEM 7990, four hours; and CHEM 7770, four hours. For the Ph.D., 60 hours of courses must be completed. These must include the core courses listed above and eight hours of CHEM 7700. The rest of the courses usually are taken in the major area. Directed Study, CHEM 7910, may be taken for a maximum of 21 hours. A minimum of 10 hours of CHEM 8990 must be completed by Ph.D. students, who also must pass written and oral general examinations. The written examination will be in the form of monthly cumulative examinations. Graduate degree candidates must orally present their research and defend their theses or dissertations in the final oral examination.

Civil Engineering — M.C.E., M.S., Ph.D.

The Department of Civil Engineering offers graduate-level instruction and research programs leading to the degrees of Master of Civil Engineering, Master of Science and Doctor of Philosophy. The objectives of these programs are to provide qualified students an opportunity for advanced training and specialization and to enable them to gain experience in conducting engineering research and in the interpretation and communication of their findings. The department offers programs in construction engineering and management, environmental engineering, geotechnical engineering, hydraulics/hydrology, pavements and materials, structural engineering and transportation engineering. Course work may be taken outside the department in supportive disciplines such as applied statistics, building science, computer science or mathematics, provided there is justification for doing so.

All applicants must have earned a baccalaureate degree in civil engineering – B.C.E., B.S. or B.S.C.E. – or a closely related area and must have completed such formal training as to warrant advanced study in the major and minor fields. There is no formal foreign language requirement.

A thesis is required of all candidates for the M.S. A minimum of 30 semester hours of graduate-level course credit must be completed satisfactorily. At least six of the 30 hours must be in CIVL 7990 and at least 24 hours must be in graduate course work other than CIVL 7990. Candidates must pass a comprehensive examination covering the course work, research and thesis.

Admission requirements for the Master of Civil Engineering are basically the same as those for the M.S. The program consists of a minimum of 30 semester hours of graduate- level courses. At least three of the 30 hours must be in CIVL 7980 and at least 27 hours must be in graduate course work other than CIVL 7980. Candidates must pass a comprehensive examination covering the course work and the engineering project involved.

Ph.D. program applicants must have earned the master's degree in civil engineering or a related area, or must have completed at least a year of study at the graduate level. Performance in either case must have been of such quality as to justify admission to the doctoral program.

The Ph.D. is conferred in recognition of mastery of a specific field of knowledge and a contribution to that engineering discipline through the doctoral dissertation. The degree is a research degree, requiring not only completion of certain technical requirements but proof of the candidate's ability to work independently within an engineering research environment.

A doctoral student must complete a written comprehensive examination with a follow-up oral critique administered by the student's advisory committee. The examination may not be taken sooner than one year after the student begins doctoral course work. Additional course work may be prescribed to strengthen deficiencies where examination results indicate a lack of significant academic preparation or the student may be denied the right to continue in the program. One retake may be permitted but no earlier than one year after initial failure. Upon successful completion of the examination, the student becomes a candidate for the Ph.D. One retake may be permitted but no earlier than one year after initial failure.

After successfully completing the comprehensive examination, the doctoral candidate will defend the selected dissertation topic, which must represent a significant contribution to state-of-the-art knowledge. This may be included in the oral critique of the comprehensive examination if the advisory committee agrees. Once the committee approves the research topic, the doctoral candidate may proceed with the research and dissertation. When it is completed, the candidate will defend the completed dissertation before the advisory committee and the outside reader appointed by the Graduate School.

Communication — M.A.

The graduate program offers the Master of Arts.

Applicants must hold bachelor's degrees from accredited institutions. The M.A.-thesis requires 31 hours beyond the bachelor's degree, including a thesis. Applicants must hold bachelor's degrees from accredited institutions. The M.A.-non-thesis requires 30 hours, including appropriate field experience, but does not require a thesis. Students entering either program without previous work in Communication must earn an additional 9 credit hours which may be at the undergraduate level.

The Communication major requires 31 semester hours in Communication for the M.A.-thesis and 30 for the M.A. non-thesis, including COMM 7000, COMM 7010, and COMM 7020. A minor of 9 hours may be taken outside the department or in related areas under both programs.

There is no foreign language requirement.

Communication Disorders — M.C.D., M.S.

The Department of Communication Disorders offers programs in Speech-Language Pathology and Audiology. Both are accredited by the Council on Academic Accreditation of the American Speech-Language-Hearing Association (ASHA).

Two degree options are available; neither has a language requirement. The Master of Science requires a minimum of 41 hours of graduate course work, including CMDS 7990, Thesis. CMDS 7940, Field Experience, is optional, depending on clinical experience. The Master of Communication Disorders (M.C.D.) requires a minimum of 41 hours (audiology) or 43 hours (speech-language pathology) of graduate course work and appropriate field experience. This is a non-thesis degree but it does require the passing of a comprehensive examination.

Master's-level candidates who enter the Communication Disorders programs having majored in another field at the undergraduate level must make up certain pre-requisites. This is to ensure an adequate background for the graduate-level courses and that the student will meet ASHA academic requirements. Generally, 10 such courses are prescribed by the student's adviser.

Enough latitude exists that a plan of study may be designed according to the student's career interests; however, the curriculum planned must conform with ASHA academic requirements and Alabama Board of Education certification requirements, if applicable. Students then are prepared for careers in school systems, clinics, hospital/rehabilitation centers, physicians' offices, private practice and for pursuing the doctoral degree.

Community Design and Planning — M.C.P.

Graduate study in the community planning program leads to the professional degree, master of Community Planning (MCP). The program is primarily devised to prepare student with a background in the environmental design fields for careers in the practice of community design and planning in both the public and private sectors. The field of community design and planning is both an art and a science, for it demands design creativity, technical competence and procedural sensitivity in the search for better communities. Graduates will therefore be expected to address both the functional and the experiential aspects of the built environment, and must be skilled at describing and analyzing urban processes and conditions; at designing and evaluating creative alternatives to shape future growth and development; and at devising and recommending appropriate mechanisms for the implementation of their proposals.

The program concentrates primarily on the physical development of cities and towns, Within this broad focus, there are several areas of emphasis which include urban design, historic preservation, land planning and development, and site design. There are concurrent degree options available with the graduate degree program in public administration and an interdisciplinary minor in economic development. Entering students must hold a degree from an accredited institution and have acceptable GRE scores; there is no language requirement. Students with a prior degree in one of the environmental design disciplines will normally complete the required work (52 credit hours) in two academic years. Studies include a core sequence of design-based studios, required seminars on focused topics within the field, elective work selected in consultation with the faculty, and an individual design synthesis project undertaken during the final year.

Computer Science and Software Engineering — M.Sw.E., M.S., Ph.D.

Graduate study in the Department of Computer Science and Software Engineering (COMP) leads to the non-thesis Master of Software Engineering degree (M.Sw.E.) or research oriented Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in computer science and software engineering. All applications are reviewed by the COMP Graduate Admissions Committee.

To enter the M.S. or the M.Sw.E., the student must hold a bachelor's degree or its equivalent from an institution of recognized standing. The student also must have the pre-requisite undergraduate experience in areas of computer science and/or software engineering. If the student has deficiencies in the pre-requisites, he or she will be required to take appropriate undergraduate courses. All applicants must submit Graduate Record Examination scores for the general test.

The M.S. program requires 30 semester credit hours, including six credit hours for research and thesis. The M.Sw.E. program requires 33 semester credit hours, including three credit hours for the software engineering design project. There is no language requirement.

For the Ph.D. program, the applicant must hold a master's degree or have successfully completed a minimum of one academic year of graduate study, from an institution of recognized standing in an area related to the proposed doctoral study. All applicants must submit GRE scores for the general test. The student will take a written qualifying examination soon after gaining admission to the program. Additional examinations, as described in the general Graduate School requirements, are given throughout the program, culminating with the defense of the dissertation. There is no language requirement for the Ph.D. The program typically includes at least one academic year of course work and one year of research beyond the master's level.

Consumer Affairs — M.S., Ph.D.

Graduate study in the Department of Consumer Affairs, College of Human Sciences, leads to the Master of Science and the Doctor of Philosophy Degrees. Major focus areas are apparel, interiors, and textiles. The department emphasizes integration of basic and applied knowledge from multiple fields to enhance professional skills for careers in textile and apparel product development and design; production management; retail management; merchandising in textile and apparel retail or design firms, design of interior spaces; quality control; and college teaching and research. A foreign language is not required. Entrants with limited undergraduate backgrounds in their chosen area may need to complete some undergraduate courses. Graduate teaching and research assistantships are available.

The M.S. in Consumer Affairs - Apparel or Interiors offers a Thesis and a Non-Thesis Option. Individually designed focus areas incorporate courses in Consumer Affairs and other departments. Designated

specialization tracks include consumer behavior and research; forecasting; marketing; production management; retail management; interior design; international; design and product development; entrepreneurship; education and educational media and training methods. Students are encouraged to complete an internship with industry.

The Thesis Option requires a minimum of 30 semester hours, including at least five hours of CAHS 7990 Research and Thesis. Required courses include CAHS 7050, CAHS 7530, CAHS 7950, CAHS 7980, CAHS 7990 (2 hour minimum each semester during thesis research), CAHS 7100 or CAHS 7670 or CAHS 7690, SOCY 7100, plus three hours outside the department.

The Non-thesis Option requires a minimum of 36 semester hours, including CAHS 7050, CAHS 7530, CAHS 7950, CAHS 7100 or CAHS 7670 or CAHS 7690 and SOCY 7100 plus three hours outside the department. A Final Comprehensive Written Exam is required.

The M.S. and the Ph.D. in Integrated Textile and Apparel Science are offered as joint degrees with the Department of Consumer Affairs, College of Human Sciences and the Department of Textile Engineering, College of Engineering. (See Interdepartmental Graduate Degrees) Students may apply for admission and/or assistantships in either department. Graduate committees include faculty from both departments.

The M.S. in Integrated Textile and Apparel Science requires 30 or more semester hours of graduate courses. Thesis and Non-Thesis Options are available. This is a companion degree to the Ph.D. in Integrated Textile and Apparel Science.

The Ph.D. requires a minimum of 60 semester hours of graduate courses plus a minimum of 10 semesters of Research and Dissertation. After completion of the integrated core courses, students choose either a textiles track, an apparel track, or an integrated track.

Counseling and Counseling Psychology — M.Ed., M.S., Ed.S., Ed.D., Ph.D.

Master's, specialist and doctoral degrees are offered in the Counseling and Counseling Psychology Department. Areas of specialization are in school counseling (CPS), school psychology (CSP), community agency counseling (CCA), counselor education (CED) and counseling psychology (COP).

Master's degree programs prepare students for entry-level professional positions as counselors in a variety of human service agencies such as public schools, community mental health centers, drug and alcohol treatment programs and university counseling centers.

The specialist and doctoral degree programs provide advanced preparation in the delivery of counseling and psychological services and prepare students for supervisory and leadership roles in schools and human service agencies. The doctoral programs also require that students demonstrate skills in independently conducting research through the dissertation.

Following completion of course work, students in all programs must pass a comprehensive written and/or oral examination covering all program content. All departmental programs require extensive extramural internships in placements related to the area of professional preparation.

The master's degree programs in school counseling and community agency counseling are accredited by the Council for the Accreditation of Counseling and Related Educational Programs (CACREP). The doctoral degree program in counselor education is accredited by CACREP. The master's and specialist degree programs in school psychology and school counseling are approved by the Alabama State Department of Education and by the National Council on Accreditation of Teacher Education (NCATE). The counseling psychology doctoral degree program is accredited by the American Psychological Association (APA).

To be considered for admission for any of the department's programs, an applicant must submit application materials directly to the Graduate School. Concurrently, applicants submit an application supplement to the department. Provided that general Graduate School admission requirements are met, the department admissions committee considers all submitted materials and determines whether to issue an invitation for an admissions interview. All admissions decisions to doctoral programs in the department occur in the spring semester. Application materials for doctoral studies should be received by the department by Feb. 1.

Admissions decisions for master's and specialist degrees occur in the spring semester for applicants who will begin their studies in the fall. Completed applications for fall admissions to master's and specialist programs have a March 15 deadline. The department does not make admissions decisions for spring or summer terms.

Applicants are advised that, for some of the programs, the faculty typically prefer GRE scores which exceed the minimum set by the Graduate School. Moreover, credit hour requirements for master's degree programs in the department exceed the Graduate School minimum. Similarly, the Graduate School requirements for the Ph.D. and Ed.D. degrees are typically exceeded by doctoral programs in the department. More specific details about the requirements, assistantships and policies for each of the programs are contained in materials available from the department and on the web at www.auburn.edu/ccp

Curriculum and Teaching -- M.Ed., M.S., Ed.S., Ed.D., Ph.D.

Graduate programs in the Department of Curriculum and Teaching prepare teachers and leaders in early childhood, elementary, middle school, secondary, music, reading, and career and technical education. Secondary education teaching fields are English language arts, foreign languages, mathematics, science, and social science. Career and technical education teaching fields are agriscience and business. Graduate study leads to Master of Education, Master of Science, Specialist in Education, Doctor of Education, and Doctor of Philosophy degrees and to fifth- and sixth-year certification in Alabama.

Those seeking admission to graduate programs must have a bachelor's or master's degree from an accredited college or university and must submit GRE scores for verbal and quantitative subtests. Admission to doctoral programs requires a combined verbal and quantitative score of at least 1000, including minimum scores of 450 on both subtests. Admission to Specialist in Education programs requires a combined verbal and quantitative score of at least 800, including minimum scores of 350 on both subtests. Students wishing sixth-year certification should consider completing a Specialist in Education degree program in the appropriate area of specialization. Although Alabama awards sixth-year certification (Alabama AA certification) without the Ed.S. degree, some nearby states do not. Admission to master's degree programs requires a satisfactory weighted score, determined by the Graduate School's formula which combines GRE scores and undergraduate GPA.

Traditional master's degree programs leading to Alabama A certification require at least 30 semester hours of course work. Plans of study for secondary education majors must include at least 15 hours in their respective teaching fields; plans of study for career and technical education majors must include at least nine hours in their respective teaching fields. M.Ed. and M.S. options are available for all areas of specialization in the department. M.S. programs require a thesis; M.Ed. programs do not.

The Fifth-Year Program for Teacher Certification is available for individuals with bachelor's degrees in certain appropriate fields who did not complete requirements for certification to teach. Fifth-Year Programs are currently offered in music education, in four secondary education teaching fields (English language arts, foreign languages, mathematics, and science), and in two career and technical education fields (agriscience and business). To be eligible for admission to programs in music education and secondary education, students must have earned a bachelor's degree (or its equivalent) in the appropriate teaching field. Applicants must have a GPA of at least 2.75 on all undergraduate work attempted and GRE verbal and quantitative subtest scores sufficient to achieve the Graduate School's minimum weighted score. Students must complete a minimum of 40 hours of graduate course work in addition to appropriate undergraduate deficiencies. All Fifth-Year programs include courses in the teaching field, professional courses, and a one-semester internship. Full-time graduate students should allow at least four semesters for completing Fifth-Year Programs. Upon satisfactory completion of Fifth-Year Programs, students are awarded M.Ed. degrees and are eligible for Alabama A certificates.

Specialist in Education degree programs require at least 30 semester hours beyond the master's degree, including additional course work in professional education and the teaching field. Candidates must also complete a field project. Students who complete Ed.S. degree programs are eligible for sixth-year certification (Alabama AA certificate).

Doctor of Philosophy programs are offered in early childhood, elementary, secondary English language arts, secondary mathematics, secondary science, secondary social science, music, and reading education. A Doctor of Education program is offered in career and technical education. All Ph.D. programs require at least 80 semester hours beyond the bachelor's degree; the Ed.D. program in career and technical education requires at least 60 semester hours beyond the bachelor's degree. Research methods and statistics and foundations of education courses are components of all doctoral programs. The remaining hours are divided between the area of specialization and approved support courses. Plans of study for students in secondary education must contain at least 30 semester hours of graduate courses in the appropriate teaching fields. Students in secondary education who are employed in or wish to seek employment in post-secondary education are advised to complete at least 40 semester hours in their teaching field. Doctoral students must register for at least 10 semester hours of doctoral research while completing a dissertation.

Discrete and Statistical Sciences — M.A.M., M.P.S., M.S., Ph.D.

Admission is based on Graduate Record Examination scores, undergraduate GPAs and recommendations from former teachers. Admission is not restricted to mathematics majors. Admission to the Master of probability and Statistics program is open to a wide range of undergraduate majors in which statistics is applied. Students entering this program should have had the equivalent of STAT 3600-3601.

The Master of Science degree requires a thesis and an oral defense. Details of this program may be found in this *Bulletin* under "Master's Degree Program." Master of Science in Mathematics and well as Statistics are offered. The department currently offers the following non-thesis master's degrees:

The Master of Applied Mathematics with concentration in discrete mathematics will give students a strong foundation in several fundamental areas of discrete applied mathematics, such as information theory, coding theory, graph theory, design theory, enumeration, complexity theory and cryptography. The courses to be taken for the degree are chosen by the student and the student's advisory committee within certain constraints.

The Master of Probability and Statistics degree provides a solid foundation for careers involving applications of probability and statistics. Each candidate must complete courses in linear models, multivariate analysis and regression analysis. Candidates also must complete a practicum. An interdepartmental graduate minor in statistics is also available for interested students.

Detailed course requirements for the Ph.D. are available from the department. They are designed to make sure students have a strong foundation in and understanding of a broad body of knowledge related to their field of study. At least one oral and two written preliminary examinations are required of Ph.D. students. The written examinations are to be on subjects selected with the advice and consent of the student's advisory committee and normally are taken during the second year after admission to the Ph.D. program.

Qualified students may be appointed as graduate teaching assistants in the department. These assistantships provide the opportunity for students to obtain teaching experience under the supervision of experienced staff members. Appointments are subject to periodic review for evidence of satisfactory teaching performance and progress toward a degree.

The Baskervill Fellowship is a full academic year fellowship which is awarded each year to a qualified student in the Division of Mathematics. The department occasionally has Graduate Research Assistantships in conjunction with departmental research programs.

Economics — M.S.

Graduate study in economics leads to the M.S. degree. The graduate program prepares students careers in business, teaching, government agencies and advanced study in economics at doctorate-granting institutions. The program permits flexibility to accommodate a range of student goals and concentration in specific areas of economics.

Applicants must hold a bachelor's degree or its equivalent from a recognized institution and present a minimum of 20 semester hours of undergraduate course work in economics, including Principles of Economics, Statistics and Intermediate Economic Theory. Students lacking pre-requisite courses may be required to take more than the 30 hours required for the M.S. degree. All applicants must submit Graduate Record Examinations scores. Admission to graduate work in Economics shall be determined by the department's Graduate Committee.

The candidate for a Master of Science may select either a thesis or non-thesis option. Students choosing the thesis option are required to complete at least 24 semester hours of course work in economics at the 7000-level or above, plus 6 hours of ECON 7990, Research and Thesis, plus the thesis. An oral defense of the thesis is required. There is no language requirement for the M.S.. The non-thesis option, participation in which must be approved by the Graduate Committee, requires 24 hours of course work in economics at the 7000-level or above, and additional 6 hours of course work in economics at the 6000-level or above, and passing grades on written comprehensive examinations in Microeconomic Theory, Macroeconomic Theory, and Econometrics.

Educational Foundations, Leadership and Technology — M.Ed., M.S., Ed.S., Ed.D., Ph.D.

Those seeking full admission to graduate programs in the Department of Educational Foundations, Leadership and Technology must have a bachelor's or master's degree from an accredited college or university and must submit Graduate Record Examination scores for verbal and quantitative subtests. Students who hold master's degrees from accredited institutions and have an undergraduate GPA of at least 2.75 may enroll for course work leading to sixth year certification.

The department offers degrees at the master's level in the areas of Library Media, Leadership (P-12), Higher Education Administration, Adult Education and supervision of the curriculum. The department also offers work at the level of specialist in all of these areas. At the doctoral level the department offers the Doctor of Education (Ed.D.) In the areas of Leadership (P-12), higher education administration, adult education and supervision of the curriculum; it also offers a Doctor of Philosophy (Ph.D.) Option in educational psychology. Within this program there are two specializations or emphases from which a candidate may choose: learning and research/evaluation.

Master's degree programs require a minimum of 33 (M.Ed.) semester hours, including course work in foundations of education (six hours), electives (six hours) and the area of specialization, including a practicum (21 hours). These programs may be planned to meet Alabama A certification.

Sixth-year programs result in Alabama AA certification. They require 39 hours beyond the master's degree, including EDLD 8940, Directed Field Experiences. Specialist in Education degrees are not required to complete Alabama AA certification. However, the Specialist in Education is offered as a College of Education graduate degree option. The degree requirements for Educational Leadership Specialist are the same as the Alabama AA certification program.

Doctoral programs consist of no fewer than 90 semester hours beyond the bachelor's degree. That is, doctoral students in leadership will complete 18 to 24 semester hours in their area of specialization; requirements vary depending upon the area of specialization. Research methods and statistics and foundations of education are components of all Ph.D. and Ed.D. programs. A candidate for the Ph.D. and Ed.D. must register for at least 10 hours of dissertation credit while completing a dissertation.

Electrical and Computer Engineering — M.E.E., M.S., Ph.D.

Electrical and Computer Engineering (ECE) offers graduate programs of instruction and research leading to master's and doctoral degrees. Instruction is offered and research facilities are available to support graduate study in control systems, digital signal processing and communications, electromagnetics modeling and analysis , microelectronics , power systems, digital systems, and computer engineering. Additionally, individualized programs that cross the traditional boundaries of engineering, mathematics and the sciences can be accommodated.

For admission at the master's level, the applicant must hold a bachelor's degree or its equivalent from an institution of recognized standing. Master's degree programs are available to graduates of engineering curricula and, in cases of exceptional academic credentials, to graduates of mathematics and science curricula. The M.S. program is the only master's degree program open to on-campus students.

An applicant for admission to the Ph.D. program must hold a master's degree, or have taken a minimum of one academic year of graduate study, from an institution of recognized standing in an area of study related to the proposed doctoral work.

All applicants must submit Graduate Record Examination scores for the General Test.

Applications for admission are reviewed by the departmental graduate faculty. Decisions are based upon the applicant's potential for success in advanced-level study as indicated by letters of reference, GRE scores and previous academic achievement.

The master's degree programs of study require a minimum of 30 semester hours of work, which must include courses in at least three of the major research areas in ECE, and no more than 3 semester hours of independent study. The M.S. degree program includes 4 to 6 semester hours of research and thesis. M.S. students must spend at least one semester of full-time study in residence. M.E.E. students must pass a comprehensive examination before completion of the program, covering their graduate course work and fundamental undergraduate material in ECE.

Students admitted to the doctoral program will take a written qualifying examination soon after entering, covering fundamental undergraduate material in ECE and first-year graduate material in the major area of study. Additional examinations are given throughout the program. The program generally consists of a minimum of 60 semester hours of course work beyond the bachelor's level, including at least 10 hours of research and dissertation. A minor of at least 9 semester hours in a closely related field outside of the major area of study, either within or outside of ECE, is required.

English — M.A., M.T.P.C., Ph.D.

The Department of English offers programs leading to the Master of Arts and the Doctor of Philosophy. Individuals holding a teaching certificate may earn Alabama Class A or AA certification under a state-approved Strengthened Subject Matter Option program. The graduate program prepares students for careers in teaching and research, writing, editing, business and other professions seeking broadly educated individuals skilled in analysis and communication.

For admission to the M.A. program, the student must normally have a bachelor's degree from an accredited institution with the equivalent of 24 semester hours of credit in upper-division English courses and satisfactory scores on the general portion of the GRE. Qualified applicants with undergraduate degrees in related disciplines will also be considered. Applicants should also submit three letters of recommendation, a sample of their writing and a statement of purpose. Applicants lacking the required undergraduate courses must typically make up these deficiencies before they can be admitted to the degree program. For the M.A., students may select a thesis or non-thesis option. The thesis-option requires a minimum of 30 credit hours, including four hours of thesis credit. The non-thesis option requires a minimum of 30 credit hours of course work. With the approval of their advisory committee, students in either option may take up to nine hours in a minor field. Special concentrations are possible in creative writing (with a creative thesis in poetry or fiction) and in composition. Students must take a four and one-half- or six-hour written examination over a departmental reading list. Thesis-option students also take a one-hour oral examination over the completed thesis. Students in master's options must demonstrate a reading knowledge of one foreign language.

For admission to the Master in Technical and Professional Communication program, the student must normally have a bachelor's degree from an accredited institution, satisfactory scores on the general portion of the GRE, and excellent writing skill. The M.T.P.C. requires a minimum of 30 credit hours, consisting of four required courses (ENGL 6000 Technical and Professional Editing, ENGL 6010 Document Design in Technical and Professional Communication, ENGL 6030 Topics in Technical and Professional Communication, and ENGL 7010 Technical and Professional Communication: Issues and Approaches), nine hours of elective courses in English approved by the student's advisory committee, and nine hours in a coordinated minor approved by the student's advisory committee. Students must compile a portfolio of work accepted by the graduate faculty who regularly teach in the M.T.P.C. program.

For admission to the Ph.D. program, the student must normally have a master's degree in English and satisfactory scores on both the general portion of the GRE and the subject test. Applicants should also submit three letters of recommendation, a sample of their scholarly writing and a statement of purpose. The Ph.D. requires a minimum of 60 credit hours beyond the B.A., including 10 hours of dissertation credit. Students with an M.A. in English from other institutions usually need only eight or nine additional courses. After completing course work, students take general doctoral examinations, both written and oral, over three related areas. These areas might include historical periods, a genre, a major author, language and linguistics, or a problem in English or American literature. There are no required courses or area distribution requirements; however, students should be able to demonstrate a broad knowledge of English studies at their examinations. After passing these examinations, students write and defend a dissertation. Doctoral students must demonstrate a reading knowledge of two foreign languages or advanced proficiency in one foreign language.

The department offers financial aid in two forms, fellowships and assistantships. Graduate Teaching Assistantships are generally available for the most qualified students and GTAs pay in-state tuition. The typical teaching appointment is just under half-time. Assistantships are renewable, provided that students teach satisfactorily and make adequate progress toward the degree. A few outstanding applicants also receive first-year fellowships. Review of applications for financial aid will begin on Jan. 15.

Entomology – M.S., M.Ag., Ph.D.

Graduate Degree Program study in entomology emphasizes basic and applied aspects of the science of entomology and leads to the degrees of Master of Science, Master of Agriculture and Doctor of Philosophy. Admission is based primarily on a combination of GPA and Graduate Record Examination scores. The graduate program prepares students for careers in teaching, research and extension with a variety of academic, governmental, state, private and industrial opportunities.

Master of Science (M.S.) For a major in entomology at the M.S. level, the student should have a baccalaureate degree from a recognized institution with pre-requisite training in zoology, botany, chemistry, physics, and mathematics. Qualified students lacking mandatory courses may be admitted but will be required by the student's advisory committee to make up any deficiencies.

The M.S. program in entomology is available to qualified undergraduates who wish to pursue a master's level program that requires a thesis. Importance is placed on both classroom and research training. Students holding baccalaureate degrees in agriculture or the biological sciences may find this degree program helpful to their professional development and career goals. The educational goals and objectives of the M.S. degree program are to produce graduates who are fundamentally trained in the scientific principles and general knowledge of entomology and related sciences and who are able to apply these principles to successfully solve problems of an entomological nature or employ this knowledge at an advanced level of study.

The M.S. requires a minimum of 30 semester hours, including 13 core semester hours (ENTM 6200, Insect Physiology; ENTM 7220, Insect Morphology; and ENTM 7300, Systematic Entomology), one hour of ENTM 7950 (Seminar), and a thesis. A graduate-level course in statistics is also required. A minimum of 21 semester hours must be taken in entomology and a specialty area of at least 10 semester hours may be selected from related subject matter fields. There is no language requirement for the M.S. degree.

Master of Agriculture (M. Ag.). The M.Ag. program with a specialization in entomology is available to qualified undergraduates who wish to pursue a master's level program that does not require a thesis. Importance is placed on both classroom and practical training with emphasis on a graduate internship that permits individual mentoring. Students holding baccalaureate degrees in agriculture, the biological sciences, and some aspects of business may find this degree program helpful to their professional development and career goals.

The M.Ag. with a specialization in entomology carries the same entrance requirements as the M. S. but is a non-thesis degree; an internship (ENTM 7920) and a course in statistics are strongly recommended. The M. Ag. requires a minimum of 32 semester hours, 21 of which must be in entomology, including 13 core semester hours (ENTM 6200, Insect Physiology; ENTM 7220, Insect Morphology; and ENTM 7300, Systematic Entomology) and related courses with the remainder taken from a variety of subject areas determined in consul-

tation with the student's advisory committee. A comprehensive examination is required after all courses are completed. There is no language requirement for the M. Ag. degree.

Doctor of Philosophy (Ph.D.). The purpose of the Ph.D. program in entomology is to produce graduates who are fundamentally trained in the scientific principles and general knowledge of entomology and related sciences and who are able to employ this knowledge at an advanced level of study and/or apply these principles to successfully solve problems of an entomological nature.

The Ph.D. program requires 61 semester hours of course work, including 13 core semester hours (ENTM 6200, Insect Physiology; ENTM 7220, Insect Morphology; and ENTM 7300, Systematic Entomology), two hours of ENTM 8950 (Seminar), and a dissertation based on the student's original research. A graduate-level course in statistics is also required. Of the 61 semester hours, 30 must be graded (eg. A, B, C) graduate courses 7000 and above, 20 of which must be completed under the 09 classification at Auburn University while registered in the Ph.D. program. A doctoral student must also complete 30 hours of additional course work (may include ungraded courses, 6000-level courses, 7990, 8990). There is no language requirement for the Ph.D. degree.

Finance — M.S.B.A.

The M.S.B.A. program offers specialized training to graduate students desiring a more intense background in the field relative to the general preparation provided by an M.B.A. The objective of the program is to prepare students for careers in their chosen profession or for further graduate work. The program has a thesis and non-thesis option (the non-thesis option requires additional course work). The program of study is determined by the student and the student's advisory committee based on the student's background and areas of interest.

Fisheries and Allied Aquacultures – M.Aq., M.S., Ph.D.

Graduate study in the Department of Fisheries and Allied Aquacultures leads to the degrees of Master of Aquaculture, Master of Science and Doctor of Philosophy. The program prepares students for productive careers in the private and public sectors in aquaculture, aquatic ecology, and fisheries biology and management.

Students desiring admission for graduate study should have a degree from a recognized institution and should have adequate course work in biology, zoology, botany, chemistry, physics, and mathematics. Qualified students lacking an adequate background in these areas may be admitted but may be required to correct deficiencies after they enroll at Auburn.

The non-thesis Master of Aquaculture degree is offered for students seeking broad practical training and preparing for a career in aquaculture management. The degree requires successful completion of a minimum of 39 semester credit hours which includes a 3– 6-month internship. A minimum of 9 credits must be taken from other departments, 6 of which are required in business related courses.

The Master of Science degree combines classroom study and an introduction to scientific research. A minimum of 30 semester credit hours of course work and a thesis are required. At least 9 hours must be taken from outside the department.

Admission to the Doctor of Philosophy degree program usually requires that the student have a master's degree from a recognized graduate program. The doctoral program emphasizes original, scholarly research and includes significant advanced course work. The Ph.D. degree requires a minimum of 60 semester credit hours beyond the bachelor's degree and a dissertation describing original research. A minimum of 30 hours must be graded graduate courses (7000-level and above), of which 20 must be taken at Auburn University.

All graduate students are expected to be engaged in service to the department's research and education programs as deemed appropriate by the academic adviser and department head. All students receiving departmental assistantships must be registered as full-time students each semester, and all M.S. and Ph.D. students must be registered for at least one credit hour of thesis and dissertation research each semester.

Forestry — M.F., M.S., Ph.D.

Graduate study in forestry leads to the Master of Forestry (M.F.), Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees. Two M.F. options are available. One, for students with undergraduate degrees in forestry, involves primarily advanced course work and can be completed in one year. A second M.F. program, for individuals with baccalaureate degrees in fields other than forestry, is a two-year program which begins with a 10 week summer field practicum. The M.S. program, which involves research and a thesis and normally requires two years for completion, can be tailored for students with degrees in forestry, the biological sciences, physical sciences, economics, engineering and business. Outstanding M.S. students, particularly those interested in careers emphasizing research, education, and scholarship, often study for the Ph.D.

The M.S. and Ph.D. degrees are offered in the fields of forest biology and ecology, forest measurements, forest management/economics, timber harvesting/forest operations and forest products. An urban forestry minor, in cooperation with the Department of Horticulture, is available for M.F., M.S. and Ph.D. degrees. The Ph.D. in economics is offered through the interdepartmental program in economics which is administered jointly by the Department of Agricultural Economics and Rural Sociology, and the School of Forestry and Wildlife Sciences.

In addition to meeting admission requirements of the Graduate School, applicants for graduate study in Forestry are normally expected to achieve scores of 450 on the verbal element and 550 on the quantitative element of the Graduate Record Examinations (GRE). Applicants not holding a B.S. in forestry may be required to take necessary background courses. These needs are determined by the student's advisory committee and approved by the dean with due consideration for the student's previous training and experience. There is no foreign language requirement for any of the graduate degrees.

All Forestry graduate students are required to assist with one course during their tenure and to enroll in prescribed seminar classes. Prior to their final comprehensive examination, all Forestry graduate students are required to present a seminar on their research (M.F. paper, thesis or dissertation). M.S. and Ph.D. students must also complete Research Methods (FORY 7510).

The M.F. degree for students with an undergraduate degree in forestry requires a minimum of 31 semester hours. The M.F. degree for students with baccalaureate degrees in fields other than forestry requires a minimum of 71 semester hours (35 hours of specified undergraduate course work plus 36 hours of required graduate course work). Requirements for both M.F. programs include a M.F. paper.

The M.S. requires a minimum of 30 semester hours, including at least 21 in a major area of concentration. Up to 4 credits may be for Research and Thesis (FORY 7990). These credits should be included in the plan of study. Students are required to submit a thesis proposal and a thesis based on original research.

The Ph.D. program requires a minimum of 61 hours beyond the B.S. At least 36 hours approved by the student's advisory committee must be taken in graded (e.g. A, B, C) graduate course work at the 7000-level and above. The requisite 10 hours of Research and Dissertation (FORY 8990) (but no more) should be included in the plan of study. Students are required to submit a dissertation proposal. The dissertation is a major element of the program.

Additional information on forestry graduate programs and degree requirements can be found in the School Graduate Student Guide (www.forestry.auburn.edu/graduate/gsguide.html).

French — M.A., M.F.S.

Graduate studies in French lead to the Master of Arts (M.A.) or the Master of French Studies (M.F.S.). The graduate program in French prepares students for careers in teaching, government, business, or for Ph.D. studies.

Candidates wishing to pursue the M.A. in French or the M.F.S. must have a bachelor's degree from an accredited institution, with at least 38 semester hours of undergraduate French above the freshman level and satisfactory scores on the Graduate Record Examination. International students also must have acceptable scores on the TOEFL. Applicants lacking course requirements need to make up deficiencies before admission to the graduate program.

The M.A. requires at least 30 semester hours including four credits for thesis. The M.F.S. requires at least 36 semester hours but no thesis. All degrees require passage of comprehensive examinations.

Candidates for the M.F.S. must earn a minimum of 30 semester hours in their major. All Master's degree candidates who are graduate teaching assistants in French are required to take FLFR 7090 every

semester when they hold a teaching assistantship or equivalent. Credit from this course does not count toward the master's degree. For more information, check the student handbook available from the department.

A concentration consisting of six semester hours of graduate-level courses in a related field or fields may be earned as part of the M.F.S. degree offered by the department.

A reading knowledge of one other foreign language is required. This knowledge may be demonstrated by examination, by a foreign language proficiency course, or by completion of the first-year sequence (or the equivalent) of a foreign language with a grade of B or better.

Teaching assistantships are available to qualified students. For more information, please contact the department.

Geology — M.S.

Graduate study in Geology leads to the Master of Science degree. The graduate program is oriented toward providing a sound practical background in preparation for employment in industry or government service or for further academic pursuits. The curriculum provides broad training in geology through a series of core courses with the opportunity for specialization through electives, thesis research and/or directed studies.

For a major in geology at the master's level, the student must have a bachelor's degree in geology from an accredited institution with 40 semester hours in geology, satisfactory scores on the Graduate Record Examinations general test and three letters of recommendation. Undergraduate course deficiencies may be made up during the student's first year in the degree program .

The thesis option M.S. degree in geology requires a minimum of 30 semester hours including 12 hours of required 7000-level geology courses; 9 hours of 7000-level geology elective courses; 3-5 hours of approved 6000 or 7000-level geology or supportive electives, of which no more than 3 can be GEOL 7800 (Directed Study); and 4-6 hours of thesis. Students electing the non-thesis option must complete a minimum of 40 hours, including 12 hours of required 7000-level geology courses; 24 hours of formal geology elective courses (at least 15 hours at the 7000-level); and 4 hours of 6000 or 7000-level geology or approved supportive electives, all or a portion of which may be GEOL 7800 (Directed Study). Both options require (1) satisfactory completion of a summer field course or comparable field experience prior to beginning the second year of residence and (2) demonstrated working knowledge of a computer language or computer based geographic information system (G.I.S.) before graduation.

Health and Human Performance — M.Ed., M.S., Ed.S., Ed.D., Ph.D.

Graduate study in the Department of Health and Human Performance leads to the degrees of Master of Education (M.Ed.), Master of Science (M.S.), Specialist in Education (Ed.S.), Doctor of Education (Ed.D.) and Doctor of Philosophy (Ph.D.). The advanced programs prepare students for careers in teaching and research in education, industry, government and social and human services.

For a major in Health and Human Performance at the master's level, the student must have a bachelor's degree from an accredited institution and satisfactory Graduate Record Examination scores. Applicants without appropriate undergraduate degree preparation and course requirements may be asked to register in an appropriate undergraduate program before admission to the degree program or may be required to complete specific undergraduate courses prior to degree completion. Areas of specialization for the master's program include biomechanics, exercise physiology, health promotion, motor development, motor skill learning, sport and exercise psychology, and pedagogy.

Graduate students interested in completing a minor in Sports Management must complete one course in the following areas: sports studies, sports management, educational leadership and practicum. Six hours beyond the degree requirements are required for the sport management minor.

The Ed.S. degree is a terminal degree and students interested in doctoral study should not enter this program. The master's degree, satisfactory GRE scores, a statement of goals and references are requirements.

The Ed.D. degree program requires a master's degree, satisfactory GRE scores, a statement of goals and references. Candidates must demonstrate competency in general foundations of education and research with a specialization in teaching and learning in physical education.

Requirements for the Ph.D. program include the master's degree, satisfactory GRE scores, a statement of goals and references. Areas include biomechanics, exercise physiology and motor behavior.

History — M.A., Ph.D.

Graduate study in History leads to the degrees of Master of Arts and Doctor of Philosophy. The graduate program prepares students for careers in teaching, business, government and research.

For admission to the M.A. program, the student must have a bachelor's degree from an accredited institution with 27 semester hours of history and a satisfactory GRE score. Applicants lacking course requirements must make up deficiencies before or after admission to the degree program. The M.A. requires a minimum of 31 hours (of which 21 must be in seminar courses, including HIST 7700) and a thesis. The M.A. program offers a specialization in archival studies, including practical training. The M.A. degree (non-thesis) is awarded to students in the doctoral program who have not previously earned the master's upon passing the General Examination for admission to candidacy for the Ph.D.

For admission to the Ph.D. program, the bachelor's degree with 27 semester hours of history and a satisfactory GRE score are required. The program requires a minimum of 65 semester hours beyond the bachelor's degree (of which 43 must be at the 7000 or 8000 level exclusive of thesis or dissertation credit), including HIST 8700, 8710 and a dissertation. Candidates must demonstrate excellence in their major field of history and competence in two minor fields of history on their general examinations. In addition, students must take a minimum of 12 hours of course work outside their major and minor fields, six of which may be in a discipline other than history. Major fields in history include (1) United States to 1865 (2) United States since 1865 (3) Europe 1500-1815 (4) Europe since 1789 (5) History of Technology. Latin American history is offered as a minor field.

There is no language requirement for the master's degree. The Ph.D. requires a reading knowledge of at least one foreign language as determined by the student's doctoral committee. Language competency should be demonstrated before the student begins the second year of the doctoral program.

Horticulture — M.S., M.Ag., Ph.D.

Graduate study in Horticulture is directed toward the Master of Science and Doctor of Philosophy degrees. Graduates are prepared for careers in teaching, research, business, production, public service or extension. Master's level programs are available to students with undergraduate degrees in horticulture and those from other fields seeking opportunities in horticulture-related careers. For the M.S. program, students must have a bachelor's degree in horticulture or a related area from an accredited university and have satisfactory GRE scores. Applicants from related areas will be required to correct any undergraduate course deficiencies. The M.S. requires a minimum of 30 credit hours of graduate work, including at least 21 credit hours in the major field of study. The student's plan of study is individually tailored by the student, major professor and advisory committee to meet the student's career goals. A thesis based on research by the student is required.

The Master of Agriculture is a non-thesis option which requires successful completion of 32 credit hours, 21 of which must be in agricultural sciences. Additional courses may be required for individual students and are determined by the major professor and advisory committee. There is no specific schedule of courses for M.S. or M.Ag. students or a foreign language requirement for any graduate students in horticulture.

Graduate students in a program requiring a thesis or dissertation will register for at least one hour of HORT 7990 or 8990 respectively, per semester. Doctoral candidates must follow all Graduate School and departmental requirements concerning course work. However, the advisory committee may require additional course work. The doctoral program emphasizes original and creative research with a required dissertation.

Human Development and Family Studies — M.S., Ph.D.

The Department of Human Development and Family Studies offers graduate instruction leading to the Master of Science degree with concentrations in child development, family relations and marriage and

family therapy; and the Doctor of Philosophy with a focus on interpersonal competence and relationship dynamics within the context of the family. The Department emphasizes the integration of knowledge from various fields for the purpose of understanding and developing professional skills for careers in college or university teaching and research, teaching and supervision in programs for young children, parent education, marriage and family therapy, community service, Cooperative Extension, government, business and industry. To promote training and research, the Department operates the Auburn University Early Learning Center, the Birmingham Early Learning Center and the Center for Marriage and Family Therapy. The marriage and family therapy option is accredited by the American Association for Marriage and Family Therapy Commission on Accreditation for Marriage and Family Therapy Education. Both the Auburn University Early Learning Center and the Birmingham Early Learning Center are accredited by the National Academy of Early Childhood Programs, a division of the National Association for the Education of Young Children.

For admission, a background in the social and behavioral sciences is highly desirable and should include course work in human development, family relations, anthropology, sociology, psychology and statistics. Students without adequate preparation in these areas may be accepted upon the condition that they register for any additional courses deemed necessary by the department's graduate advisory committee. Applicants for admission to the Ph.D. program should hold a master's degree. There is no language requirement for the M.S. or Ph.D. degrees.

The M.S. requires a minimum of 30 semester hours, including at least 21 in the major field, a thesis and a final oral examination covering the thesis research and other fundamental work. A minor in an allied or supporting area of study is encouraged. Students interested in completing the three-semester Marriage and Family Therapy Practicum are required to take and pass a clinical qualifying examination.

The Ph.D. program requires a minimum of 60 hours beyond the B.S. and consists of a theoretical and substantive emphasis in family and child relationships, a supporting emphasis that will provide a multidisciplinary understanding of children and families, a research and statistics component and an empirical dissertation.

Graduate research may focus on relationship studies at any stage of the life cycle, including parent-child, family, marital, non-marital, peer, friendship, family-child care-work and mentor-protege. Graduate assistantships are available to students who have achieved superior rank in their previous academic work.

Industrial Design — M.I.D.

The department offers the Master of Industrial Design. The applicant must have a bachelor's degree in industrial design or its equivalent from an institution of recognized standing. Applicants with a baccalaureate from other disciplines such as engineering, management, psychology, architecture and life sciences, may be admitted to the graduate program under condition that a minimum of 37 credit hours in industrial design will be completed at the undergraduate level. Normally, students are admitted to the 37 credit hour undergraduate program during the summer semester. All INDD undergraduate students are required to take INDD 1320.

A major of 35 credit hours, including the thesis, is required. A 40 credit hour non-thesis option is available. Credit for INDD 7990 may not exceed six hours. Courses are structured to the specific product and systems design area of the student's interest. In certain cases, additional course work beyond the minimum may be needed. There is no language requirement. A graduate-level core curriculum is required.

Industrial and Systems Engineering — M.I.S.E., M.S., Ph.D.

The department offers the Master of Industrial and Systems Engineering, the Master of Science and the Doctor of Philosophy. These programs are for students with undergraduate degrees in industrial engineering, other engineering disciplines, mathematics and sciences.

All applicants must submit Graduate Record Examination scores for the General Test. Both the M.I.S.E. and M.S. programs require 30 hours of course work.

The M.I.S.E. is oriented toward professional practice. M.I.S.E. students must take 18 semester hours from a set of core courses, a three hour design project and 9 hours in electives. The M.S. also requires 18 hours of core courses, six hours of electives and a six hour thesis.

Research involvement is the dominant element in the doctoral program. It provides a quality educational experience for selected individuals whose records indicate an excellent potential not only for superior performance in course work, but also for the research and ensuing dissertation which is an original and scholarly contribution to the field. The Ph.D. program requires 18 semester hours of core courses and the student must demonstrate a high level of proficiency in a specific area of industrial and systems engineering as well as a competence in the entire field. A qualifying examination is required. The degree usually requires one calendar year of course work beyond the master's degree and another of research. A minor in a closely related field is required.

Management — M.S.B.A., M.M.I.S., Ph.D.

The department offers graduate study leading to the Master of Science, Master of Management Information Systems and the Doctor of Philosophy degrees in management. Applicants to each program must hold a bachelor's degree from a recognized institution. Additionally, students must complete a common body of knowledge curriculum comprising core courses in business. Graduates of business schools will likely have met this requirement; graduates of other programs may be required to complete additional courses to compensate for deficiencies.

The M.S.B.A. - HRMN program offers specialized training to graduate students desiring a more intense background in the field relative to the general preparation provided by an M.B.A. The objective of the program is to prepare students for careers in Human Resource Management or for further graduate work. The program has a thesis and non-thesis option (the non-thesis option requires additional course work). The program of study is determined by the student and the student's advisory committee based on the student's background and areas of interest.

The M.M.I.S. Program offers advanced preparation for graduate students in Management Information Systems. This is a non-thesis program that requires the completion of a minimum of 33 semester hours selected by the student and advisory committee and the completion of a project chosen by the student and approved by the committee.

The Ph.D. program prepares graduates to conduct high-quality research in universities, colleges, government and business. Doctoral students choose one of three areas of concentration: human resources management, organizational analysis and change and management of information technology and innovation. Individual flexibility is provided in a program of study that develops the conceptual and methodological skills that graduates need to begin work toward a leadership position in their chosen fields. Objectives of the program are accomplished through a formal program of study, teaching and research assistantships, assignment and completion of research projects, preparation for and completion of two examinations (preliminary) manuscripts and dissertation research. Applicants to the Ph.D. program must complete a departmental application and an Auburn University Graduate School application. For full consideration, applications must be received by February 1 prior to the Fall term.

Marketing and Transportation — M.S.B.A.

The M.S.B.A. program offers specialized training to graduate students desiring a more intense background in the field relative to the general preparation provided by an M.B.A. The objective of the program is to prepare students for careers in their chosen profession or for further graduate work. The program has a thesis and non-thesis option (the non-thesis option requires additional course work). The program of study is determined by the student and the student's advisory committee based on the student's background and areas of interest.

Materials Engineering — M.Mtl.E., M.S., Ph.D.

Materials Engineering offers graduate programs of instruction and research leading to the degrees of Master of Materials Engineering, Master of Science and Doctor of Philosophy. All applicants must submit GRE scores for the General Test. Students completing all degree programs are expected to have knowledge in the following areas: mechanical properties; materials structure; materials thermodynamics; kinetics; and electrical, optical and magnetic properties of materials. There is no foreign language or minor requirements for all degrees.

The M.Mtl.E. is intended for those who expect to enter the engineering profession at an advanced level or are practicing engineers wishing to gain additional fundamental knowledge in the field of materials. Emphasis is on professional development. Those students lacking the necessary background may be required to take additional work. The requirements for the degree are 33 credit hours including a final engineering report. The topic of the report will be agreed upon by the student and the advisory committee. Applicants must have a baccalaureate degree in engineering or science from an institution of recognized standing. Students must pass a qualifying examination prior to taking the final general comprehensive examination required by the Graduate School.

The M.S. is intended for those who seek advanced knowledge in materials science or engineering for a career in research or other professional practice. The applicant must have a baccalaureate degree or its equivalent in an engineering or scientific discipline from an institution of recognized standing. Those lacking the necessary background will be required to take additional work to ensure the continuity of their educational and professional experience. The M.S. program consists of 30 credit hours selected from areas of study appropriate to the objectives of the applicant and includes a thesis. Students must pass a qualifying examination prior to taking the final comprehensive examination required by the Graduate School.

The Ph.D. program requires that students pass qualifying oral examinations with a greater proficiency than master's students prior to taking the comprehensive examinations. The program, arranged on an individual basis, will consist of a minimum of 60 credit hours, including dissertation, beyond the B.S. degree with at least 30 hours of 7000-level courses with 18 hours as a Ph.D. student at Auburn University. Students admitted to the doctoral program are required to take the general comprehensive examination within two years after entering the program. The student should be prepared to be examined in all areas of materials engineering.

Mathematics — M.S., M.A.M., Ph.D.

The department offers programs leading to the Master of Science and Doctor of Philosophy in pure and applied mathematics and the nonthesis Master of Applied Mathematics. Actuarial science courses which cover the material in the first 10 actuarial exams are regularly taught.

The internationally known faculty works in areas of algebra, analysis, geometry, linear algebra, logic, numerical analysis, probability, set theory and topology. Many faculty maintain applied research programs associated with several government and industrial laboratories. One faculty member holds the Associate of the Society of Actuaries designation.

Admission to the program is based on a student's undergraduate record, letters of recommendation from former teachers, GRE scores and graduate GPA (for doctoral students). The GRE subject test is recommended but not required. A bachelor's degree in mathematics is not required, but new students are expected to have had rigorous courses in analysis and algebra. Some students who have not had these courses but otherwise are highly qualified are admitted with the understanding that they will make up this work early in the program of study.

The department follows the guidelines for graduate degrees set forth in this Bulletin. Also, doctoral students must satisfy a departmental preliminary examination requirement to continue their GTA.

Course work in mathematics may be transferred from other institutions, subject to university limitations.

Most students in the program are supported financially during their studies through Graduate Teaching Assistantships. The Baskervill Fellowship ($3,000) is awarded two out of three years to a qualified student in the Department of Mathematics. The department occasionally has Graduate Research Assistantships in conjunction with departmental contractual research programs. The department also has a limited number of Tuition Fellowships .

The department requires that all international GTAs who have responsibility for teaching a class be proficient in English. A score of at least 50 on the Test of Spoken English is required.

Mechanical Engineering — M.S., M.M.E., Ph.D.

The Mechanical Engineering Department offers graduate programs of instruction and research leading to the degrees of Master of Mechanical Engineering, Master of Materials Engineering (see separate listing of graduate program in Materials Engineering), Master of Science and Doctor of Philosophy. Educational and research facilities are available to support graduate study in engineering mechanics, experimental mechanics, robotics, vibrations, dynamical systems, engineering design, engineering acoustics, computer-aided design, materials science and thermal/fluid sciences. All applicants must submit Graduate Record Examination scores for the General Test.

Non-Thesis Option: The M.M.E. is intended for those who expect to enter the engineering profession at an advanced level. Emphasis is placed on professional development. Applicants are expected to have a baccalaureate degree in mechanical engineering or a closely related field from an accredited curriculum.

Requirements for the degree consist of a major of 21 credit hours as a minimum and a coordinated minor of 9 credit hours selected from areas of study appropriate to the applicant's objectives. There is a required faculty supervised project culminating in a final comprehensive oral examination.

Thesis Option: The M.S. applicant must have a baccalaureate or its equivalent in an engineering or scientific discipline from an institute of recognized standing. The degree requires a major of 21 credit hours in mechanical engineering courses, including a thesis (seven credit hours) and a minor of 9 credit hours selected from allied areas of study. The minor may consist of a sequence of courses in mathematics, physics, or other related areas. All candidates must pass an oral defense of their thesis including a comprehensive examination covering the major and minor subjects.

Ph.D. students will select their major courses from those at the 7000-8000-level unless there are special requirements for more basic courses. The program, arranged on an individual basis, usually will consist of a minimum of one academic year of course work and one of research beyond the master's level. The student should prepare to be examined in all areas of mechanical engineering. The Ph.D. also requires a minor of at least 9 credit hours in a closely related field such as mathematics, physics, or other engineering disciplines.

The foreign language requirement, if any, is decided by the student's advisory committee as deemed appropriate. This requirement may be satisfied either by an examination administered by the Foreign Languages Department or by passing a two-semester proficiency sequence. A minimum grade of B is required.

Nutrition and Food Science — M.S., Ph.D.

The Department of Nutrition and Food Science offers graduate study leading to the Master of Science and the Doctor of Philosophy degrees with emphasis in either food science, nutrition, or hotel and restaurant management. The combination of these respective areas within a single department facilitates integrative studies addressing normal and clinical nutrition, food and health issues, food safety and technology and food service, as well as hospitality management. For the M.S. degree, the student may specialize in human, community, clinical or sports nutrition, food service management, food science, or hotel and restaurant management. The department emphasizes the integration of knowledge from various fields for the purpose of understanding and developing professional skills for careers in higher education, government and food, healthcare and hospitality industries.

For admission to the M.S. or Ph.D. programs, the student must have a bachelor's degree from an accredited institution and a satisfactory GRE score. Applicants lacking background requirements in nutrition, food science or biological and physical sciences must make up deficiencies. The M.S. requires a minimum of 30 semester hours and a thesis. A non-thesis option is available in the HRMT emphasis; this option is available through distance education and on campus. The Ph.D. requires a minimum of 60 semester hours beyond the B.S. degree and a dissertation describing original research in the area of nutrition, food science or hotel and restaurant management. Laboratories are available for human, animal, chemical and physical research.

Supporting courses to strengthen the nutrition or food science major may be in biochemistry, physiology, organic chemistry and biostatistics. The HRMT emphasis may take supporting courses in management, marketing, communications and economics. Course requirements for membership or registration in the American Dietetic Association may be met during the graduate program by enrolling in additional required courses. Teaching, research and extension assistantships are awarded competitively to qualified students.

Pathobiology — M.S., Ph.D.

(See Biomedical Sciences)

Pharmacal Sciences — M.S., Ph.D.

Graduate study in pharmaceutical sciences leads to the degree of Master of Science. A Doctor of Philosophy in pharmaceutical sciences is offered through an interdepartmental program by the departments of Pharmacal Sciences and Pharmacy Care Systems.

The graduate program prepares students for teaching or research careers in academia, the pharmaceutical industry and public and private research institutes. Students are expected to select one of the following areas of specialization: pharmaceutics, medicinal chemistry or pharmacology and toxicology.

For the M.S. program, students must have a bachelor's degree in pharmacy or an allied discipline such as biology, zoology, physiology, chemistry, physics, psychology. Requirements include completion of 30 semester hours and a thesis.

For the Ph.D. program, applicants must have a bachelor's or master's degree in pharmacy or an allied discipline. Students are expected to select a major area from one of the three disciplines in the pharmacal sciences. A minor should be selected from a related area within pharmacal sciences or from an allied discipline offering Ph.D.-level education.

A dissertation is required of all graduates of the Ph.D. program. The Ph.D. requires competence in biostatistics or in the use of computers.

Pharmacy Care Systems — M.S., Ph.D.

The department offers graduate course work at the master's and doctoral level in the fields of pharmacy care systems and health systems pharmacy. The Doctor of Philosophy in pharmaceutical sciences may be earned in pharmacy care systems.

The student pursuing the M.S. is expected to select either pharmacy care systems or health systems pharmacy. At least half of the student's work will be completed in the chosen field, including a thesis. The remainder may be selected in other pharmacy fields or may be taken in a related area outside of the School of Pharmacy such as accounting and finance, computer sciences, economics, industrial engineering, industrial design, architecture, management, psychology, sociology and communication. The M.S. requires a minimum of 30 semester hours and a thesis. The thesis may be counted toward part of the semester hour requirement. A student may earn a maximum of six credit hours for the thesis.

The student pursuing the Ph.D. will be expected to complete a minimum of 60 semester hours of course work in the chosen field of study. In addition, general examinations and a dissertation are required. A student must earn a minimum of 10 hours credit for the dissertation.

A bachelor's degree from an accredited college or university and satisfactory scores on the Graduate Record Examination are required. A pharmacy degree is preferred. There is no additional language requirement beyond verbal and written fluency in English.

Physics — M.S., Ph.D.

The Department of Physics offers the Doctor of Philosophy degree to students who have achieved a mastery of the fundamental laws of nature and demonstrated the ability to complete a research project which results in new knowledge in physics. All students complete the basic graduate level courses in Classical Mechanics, Electricity and Magnetism, Quantum Mechanics and Statistical Physics. They demonstrate their mastery of these subjects by passing a General Doctoral Examination which has both a written and an oral component. To increase their knowledge of a broad range of advanced physics topics and to develop expertise in their chosen area of focus, students complete at least 12 additional hours of graded course work with a minimum of nine at the 8000-level. The research project is usually undertaken in one of the research focuses of the Department - plasma physics, condensed matter and surface physics, atomic and molecular physics, radiative physics, space physics, and computational physics. It is completed with the defense of the student's dissertation. Students are also expected to publish their research in a refereed journal and/or present it in an appropriate professional meeting.

The Master of Science degree is also offered. Successful students complete the same basic graduate level courses as Ph.D. students. Students electing the non-thesis option complete an additional 12 hours of graduate level course work and demonstrate their knowledge and skills through a comprehensive written examination. Students electing the thesis option complete at least an additional 6 hours of graduate level course work and at least 4 hours of thesis work. In addition to defending their thesis, they are encouraged to publish their results in a refereed journal or present them at a scientific meeting.

Plant Pathology — M.Ag., M.S., Ph.D.

Graduate study in plant pathology leads to the non-thesis M.Ag., M.S. or Ph.D. degrees. Applicants must have earned a B.S. from an accredited institution with course work in botany, microbiology, agronomy, horticulture, or closely related areas. Satisfactory scores on the GRE and TOEFL tests are also required. All graduate students must complete core courses in plant pathology. For the M.Ag. or M.S., 30 semester credits are required beyond the B.S.; for the Ph.D. candidates, 60 credits are required. M.S. candidates must conduct research for the thesis and pass a final oral examination. Ph.D. candidates must conduct independent research for a dissertation and successfully pass final written and oral defense examinations. No foreign languages are required.

Poultry Science — M.S., M.Ag., Ph.D.

Graduate study in poultry science leads to Master of Agriculture, Master of Science and Doctor of Philosophy degrees. Applicants for a graduate degree must have a bachelor's degree from a recognized institution and a satisfactory GRE score. Working knowledge of chemistry, biology, and agricultural sciences is desirable. The M.S. degree requires a minimum of 30 hours and a thesis. The M.Ag. degree requires a minimum of 30 hours, and no thesis is required. Entry requirements for the Ph.D. degree are similar to those for the M.S. degree, and a preceding M.S. degree is desirable. A minimum of 60 hours beyond the bachelor's degree and a dissertation are required. A graduate student's course of study is designed to enable him or her to specialize in various aspects of poultry science.

Psychology — M.S.*, Ph.D.

The goals of the Department of Psychology are to prepare students at the doctoral level for careers in teaching, research and applied behavioral science. These goals are pursued through three specialized programs: clinical, experimental analysis of behavior and industrial/organizational. (Graduate degrees in counseling, counseling psychology, educational psychology and school psychology are offered through departments in the College of Education rather than the Department of Psychology.)

The **Clinical Psychology** program prepares students for professional careers. The importance of an empirical basis for clinical work is stressed. In this way, the program maintains a commitment to the scientist-practitioner model of graduate education in clinical psychology. The **Experimental Analysis of Behavior** program offers training in experimental psychology with emphasis on behavior analysis. In applications, the program emphasizes and encourages the formation of bridges between basic and applied research. Concentrations are available in behavioral pharmacology and substance abuse, organizational behavior management and developmental disabilities. The **Industrial Organizational** program prepares students for academic, research and/or applied settings. Electives allow students flexibility in developing their own areas of specialization. Practicum placements provide opportunities to gain research and applied experience.

Holders of the bachelor's degree in any discipline from an accredited institution will be considered for graduate work in psychology. Students are admitted fall term. Applicants should visit (www.auburn.edu/psychology), e-mail bryangt@auburn.edu or call 334/844-6471 for the departmental application and complete program information. To ensure consideration, the Graduate School application should be completed by January 14, and the departmental application by January 21.

During the first three semesters of study, students complete a fixed sequence of departmental core courses providing a foundation in psychology on which specialization in one of the department's three programs is based. In doctoral study, students are expected to write and defend an empirically based master's thesis. Admission to doctoral candidacy is contingent upon successful completion of the general doctoral examination. Students must also write and defend a research

dissertation. Students enrolled in the clinical program must also complete a one-year internship. The total number of semester credit hours of graduate work leading to the Ph.D. ranges from 74 to 101.

* An M.S. degree is conferred upon students in the doctoral program when they have fulfilled intermediate requirements for the Ph.D. The department does not offer a terminal master's degree.

Public Administration and Public Policy — M.P.A., Ph.D.

The Department of Political Science offers the Master of Public Administration. It is a professional degree program for leadership in public service at all levels of government. The program is accredited by the National Association of Schools of Public Affairs and Administration. Highly qualified students may pursue concurrently the Master of Community Planning through a special arrangement that includes a separate application.

Applicants for the MPA must have a bachelor's degree or its equivalent from an accredited college or university. The General Test of the Graduate Record Examination is required. The admissions committee will evaluate the undergraduate record, GRE scores, letters of recommendation, a writing sample and any experience in government. The program is not limited to political science majors, but successful applicants who have little background in government institutions and processes may be required to take additional courses.

The program requires 42 semester hours, plus a comprehensive examination. Eight core courses for a total of 24 hours credit are required of all students. Students take an additional 12 hours of electives in either public administration, broadly conceived, or an approved concentration in a related administrative field or policy area. The final six credit hours consists of either an administrative internship in a governmental agency or participation in a governmental research project. Students without substantial governmental experience will complete an internship, while those who have prior experience will complete a research project and paper.

DEGREE REQUIREMENTS

A. Pre-requisites

COMPETENCY	MEASURE
English	Verbal GRE of at least 450, writing sample or a course in advanced compostion
Math	Quantitative GRE of at least 450 or course in college mathematics
U.S. Government	Undergraduate course or experience
Statistics	Undergraduate course
Microcomputer applications	Undergraduate course or demonstrated competence

Students who have not satisfied these competencies before they enter the program may take them concurrently with MPA courses. It is important to complete the pre-requisites as soon as possible to gain full benefit of the regular MPA courses.

B. The Core Curriculum

POLI 7000, POLI 7140, POLI 7150, POLI 7260, POLI 7330, POLI 7350, POLI 7360, POLI 7520. All classes are three hours.

C. Electives

The student must take 12 hours of electives chosen in consultation with the director of the MPA Program. If the option for a concurrent degree with community planning is chosen, the electives for public administration will be fulfilled by the core courses of community planning.

D. The Practical Experience

The remaining six hours of study required by the curriculum are fulfilled in one of two ways. Students without significant prior governmental experience take an internship. Students with direct government experience normally complete an approved research project, although they may take an internship with the approval of the MPA director.

E. Comprehensive Examination

The comprehensive examination is a critical part of the MPA program. The comprehensive exam will be offered twice a year – fall and spring. Students who fail the examination are allowed one opportunity to retake it at one of the regularly scheduled examination periods. Typically, the exam is taken during the last term of study. A committee of three faculty members prepares the exam from questions submitted by all faculty who teach core courses. The examination focuses on the following:

1. Factual knowledge of basic institutions, processes and rules affecting public administration.
2. Understanding of the major theoretical concepts of the field.
3. Knowledge of major generalizations of the field.
4. Ability to integrate concepts and generalizations from various subfields and courses.

PH.D. IN PUBLIC ADMINISTRATION AND PUBLIC POLICY

The Ph.D. in Public Administration and Public Policy is offered jointly by the Auburn University Department of Political Science and the Auburn University at Montgomery Department of Political Science and Public Administration. The curriculum includes four core seminars and two track options.

Only students with master's degrees from accredited universities or colleges will be considered for the AU and AUM Ph.D. program. Applicants having an insufficient background in public administration and public policy will have to take additional courses as determined by the admissions committee. All applicants must take the GRE. Normally, a combined score of 900 is required for admission

DEGREE REQUIREMENTS

A. Core Courses

The following four core seminars must be taken by all students: Public Administration, Public Policy, Research Methodology I and II.

B. Tracks

The Ph.D. program has two tracks, Public Administration and Public Policy. In addition to the four core courses, students are required to take three courses within the track they have chosen. In the Public Administration track, students must take: Public Budgeting, Human Resource Management and Organization Theory. In the Public Policy track, students must take three of the following courses: American Politics and Public Policy, Comparative Politics and Public Policy, International Relations and Public Policy, Political Theory and Public Policy and Public Law and Public Policy.

The other two are selected by the student in consultation with the student's committee. They may be but need not be selected from this list.

C. Minimum Credit Requirements

Hours of formal Ph.D. course work:.....39
Hours of 7000/8000 formal Ph.D. course work:.....33
Minimum hours of formal course work at each campus:.....9

D. Examinations

Upon completion of course work, students must take a written and oral examination administered by the advisory committee over their course work. For the written part, there will be one general examination covering all four of the core areas and separate examinations on the student's areas. Students must pass each written examination before scheduling the oral examination. After completion of the dissertation the student must pass a final oral examination which is principally a defense of the dissertation.

Rehabilitation and Special Education — M.Ed., M.S., Ph.D.

Graduate study in Rehabilitation and Special Education leads to the degrees of Master of Education, Master of Science, and the Doctor of Philosophy. Admission to the master's degree program is based on undergraduate GPA and the general test of the Graduate Record Examination (GRE). Doctoral students must also meet the Graduate School's GPA and GRE general score requirements. Additional application forms are required by the department. Stipends and fellowships are typically available at both the masters and Ph.D. level for highly qualified students.

Students pursuing a master's degree in the special education program are required to complete a minimum of 30 semester hours. Completion of the program meets the requirement for "A" level teacher certification in Alabama. Areas of specialization include early childhood special education (ages birth to 9), collaborative teacher (K-12) with emphasis in learning disabilities, mental retardation, behavior disorders or transition at the secondary level. Fifth-year programs for non-education undergraduate majors are available in early childhood special education and collaborative teacher special education. Special education students may select a thesis (M.S.) or non-thesis (M.Ed.) program.

There are two master's degree programs in rehabilitation. Students pursuing a master's degree in vocational evaluation work adjustment are required to complete a minimum of 51 to 52 semester hours (non-thesis vs. thesis). The rehabilitation counselor program, which is accredited by the Council on Rehabilitation Education, requires completion of 66 semester hours and a thesis. Both rehabilitation programs require a full semester of internship under supervision.

The Ph.D. program is offered in rehabilitation and special education. Students are required to take 15 semester hours of research courses and 9 hours of educational foundations (historical, psychological, philo-

sophical, sociological, etc). The remaining course work is made up of RSED doctoral "core" and support area course work. A minimum of 48 semester hours beyond the master's degree, excluding the dissertation hours, is needed to complete the program. Prior to submitting a research proposal for dissertation, all RSED students must satisfactorily complete a qualifying paper and a written and oral comprehensive examination. Typically, the program takes three years to complete (two years of course work and one year of independent research).

Spanish — M.A., M.H.S.

Graduate studies in Spanish lead to the Master of Arts (M.A.) or the Master of Hispanic Studies (M.H.S.) The graduate program in Spanish prepares students for careers in teaching, government, business, or for Ph.D. studies.

Candidates wishing to pursue the M.A. in Spanish or the M.H.S. must have a bachelor's degree from an accredited institution, with at least 38 semester hours of undergraduate Spanish above the freshman level and satisfactory scores on the Graduate Record Examination. International students also must have acceptable scores on the TOEFL. Applicants lacking course requirements need to make up deficiencies before admission to the graduate program.

The M.A. requires at least 30 semester hours including 4 credits for thesis. The M.H.S. requires at least 36 semester hours but no thesis. All degrees require passage of comprehensive examinations.

Candidates for the M.H.S. must earn a minimum of 30 semester hours in their major. All Master's degree candidates who are graduate assistants in Spanish are required to take FLSP 7090 every semester when they hold a teaching assistantship or equivalent. Credit from this course does not count toward the master's degree. For more information, check the student handbook available from the department.

A concentration consisting of 6 semester hours of graduate-level courses in a related field or fields may be earned as part of the M.H.S. degree offered by the department.

A reading knowledge of one other foreign language is required. This knowledge may be demonstrated by examination, by a foreign language proficiency course, or by completion of the first-year sequence (or the equivalent) of a foreign language with a grade or B or better.

Teaching assistantships are available to qualified students. For more information, please contact the department.

Statistics

(See Discrete and Statistical Sciences)

Veterinary Clinical Sciences

(See Biomedical Sciences)

Wildlife Sciences — M.S., Ph.D.

Wildlife Sciences graduate programs are available for both M.S. and Ph.D. degrees. Admission requirements parallel those for Forestry graduate programs (above).

The M.S. degree requires 30 semester hours with 21 hours in the major. Development of a research proposal and thesis based on original research is required. Completion of the M.S. degree usually takes at least 2 years.

The Ph.D. degree requires 60 semester hours of graduate credit beyond the bachelor's degree. There must be a minimum of 30 hours of graded 7000-level course work beyond the bachelor's degree, with at least 20 hours of this completed while the student is enrolled in a Ph.D. program at A.U.

Doctoral students must enroll for a minimum of 10 hours Research and Dissertation (WILD 8990). This is ungraded course work and can be included in the 30 additional hours (see below).

Besides the 30 hours of graded 7000-level course work, an additional 30 hours of work (6000, 7000-level) is required. Some of these additional hours can be ungraded course work, e.g. Research and Dissertation.

Students are required to develop and submit a research proposal, and to give two research seminars (preliminary and final seminar). The dissertation is a major element of the program.

Zoology

(See Biological Sciences)

Interdepartmental

Biomedical Sciences — M.S., Ph.D.

All graduate faculty of the College of Veterinary Medicine participate in a college-wide graduate program leading to the Master of Science and the Doctor of Philosophy degrees in Biomedical Sciences (BMS). Participating departments include: Anatomy, Physiology and Pharmacology; Pathobiology; and Veterinary Clinical Sciences.

Applicants to the program are required to meet entrance standards established by the College Graduate Program Committee, the Graduate School, and their intended area of study. Either a baccalaureate degree or the Doctor of Veterinary Medicine or equivalent is required for admission.

The Department of Anatomy, Physiology and Pharmacology offers programs in Anatomy and Histology and in Physiology and Pharmacology. The programs in Anatomy and Histology are Neuroanatomy, Ultrasonography, Bone and Joint Disease, Audiology, and Chemosensory systems. The programs in Physiology and pharmacology are Reproductive Endocrinology, Clinical Pharmacology, Cardiovascular Physiology, Toxicology, Endocrinology, Sensory Neurophysiology, Branched Chain Amino Acid Metabolism and Adrenergic Receptor Pharmacology. The Department of Pathobiology offers graduate study in microbiology, molecular biology, immunology, epidemiology, parasitology, and pathology, The Department of Veterinary Clinical Services graduate programs and the Department of Pathobiology pathology graduate program are combined with resident training and require the Doctor of Veterinary Medicine degree or its equivalent for entry. Specific enrichments include seminars and journal clubs, training in grant writing, participation in scientific meetings and opportunities to present results of research.

A graduate student advisory committee is appointed by the Dean of the Graduate School for each student upon recommendation of the College's BMS Graduate Program Committee. The student's faculty adviser usually serves as the chair of this committee, and the remaining members, selected from the graduate faculty, should have expertise relevant to the student's area of study. The advisory committee develops a plan of study which must be submitted to the College Graduate Program Committee for approval and then to the Dean of the Graduate School. Study programs are designed to meet the student's needs and interests while featuring research training and assuring a strong background in biochemistry and molecular biology. Original research and a scholarly thesis or dissertation are required. Courses must be selected in conformity with the regulations of the College's BMS Graduate Program Committee and the Graduate School.

Economics — Ph.D.

This is an interdepartmental program administered through the Department of Agricultural Economics and Rural Sociology and the School of Forestry and Wildlife Sciences.

Integrated Textile and Apparel Science — M.S., Ph.D.

A joint Master of Science in Integrated Textile and Apparel Science and a joint Ph.D. in Integrated Textile and Apparel Science are offered through the Department of Consumer Affairs, College of Human Sciences and the Department of Textile Engineering, College of Engineering. The focus is on the integration of textile science and apparel science within a product management approach for application in the global textile industrial complex. These programs offer course work (see also listing for the Departments of Consumer Affairs and Textile Engineering) and research ranging from textile science and engineering to design, marketing, and consumer utilization of textiles and apparel. Major areas of study include advanced textile and materials science, textile composites, geotextiles, textile statistical process control, technology of manufacturing, textile chemistry, apparel product development and design, marketing of textile and apparel products, global production and distribution of textile and apparel products, and consumer behavior. Minors can be chosen to take advantage of the unique breadth of the program. A foreign language is not required. Entrants with limited undergraduate backgrounds in their chosen area may need to complete some undergraduate courses. Graduate teaching and research assistantships are available. Students may apply for admission and/or assistantships in either department. Graduate committees include faculty from both departments.

The M.S. in Integrated Textile and Apparel Science offers a Thesis and a Non-Thesis Option. The Thesis Option requires a minimum of 30 semester hours, including at least five hours of CAHS 7990 or TXEN 7990 Research and Thesis. Required courses include ITAS 7200, CAHS 7950 or TXEN 7950, and 7990 (2 hr. minimum each semester during thesis research). At least 21 hours must be in apparel, textiles, or consumer related courses.

The Non-Thesis Option requires a minimum of 36 semester hours, including ITAS 7200, CAHS 7950, or TXEN 7950, and CAHS 7980 or TXEN 7980. At least 25 hours must be in apparel, textiles, or consumer related courses. A final comprehensive written exam is required.

The Ph.D. in Integrated Textile and Apparel Science requires a minimum of 30 semester hours of graded graduate level courses at the 7000-level or above; at least 18 of these hours must be completed at Auburn University. At least 30 additional hours of graduate level course work (6000-level or above) must be completed. A ten-hour core covering the global, integrated textile business in common to all Ph.D. candidates. Courses required include ITAS 7200, 8950, 8960, 8970, and 8990 Research and Dissertation (a minimum of 10 semester hours). Students must register for at least 2 semester hours of ITAS 8990 each semester they are working on dissertation research. Students must pass a written Qualifying Exam over the required ITAS courses listed above. Students select one of the three tracks: Textile Science, Apparel Science, or Textile and Apparel Science. Students must pass a written and an oral General Examination after completing the course work, before proceeding with the dissertation research. A final oral defense of the dissertation is required.

Pharmaceutical Sciences — Ph.D.

The graduate program in pharmaceutical sciences offers the terminal degree of Doctor of Philosophy. The primary purpose of the program is to establish a functionally integrated research degree program leading to the Doctor of Philosophy with a major in the pharmaceutical sciences and specialization in one of the following disciplines: medicinal chemistry, pharmaceutics, pharmacology-toxicology and pharmacy care systems. The interdepartmental program is administered jointly through the departments of Pharmacal Sciences and Pharmacy Care Systems.

Sociology — M.S., M.A.

The interdepartmental graduate program in Sociology offers study and research leading to the degrees of Master of Arts and Master of Science. Anthropologists, rural sociologists and sociologists make up the faculty. The program is administered by a five-member coordinating committee from the Department of Agricultural Economics and Rural Sociology and the Department of Sociology.

Students admitted to the program are required to complete SOCY 7000, 7100, RSOC 7700 and a thesis. The remainder of course work is elective but must be determined in consultation with the student's adviser.

Graduate Minors

Biochemistry and Cell/Molecular Biology

Auburn University offers a graduate minor in Cell and Molecular Biosciences, administered by the Graduate School with faculty from the Cell and Molecular Biosciences Program. The CMB minor requires a suitable background in biochemistry (BCHE 7200, 7210 or equivalent) and the successful completion of at least nine credits from the CMB graduate curriculum. The minor offers indepth instruction in animal, microbial and plant and cell and molecular biology, and is particulary designed for M.S./Ph.D. students in life sciences and allied fields whose thesis or dissertation research will benefit from a broader perspective of cell and molecular biology and bioinformatics. See www.auburn.edu/academic/sciencemath/cmb for more information.

Ecology

Ecology is an academic minor administered by the Graduate School in cooperation with faculty and departments that participate in the Auburn Group in Ecology. These are listed below. The Ecology minor is open to graduate students whose thesis or dissertation research will benefit from a broader and enriched perspective in the fundamentals and applications of the ecological sciences. For more information, students should contact any of the following department coordinators.

Agronomy & Soils	Wes Wood	Funchess 202
Animal & Dairy Sciences	Russ Muntifering	Animal Science 209
Biological Sciences	Jack Feminella	Funchess 331
Entomology & Plant Pathology	Kira Bowen	Rouse 209
Fisheries & Allied Aqaucultures	Dennis DeVries	Swingle 311
Forestry	Mike Golden	M. White Smith

Economic Development

The Economic Development Minor provides a graduate specialization in the theories and practice of economic development, primarily within the U.S. It is an interdisciplinary minor offered by the faculty of participating departments (Community Planning, Economics and Political Science), with support from the Economic Development Institute and the Alabama Cooperative Extension System's Community Resource Development Office.

Students may attach the Economic Development minor to their degrees in Community Planning(M.C.P.), Economics (M.S.), Business Administration (M.P.A.) and the Ph.D. in Public Administration and Public Policy. To earn the graduate minor, students must complete the program's basic course, Economic Development and Competitiveness, two elective courses selected from an approved list and a non-credit economic development training course sponsored by the Economic Development Institute and the Cooperative Extension System. Contact the Economic Development Institute for more information.

Environmental Studies

This is an interdisciplinary academic minor administered by the Graduate School in cooperation with participating departments. It is open to any graduate student whose thesis or dissertation is in the environmental area. Participating departments include Aerospace Engineering, Agricultural Economics, Biosystems Engineering, Agronomy and Soils, Animal and Dairy Sciences, Architecture, Biological Sciences, Chemical Engineering, Civil Engineering, Entomology, Fisheries & Allied Aquacultures, Forestry, Geography, Geology, Horticulture, Landscape Architecture, Pathobiology, Pharmacal Sciences, Physiology & Pharmacology, Plant Pathology, Psychology and Sociology.

Basic guidelines are:

1. The minor is open to any graduate student whose thesis or dissertation is environmentally oriented.
2. The student's department retains primary control over the student's program.
3. One committee member must be from outside the student's department and this member must be involved in environmental research.
4. Each student must take BIOL 3060, or the equivalent and RSOC 7650 (Natural Resources and the Environment) or an equivalent.
5. Each student must take at least three hours of environmental-related course work from outside the student's "broad group discipline."
6. Each student must take at least three hours of environmental-related course work from outside of the student's home department but within the student's "broad group discipline."
7. Each student must meet the degree requirements of the student's home department.
8. At the discretion of the student's advisory committee, graduate-level courses required for this program also may be counted towards the completion of other degree requirements.

For more information, contact Dr. Joe Touchton, Department of Agronomy and Soils, 202 Funchess Hall.

Plant Molecular Biology

Auburn University offers an academic minor in Plant Molecular Biology administered by the Graduate School in cooperation with the participating Molecular and Cellular Biology faculty housed in the three departments listed below. The minor is open to graduate students enrolled in these departments whose thesis/dissertation research addresses related studies and who will benefit from broader training in molecular biology. For more information, contact the following department coordinators: Botany and Microbiology – Brent Nielsen, Rouse 101; Horticulture – Floyd Woods, Funchess 101; Plant Pathology – Sadik Tuzun (Chair), Rouse 209

Statistics

Auburn University offers a graduate academic minor in Statistics administered by the Graduate School in cooperation with the Statistics Coordinating Committee. The objective of the minor is to provide education and training for interested students whose graduate research includes a substantial amount of statistical methodology or data analysis. Students are required to complete 12 hours of statistics course work and demonstrate the ability to apply statistical methodology to problems in research. Participants are required to have one committee member from outside the department who is a member of the Academic of Statistics Faculty. For more information, contact Dr. Kevin Phelps, Department of Discrete and Statistical Sciences.

Urban Forestry

The Department of Horticulture and the School of Forestry and Wildlife Sciences (SFWS) offer an Urban Forestry minor for graduate students. Urban Forestry is the design, establishment and maintenance of urban forests to enhance the economic value of cities and to provide a healthier environment for people. The minor promotes interdisciplinary studies and trains students for employment in the urban forestry arena. Auburn University, with its strengths in Horticulture, Forestry, Landscape Architecture, Community Planning and Agriculture and its proximity to major urban centers such as Atlanta, Birmingham, Columbus and Montgomery, offers a unique opportunity for urban forestry research and education.

To be eligible for the minor, students must be enrolled in the Master of Forestry, Master of Agriculture, Master of Science or Ph.D. degree program in HORT or SFWS. To complete the minor, students must:

1. Develop an advisory committee including faculty from both SFWS and HORT;
2. Complete a thesis/dissertation research project that pertains to urban forestry, or in the case of Master of Forestry and Master of Agriculture degrees, complete an approved 3 to 4 credit hour directed study in urban forestry;
3. Complete FORY 6550, HORT/FORY 7850 and at least one undergraduate or graduate course in tree identification.
4. Complete at least nine semester hours from a list of approved core courses, at least one of which must be outside of the home department or school.

To obtain additional information, contact the Graduate Program Officer at the Department of Horticulture or the School of Forestry and Wildlife Sciences.

Reserve Officers' Training Corps

Department of Air Force Aerospace Studies (AFROTC)

COLONEL THOMAS F. WYNN JR.
Commander and Professor of Aerospace Studies

The Air Force Reserve Officer Training Corps (ROTC) is an educational program designed to give men and women the opportunity to become an Air Force officer while completing a degree. The Air Force ROTC program is designed to teach the necessary skills needed to accept the challenging opportunities one will encounter in the Air Force. Many young people often find themselves at graduation wondering what to do with their degree. Air Force ROTC offers a pathway from college to many exciting career possibilities as an Air Force officer: flying, engineering, intelligence, computer systems, aircraft maintenance, management, etc. Interested students should contact the Air Force ROTC department.

Four-Year Program

The General Military Course (GMC) is the first half of the Four-Year Program and is taken during the freshman and sophomore years. This program allows the student to try out Air Force ROTC without obligation (unless the student is on an Air Force ROTC scholarship). During the first two years, the student will learn basics about the Air Force and the historical development of airpower. During the summer proceeding the sophomore year, the student will compete for the opportunity to attend a four-week Field Training encampment (see Field Training section below for in-depth information). Successful completion of field training is mandatory for entrance into the Professional Officer Course (POC), the junior and senior year of the Four-Year Program. As a junior, the student will learn about various leadership roles and management techniques needed to become an effective Air Force officer. During the senior year, students will learn about foreign policy and national security while preparing them for entrance into active duty. During the POC, the student may be eligible for POCI (POC Incentive, see POCI section for details) $3,450 a year for tuition, fees and books plus, receive a $200 non-taxable monthly allowance.

Curriculum in the General Military Course

AIRF 0101/0102 Introduction to the Air Force
AIRF 0201/0202 The Air Force Way

Two-Year Program

The two-year program bypasses the GMC portion of the Four-Year Program and leads directly into the POC. This route is the best option for junior college transfer students, current college sophomores, college juniors and active duty personnel who have at least two years of school remaining. The student can be completing an undergraduate degree, graduate degree, or working on a combination of the two. Requirements for POC entry include: 1) Attending a five-week Field Training encampment (either the summer prior to entering the two-year program or the summer between the junior and senior year), 2) Passing the Air Force Officer Qualifying Test (AFOQT)..ASVAB scores are not used for Air Force ROTC, 3) Passing a medical physical, and 4) Passing the Physical Fitness Test (PFT).

Curriculum in the Professional Officer Course

AIRF 0301/0302 Air Force Leadership & Management
AIRF 0401/0402 National Security/Prep

Leadership Laboratory

As an Air Force ROTC cadet, each student will be required to attend an additional one-hour class period each Thursday known as Leadership Laboratory. Although it is not part of the academic class requirement, it is an essential part of officer training. Leadership Laboratory is a cadet-centered program where the student will learn such things as military customs and courtesies, drill and ceremonies, and proper wear of uniform. On other occasions, the student will have the opportunity to hear excellent guest speakers discuss a variety of interesting stimulating topics.

Air Force ROTC Scholarships

Air Force ROTC offers scholarships on a competitive basis to high school seniors and college students. These scholarships can be offered in selected scientific and technical areas as well as in non-technical areas. Contact the Air Force ROTC detachment for the latest on scholarship opportunities.

Flight Hours

Pilot candidates will be allowed to receive up to 40 hours of flight time prior to graduating from Auburn or prior to attending undergraduate pilot training. Pilot candidate selection usually occurs during the junior year of Air Force ROTC.

Professional Officer Course (POC)

The Professional Officer Course consists of a six-quarter course series normally taken during the junior and senior years. Enrollment in the POC is also open to graduate students if they have six quarters of school remaining. Three classroom hours of instruction and a one-and-a-half hour Leadership Laboratory are taken per week. Six credit