

SCHOOL OF GRADUATE STUDIES

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The graduate programs of The University of Alabama in Huntsville foster a creative learning experience while further strengthening intellectual capabilities through intensive studies. Graduate studies are characterized by a greater degree of independence in the student and concurrently by a closer association with one or more members of the graduate faculty. Only those students showing distinct promise of completing the requirements for a graduate degree are admitted to the School of Graduate Studies.

The graduate degree is based on a Program of Study designed to reach a specific intellectual or professional goal. The student should plan this program of study at the earliest appropriate time (see specific degree programs) with the counsel of a faculty advisor. The program includes advanced studies in subject-matter areas and, in most cases, a research phase in which the student demonstrates independent scholarly work. It is the student's responsibility to be acquainted with all requirements related to a desired program and to fulfill these requirements.

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History

With the Army's Missile Command, NASA's George C. Marshall Space Flight Center, and other scientific and technical organizations concentrated in Huntsville, a demand was felt as long ago as 1950 for postgraduate coursework emphasizing theoretical and practical studies. Graduate courses were first given at UAH in 1951 under the direction of the Graduate School of the University of Alabama in what was then called the Redstone Institute of Graduate Study. The graduate program was then completely separate from the new undergraduate program, except that both held classes at what was then Butler High School. In addition, separately funded graduate courses in education were being held elsewhere in Huntsville, independent of both.

After a two-year lapse because of the cancellation of government sponsorship, the graduate program re-opened in January of 1956 with classes in physics, engineering, mathematics, and management. Even more than the undergraduate program, graduate studies grew with the space program. At the encouragement of Redstone Arsenal, the Research Institute was created in 1960. Three years later it was announced that master's degrees could be awarded locally in mathematics, physics, chemistry, and engineering.

The first master's degree, in mathematics, was awarded in 1964, and the following year two master's degrees were awarded for work begun and completed at Huntsville. In 1971 doctoral programs in engineering and physics were initiated. The School of Graduate Studies was organized in its present form in 1976.

GRADUATE PROGRAMS

Degree Programs

Master's Level Programs

Degrees

College of Administrative Science

Accounting	M.Acc.
Management of Technology	M.S.M.
<i>Areas of Specialization:</i>	
Human Resource Management	
Marketing	
Management Information Systems (MIS)	
Management Information Systems (MIS)	M.S.M.I.S.

College of Engineering

Engineering - General	M.S.E.
Options:	

- Aerospace Engineering
- Areas of Specialization:*
- Aerodynamics
- Aircraft Stability and Control
- Aircraft Structures
- Acoustics
- Combustion
- Propulsion
- Space Environment
- Space Power
- Space Structures

- Chemical Engineering #+
- Areas of Specialization:*
- Bioengineering
- Biological Thin Films
- Bioprocessing
- Computational Fluid Dynamics
- Fluid Mechanics
- Surface Spectroscopy

- Civil Engineering
- Areas of Specialization:*
- Cementitious Composites
- Environmental Engineering
- Geographical Information Systems
- Hypervelocity Impact Studies
- Transportation

Computer Engineering

Areas of Specialization:

- Computer Architecture and Performance Analysis
- Hardware, Software, and Co-Design
- Networks and Security
- Parallel Processing
- Real-time, Embedded and Ubiquitous Systems
- Software Engineering
- VLSI Design

Electrical Engineering +*

Areas of Specialization:

- Communications/Radar
- Control Theory
- Digital Signal Processing
- Electromagnetics
- Electronics
- Laser Systems
- Nano-electronic/MEMS Devices
- Opto-electronics
- VLSI Electronics

Industrial and Systems Engineering

Areas of Specialization:

- Engineering Management
- Manufacturing Systems Engineering
- Operations Research
- Quality Assurance Engineering
- Systems Engineering
- Systems Simulation

Mechanical Engineering

Areas of Specialization:

- Acoustics
- Applied Optics
- Combustion
- Computational Fluid Mechanics
- Computational Solid Mechanics
- Composite Materials and Structures
- Controls
- Engineering Mechanics
- Experimental Methods
- Fluid and Thermal Sciences
- Solids and Structures

Operations Research

M.S.O.R.

College of Liberal Arts

English

M.A.

Areas of Specialization:

- American Literature
- English Literature
- Reading Specialist

Teaching of English to Speakers of Other Languages
Technical Writing

History M.A.

Areas of Specialization:

American History

European History

Psychology M.A.

Areas of Specialization:

Applied Psychology (Human Factors)

Biopsychology

Cognitive Psychology

Developmental Psychology

Social/Personality Psychology

Public Affairs M.A.

College of Nursing M.S.N.

Tracks:

Acute Care Nurse Practitioner

Adult Health Clinical Nurse Specialist

Family Nurse Practitioner

Nursing Administration

College of Science

Atmospheric Science M.S.

Areas of Specialization:

Air Pollution Meteorology

Atmospheric Chemistry

Climate Diagnostics

Geographical Information Systems

Mesoscale Modeling

Radiation and Remote Sensing

Satellite Meteorology

Biological Sciences # M.S.

Areas of Specialization

Bioinformatics and Genomics

Cell and Developmental Biology

Environmental Biology

Genetics and Molecular Biology

Microbiology

Physiology

Plant Biotechnology

Plant Pathology

Chemistry #+ M.S.

Areas of Specialization:

Biopolymers

Critical Phenomena

Inorganic Materials
Materials Processing
Natural Products/Drugs
NMR
Organic Structure and Mechanisms
Protein Crystal Growth and Structure
Surface Coatings
Surface Science

Computer Science M.S.

Areas of Specialization:

Artificial Intelligence
Computer Architecture
Data and Information Systems
Image Processing and Vision Systems
Languages and Software Systems
Software Engineering
Theoretical Computer Science

Mathematics M.A., M.S.

Areas of Specialization:

Applied Mathematics
Combinatorics and Graph Theory
Dynamical Systems
Fourier Analysis
Linear Algebra and Matrix Theory
Numerical Analysis
Ordinary and Partial Differential Equations
Probability and Statistics
Ordinary and Partial Differential Equations
Probability and Statistics

Physics M.S.

Areas of Specialization:

Astrophysics
Materials
Optics
Quantum Electronics
Solar Physics
Space Science

Doctoral Level Programs

Degrees

College of Engineering

Civil Engineering (joint with UAB) Ph.D.

Areas of Specialization:

Environmental Engineering
Experimental Mechanics
Geotechnical Engineering
Hazardous Waste Management
Hydraulic Engineering

Intelligent Transportation Systems
Natural Hazard Mitigation
Structural Dynamics
Structural Engineering
Water Resources Engineering
Water Quality Control

Computer Engineering (shared with UAB)

Ph.D.

Areas of Specialization:

Computer Architecture and Performance Analysis
Hardware, Software, and Co-Design
Networks and Security
Parallel Processing
Real-time, Embedded and Ubiquitous Systems
Software Engineering
VLSI Design

Electrical Engineering +*

Ph.D.

Areas of Specialization:

Communications/Radar
Control Theory
Digital Signal Processing
Electromagnetics
Electronics
Laser Systems
Nano-electronic/MEMS Devices
Opto-electronics
VLSI Electronics

Industrial and Systems Engineering

Ph.D.

Areas of Specialization:

Engineering Management
Manufacturing Systems Engineering
Operations Research
Quality Assurance Engineering
Systems Engineering
Systems Simulation

Mechanical Engineering +

Ph.D.

Areas of Specialization:

Computational Fluid Mechanics
Computational Methods in Mechanics
Experimental Methods
Fluid and Thermal Sciences
Optics and Photonics Technology
Solids and Structures

College of Science

Applied Mathematics

Ph.D.

Areas of Specialization:

Applied Mathematics
Combinatorics and Graph Theory

Dynamical Systems
Fourier Analysis
Linear Algebra and Matrix Theory
Numerical Analysis
Ordinary and Partial Differential Equations
Probability and Statistics

Atmospheric Science Ph.D.

Areas of Specialization

Air Pollution Meteorology
Atmospheric Chemistry
Climate Diagnostics
Geographical Information Systems
Mesoscale Modeling
Radiation and Remote Sensing
Satellite Meteorology

Computer Science Ph.D.

Areas of Specialization:

Artificial Intelligence
Computer Architecture
Data and Information Systems
Image Processing and Vision Systems
Languages and Software Systems
Software Engineering
Theoretical Computer Science

Physics+* Ph.D.

Areas of Specialization:

Astrophysics
Materials
Optics
Quantum Electronics
Solar Physics
Space Science

Interdisciplinary Programs

Degrees

Biotechnology Science & Engineering Ph.D.

Areas of Specialization

Biomolecular Sciences
Bioprocess Engineering
Plant Biotechnology and Functional Genomics
Structural Biology

Materials Science M.S., Ph.D.

Areas of Specialization:

Biomaterials
Electronic, Optical and Magnetic Materials
Macromolecular Materials
Materials Processing
Materials Structure and Properties
Mechanical Behavior of Materials

Areas of Specialization:

Laser Dynamics
 Laser Systems
 Micro- and Nano-optics
 Optical Properties of Materials
 Optical Sensors
 Optical Signal and Image Processing
 Optical System Design
 Optical Testing
 Opto-electronics
 Photonic Integrated Systems
 Quantum Optics

#Also participates in the interdisciplinary Biotechnology Science & Engineering Program to offer several specialties.

+Also participates in the interdisciplinary Materials Science Program to offer several specialties.

*Also participates in the interdisciplinary Optical Science & Engineering Program to offer several specialties.

Fifth Year Programs

The School of Graduate Studies offers “fifth-year” programs in the following disciplines:

Biology	M.S.
Chemistry	M.S.
English	M.A.
History	M.A.
Mathematics	M.A.
Physics	M.S.

Completion of the requirements of one of these programs leads to the award of both the master’s degree indicated plus a Class A Teaching Certificate. Interested students should refer to the catalog sections for both the relevant department and the Department of Education for details.

Graduate Certificate Programs

The School of Graduate Studies offers non-degree certificate programs in the following disciplines, under the auspices of the department(s) listed:

Environmental Science	Atmospheric Science, Biological Sciences
Family Nurse Practitioner (post masters)	Nursing
Information Assurance	Computer Engineering, Computer Science, Management Information Systems
Nursing Education	Nursing
Software Engineering	Computer Science
Teaching of English to Speakers of Other Languages	English
Technical Communication	English

Successful completion of the requirements of a graduate certificate program leads to the award of a certificate. In certain cases, these certificates may be pursued concurrently with an advanced degree. For more details on admission requirements, programs of study, and completion requirements, refer to the appropriate department section of this catalog. Candidates for a certificate

should submit the appropriate form through their department chair to the School of Graduate Studies at least 3 months before the end of the semester in which requirements are expected to be complete.

Visiting Student Program

A cooperative arrangement exists with Alabama A&M University. Any student interested in participating in this program should consult the Office of Student Records.

Cooperative Education Program

Ms. Suzanne Norris, Director
117 Engineering Building
(256) 824-6741
Email: info@uah.edu
Web page: www.uah.edu/coop/

The UAH Graduate Cooperative Education (Co-op) Program offers qualified candidates the opportunity to combine classroom experience with closely-related practical work experience in private industry or government. Students accepted for Graduate Co-op normally rotate semesters of full-time study with semesters of full-time work. Students are encouraged to take one degree-related course during each work semester. Frequently, students can fulfill some University research requirements in conjunction with work they are completing with their employer. Salary during work semesters is based on the student's qualifications and is comparable to the pay of a typical employee who has similar education and experience.

Students will be considered as candidates for Graduate Co-op positions when the following requirements are met:

1. Admission to the School of Graduate Studies as a degree candidate;
2. A minimum of a 3.0 grade point average on all graduate course work. If the student's field of study is significantly different from his or her undergraduate major, the student may need to complete nine hours of graduate work at UAH;
3. Formal application to the UAH Co-op Office. The mailing address is Cooperative Education Office, Engineering Building, The University of Alabama in Huntsville, Huntsville, AL 35899.

Collaborative Programs

Between Auburn University and the University of Alabama System

In some designated programs, a student enrolled in either Auburn University or any campus of the University of Alabama System may register as a transient student at the other institution with the approval of both graduate deans, or their representatives, and the department or school in which the student wishes to take the courses. The amount of coursework that may be taken by a student under such an arrangement will be determined by the supervisory committee, with appropriate approvals at the other university.

A student earning a master's degree at either institution must complete at least one-half of the required coursework at the institution granting the degree.

For a course to be applicable for credit above the six hours presently transferable toward a master's degree or beyond the master's, the course must be approved in advance by the student's major department and the graduate dean.

The deans of the graduate schools will serve as liaison officers in arranging programs for which the additional hours may be transferred.

Between UAH and Alabama A&M University

A visiting student policy has been established between Alabama A&M University and UAH. Under this arrangement, a graduate student at one institution may request permission to attend a course at the other. Conditions governing the granting of permission include the following:

1. The student is in good graduate standing.
2. The course desired is unavailable to the student at the home institution.
3. A visiting student is limited to one graduate course a semester at the host institution except where the second course is a laboratory required to accompany the first course.
4. A visiting student must have prerequisites for the course.
5. The number of courses taken under this plan cannot exceed those allowed in the policy on transferred credit.
6. The student's request requires the approval of the advisor, department chair, and graduate dean.
7. Permission of the host institution is dependent upon availability of space for the visitor after its own students are accommodated.

Interested students should contact the Office of Student Records for appropriate forms.

Between UAH and The University of Alabama at Birmingham (UAB)

A collaborative program in engineering was initiated between UAH and UAB for the pursuit of doctoral degrees. A student at UAB may earn the doctoral degree at UAH with a major in electrical engineering, or mechanical engineering; while a UAH student may pursue the master's or the doctoral degree with a major in biomedical engineering at UAB. An interested student must first be admitted at the principal institution, i.e. the one offering the degree, but may take courses and satisfy the residency requirements at either campus. All degree requirements must be satisfied at the principal institution. More details are available through the participating departments.

Graduate Admissions

The University of Alabama in Huntsville welcomes inquiries and applications from interested persons who wish to further their education. Email inquiries are welcome and should be addressed to the specific department/program or to the Office of Graduate Admissions at grad.admit@uah.edu. Further information is available at:

<http://www.uah.edu/HTML/Academics/Grad>.

The graduate student body is composed of individuals of all ages—traditional full-time college students and other adults who are combining their educational pursuits with work, family, and various activities. Prospective students should apply well in advance (at least eight weeks for US residents and six months for international students) of the date of proposed entrance.

Application forms, detailed application instructions, and information brochures are available from departments and the Office of Graduate Admissions in the Materials Science Building, and on the web at www.gdeanoff.uah.edu/admis.html. Copies of the UAH catalog are available in the Office of Graduate Admissions and at Charger Central in the University Center. The catalog may also be viewed through the UAH web site: <http://www.uah.edu/Cat03-05>. Campus tours on an individual or group basis are available. Faculty members and academic advisors for the various graduate programs are available to confer with interested individuals to discuss their enrollment plans and opportunities at UAH. Students may telephone or email departments or program offices directly or call the Office of Graduate Admissions (256-824-6198).

Application Procedure

An applicant should submit a completed graduate application form and a nonrefundable application fee to the Office of Graduate Admissions, MSB C-206, UAH, Huntsville, AL 35899. Previous UAH students are exempt from this fee. In addition, the student must request that the following items be sent to the Office of Graduate Admissions:

1. Two official copies of the academic record from each collegiate institution attended;
2. For most programs, applicants should submit scores of the Graduate Record Examination (GRE) from Educational Testing Service (ETS). The institutional code for UAH is 1854. Administrative Science applicants should submit scores on the Graduate Management Admissions Test (GMAT). Applicants for English, Nursing and Public Affairs should submit either a set of GRE scores or a score on the Miller Analogies Test;
3. The GRE/MAT requirement may be waived by the Graduate Dean upon recommendation of the department or program chair if at least one of the following conditions holds:
 - (a) the applicant is the holder of a post-baccalaureate degree;
 - (b) the applicant presents evidence of having taken the GRE/MAT over 5 years ago and hence cannot obtain official scores;
 - (c) the applicant graduated from an accredited college or university five or more years ago and has not subsequently been enrolled since that time, and if the student has a record of consistent professional and/or academic achievement as documented on a submitted resume.

If the applicant meets and satisfies all other applicable admission requirements, the student may be conditionally admitted to the graduate program.

An applicant for an additional graduate program (including a different degree in the same discipline) who has been previously admitted to the School of Graduate Studies must submit a completed re-evaluation form to the Office of Graduate Admissions. The student must inform the chairs of both departments/programs that he/she is pursuing the two degree programs concurrently.

Students who fail to enroll in classes within one year of their date of admission must submit a new application.

Instructional and Testing Services

Pertinent tests which are administered through this office include: the UAH English Language Placement Test (ELPT), the Graduate Record Examination (GRE) and the Miller Analogies Test (MAT). Applications and information pertaining to the Graduate Management Admissions Test (GMAT) and the Test of English as a Foreign Language (TOEFL) are also available.

Testing calendars with dates and deadlines, as well as information pertaining to testing, are available in the Office of Instructional and Testing Services located in Room 226 of the Administrative Science Building, telephone 824-6725.

Graduate Admission Requirements

For admission to the School of Graduate Studies, applicants must hold a bachelor's degree from an approved institution. The following minimum requirements are acceptable to the graduate school; individual colleges and/or departments may require higher averages or additional or more specific requirements. See college/departmental sections for specific admissions information.

Unconditional Admission

To be admitted unconditionally, applicants must satisfy the following criteria:

All programs except those in the College of Administrative Science

1. Have a minimum grade-point average of B (3.0) on the undergraduate record, and
2. Have a minimum total score of 1500 on the aptitude test (verbal, quantitative, and analytical) portion of the Graduate Record Examination. (For GRE tests taken after October 1, 2002 the

score on the analytical portion is obtained by taking the (raw score + 2) x 100.) For the English, Nursing, and Public Affairs programs, applicants must have a minimum total score of 50 on the Miller Analogies Test.

College of Administrative Science

1. Have a minimum total score of 450 on the Graduate Management Admissions Test (GMAT).
2. Have a minimum index score of 1000, determined by taking (the undergraduate GPA multiplied by 200) + the GMAT score.

Conditional Admission

The graduate school may conditionally admit applicants who do not satisfy all of the above requirements for unconditional admission but who do show reasonable potential for doing graduate work. Conditional admission requires the approval of both the graduate dean and the chair of the department in which the applicant plans to pursue an advanced degree.

If a conditionally admitted student has an overall grade average of B (3.0) or better for all graduate work attempted up to and including the semester in which the student completes 12 hours of graduate work at UAH, then the student assumes the status of an unconditionally admitted student. Otherwise, the student is dismissed from the School of Graduate Studies. Under exceptional cases, a student may be readmitted upon justified recommendation of the faculty in the student's major department and approval of the graduate dean.

Additional Requirements for International Students

An applicant who is a graduate of a foreign institution is subject to the same criteria for admission as a graduate of a U.S. institution. In addition, applicants whose native language is not English are required to take the Test of English as a Foreign Language (TOEFL) and score at least 500 (written test) or 173 (computer test). TOEFL scores must be sent directly to the Office of Graduate Admissions from Educational Testing Services (ETS). College and/or departments may require a minimum TOEFL score for admission. *All international applicants must apply for admission at least six months prior to the beginning of the term in which they wish to enroll and all application materials must be received in the Office of Graduate Admissions by June 1 (September 15) for admission for the following Fall (Spring) semester.*

In addition, all international students must request that:

1. Two official copies in English of college or university transcripts be forwarded to UAH directly from the institution(s) attended. Do not send personal copies;
2. Graduate Record Examination (GRE) or Graduate Management Admission Test (GMAT) or Miller Analogies Test (MAT) scores, as appropriate, be sent directly to UAH from Educational Testing Service;
3. A certified financial statement be submitted as evidence of sufficient finances to cover fees and personal expenses while attending UAH. The Office of Graduate Admissions will send an Affidavit of Financial Support form (also available on the world-wide web at www.gdeanoff.uah.edu/affidav.html) to the student after the International Graduate Application is received. The completed affidavit form must be accompanied by a bank statement which indicates that there are sufficient funds to sponsor the student for one calendar year. Health insurance may be purchased through the Student Government Association. Proof of continued health insurance coverage must be presented by the student during each semester of enrollment;
4. Scores from the Test of English as a Foreign Language (TOEFL) Test be sent directly to UAH from Educational Testing Service. Students may also submit scores from the Test of Spoken English (TSE) and Test of Written English (TWE).

Students whose native language is not English must demonstrate English proficiency by taking the university's English Language Placement Test (ELPT) and complete any course work in English as a Second Language (ESL) which the test indicates is required. These courses become part of the Program of Study but do not count toward minimum degree requirements.

Students who present an official TOEFL score of at least 600 (written test) or 250 (computer test) will be exempted from the standardized listening, structure and vocabulary comprehension portion of the ELPT.

Students who present an official score of at least 50 on the Test of Spoken English (TSE) will be exempted from the oral interview portion of the ELPT.

Students who present an official score of at least 5 on the Test of Written English (TWE) will be exempted from the writing portion of the ELPT.

Students who have earned a bachelor's or higher degree from an accredited U.S. institution will be exempted from the TOEFL, TSE, TWE and ELPT requirements above. Students with degrees from non-U.S. institutions that have English as their primary language of instruction (e.g. United Kingdom, Canada, etc.) may petition the Dean of the School of Graduate Studies for an exemption from the ELPT.

Note that, notwithstanding these exemptions, students seeking Graduate Teaching Assistant positions must comply with the appropriate section of this catalog regarding English language proficiency (page 49).

Other Categories of Admission

Provisional Admission

A student (other than an individual with nonimmigrant visa status) whose application to the graduate school is not complete, or is pending approval, may, with department approval, be admitted to UAH on a provisional basis. Students admitted in this category may register for graduate level courses with approval from the department(s), provided that all prerequisites for those courses have been met. Students admitted provisionally are not eligible for federal financial aid.

Students may be admitted provisionally for one semester unless specified otherwise. Within that period they must submit a completed set of application materials in time to be considered for regular admission. Students who do not complete the application process within the allowed period, or are subsequently not admitted to the graduate program, will not be allowed to take additional graduate classes.

Once a student gains regular admission to the Graduate School, all policies regarding conditional or unconditional admission become effective in the provisionally admitted semester. Graduate credit for courses at the 500-level or above taken as a provisional student may, with approval of the major department, be applied toward a graduate degree program only if the grades earned in such courses were B or higher.

Non-degree Admission

Students who are interested in earning graduate credit but are not applicants for a graduate degree at UAH may be admitted as non-degree graduate students. Admission in this category requires proof of a bachelor's degree from an accredited institution and department and/or college approval. This category is not available to students with nonimmigrant visa status. Non-degree students are not eligible for federal financial aid.

All courses taken while in non-degree status require approval of the instructor. Students must maintain the same grade point average requirements expected of conditionally admitted graduate students. Graduate courses numbered 500 and above may be taken while in this category provided that all prerequisites have been met.

Individuals admitted as graduate, non-degree students may decide to make formal application to a graduate degree or certificate program. If admitted, credit earned as a non-degree graduate student

may be applied toward a graduate degree or certificate program subject to the following conditions and limitations:

- All grades earned in 500-level courses or above during non-degree status and applied to a graduate degree or certificate program must have been B or higher;
- No more than twelve graduate credit hours may be granted for courses taken as a non-degree student;
- Courses used to satisfy degree or certificate requirements are subject to approval by the major department and grades for those courses become part of the student's graduate GPA.

Seniors Taking Graduate Courses

UAH seniors may take up to 9 hours of courses (500-level or above) for graduate credit while completing requirements for the baccalaureate if they meet the following qualifications:

1. An approved degree application on file;
2. An overall GPA, or GPA for the last 40 hours, of at least 3.5;
3. A total course load of no more than 12 hours a semester;
4. Permission of the instructor.

Students initiate the process by filling out the Request for Approval of Graduate Credit by UAH Senior (available in Charger Central, Room 118, University Center), which requires the approval of the department chair and graduate dean. Graduate tuition and fee rates apply to courses taken in this category. A student may not use courses taken for graduate credit as part of the baccalaureate degree.

Graduate Assistantships

Graduate assistantships are offered to encourage graduate work, to promote teaching, and to promote research. Graduate assistants have a graduate degree as their primary goal, and the assistantships are part of their graduate education. Assistantships are available through various departments of instruction, under the auspices of the School of Graduate Studies. Any student qualified for admission to the School of Graduate Studies is eligible to apply for a graduate assistantship.

A student eligible for an assistantship may be appointed as a Graduate Teaching Assistant (GTA) or Graduate Research Assistant (GRA). Assistantships usually require half-time (20 hours per week) service to the University, but may be appointed more or less than half-time in exceptional cases. Without special permission of the student's department and the graduate dean, a graduate assistant may not hold other employment during any semester in which this assistantship is in effect. The graduate assistant is registered for a minimum of nine semester hours (six hours in the summer term) during any semester in which an appointment is held. Normally, all courses for which the student is registered shall be graduate credit courses. Exceptions must be approved by the department chair and graduate dean.

Benefits

A graduate assistant who holds a one-half time (20 hours per week) appointment will receive tuition and fees for 9 to 10 hours per semester (6 hours in the summer term) and are eligible for health insurance benefits (single person coverage). Tuition, fees and health insurance benefits for assistants who hold lesser appointments are prorated accordingly. Further information may be obtained in the department or in the School of Graduate Studies.

Two kinds of assistantships are available:

1. Graduate Teaching Assistantships

As the title implies, graduate teaching assistants (GTAs) share the faculty's responsibility for teaching. The purpose of this assistantship is twofold: one is to support the departmental teaching program, and another is to aid the student's professional development. The teaching assistant is not intended to be a grader only; however, grading papers may be a part of the assigned duties of the assistant.

For students whose native language is not English, English proficiency, as determined by the director of the ESL program, is a prerequisite for classroom or laboratory instruction.

GTAs must have completed at least 18 semester hours of graduate coursework in their discipline to qualify as the instructor of record in any class. The GTA's fractional teaching load will necessarily vary from one department to another, and the load should be proportional to the normal full-time teaching load carried by other staff members in the department. A mandatory GTA workshop is held prior to the beginning of classes each fall semester.

2. Graduate Research Assistantships

A graduate research assistant (GRA) does research under the supervision of a faculty member. At times, a research project to which the research assistant is appointed may eventually lead to a thesis or dissertation topic; however, a research supervisor cannot guarantee that a particular project will provide suitable material for a thesis or dissertation. All assistantship appointments are subject to the continuing availability of funds. Appointments are made only when resources to support them are assured, but a financial emergency in the University could cause positions, including those of graduate assistants, to be terminated prior to the end of the appointment period. Assistantship support normally will not continue past the end of the semester in which the assistant expects to complete degree requirements. Some contracts or grants may specify U.S. citizenship as a prerequisite for appointment.

Further information may be obtained in Student Financial Services, the department, or the School of Graduate Studies.

Tuition Scholarships

A limited number of tuition scholarships may be awarded to students without assistantship appointments who have unconditional admission status and are in good academic standing. Such scholarships may be awarded for up to 9 hours of graduate credit hours per semester (6 hours in the summer term). Students receiving tuition scholarships are bound by the same rules as graduate assistants with respect to course withdrawal, contingency of the award on satisfactory performance toward the graduate degree, general eligibility, and special department requirements.

The departmental faculty select the proposed awardees from qualified applicants. An appointment letter, similar to a graduate assistantship letter but without assigned duties, is prepared by the department chair and sent through the college dean to the graduate dean for approval at least one month prior to the start of the semester in which the scholarship is proposed. After approval, a copy is furnished to the student.

Graduate Fellowships

Several fellowship awards programs exist, which can provide graduate student stipends, tuition allowances, and funds for other purposes (e.g., equipment purchase). Examples of such fellowships are the NASA Graduate Student Research Program (GSRP), National Science Foundation Fellowships, and Space Grant Fellowships. Announcements of these fellowships are typically made annually, both as brochures and on the World Wide Web. Interested students may obtain information on such fellowships from the Office of the Graduate Studies or from departmental offices.

Graduate Degree Requirements

The following scholastic requirements are those of the School of Graduate Studies. Individual colleges and/or departments may list additional requirements.

1. Overall grade average must be B or better on all graduate credit hours at UAH. In addition, the grade average must be B or better on courses taken in the current graduate degree program;
2. No grade lower than a C may be counted toward a graduate degree;
3. At least 50 percent of the hours required for a graduate degree must be completed in courses numbered 600 or above;
4. At least half of the credit hours (including dissertation credits) toward a doctoral degree must

have been earned at UAH (or, in the case of joint/shared programs, at the participating institutions).

Graduate Dean's List

A graduate student who (1) has a minimum grade point average of 3.85 on all graduate work and (2) has completed at least twelve semester hours of graduate work at UAH in the past twelve months and (3) has a grade point average of 4.0 on the last twelve semester hours of graduate work is eligible for the Graduate Dean's List which is compiled by the School of Graduate Studies each semester. Students who appear on the Dean's list for both Spring and Fall semesters in a given calendar year are placed on the Calendar Year Dean's list and recognized on University Honors Day in the following year.

Probationary Status

1. Any time a student's overall grade average on graduate courses drops below a B, the student will be placed on probation. A student on probation is not a candidate for a degree.
2. For unconditionally admitted students, probationary status is removed by raising the overall grade average to B or better on all graduate work attempted in all terms up to and including the semester in which 12 semester hours of graduate work are completed following the semester the student is placed on probation. Conditionally admitted students must maintain a B average over the first 12 hours of graduate coursework; see page 47.
3. Failure to remove probation in the manners described may result in dismissal from the School of Graduate Studies. In exceptional cases students may petition for readmission upon recommendation of the faculty in the major department and approval by the graduate dean.

The Master's Degree

Students may follow one of two plans for the master's degree, except where modified by individual departments. To avoid delay, students are encouraged to submit a Program of Study with the help of a faculty advisor before the completion of 12 semester hours of graduate coursework. Courses taken without an approved Program of Study may not apply toward a degree.

Thesis

Degree requirements under this plan include completion of at least 24 semester hours of graduate course work and at least 6 credit hours toward the writing of an acceptable thesis.

The thesis should show evidence of the student's capability for research, independent thought, and analysis. Furthermore, the thesis should be written in fluent, acceptable English. The subject must be in the major field. All theses must be accessible to the general public.

The thesis is supervised and approved by a faculty committee composed of at least three members of the graduate faculty and appointed by the chair of the department, with approval of the graduate dean. The supervisory committee is composed of at least three members of the graduate faculty, with a majority being from the major department/program. The chair and at least half of the committee must 1) be full-time UAH faculty members and 2) have full membership in the graduate faculty.

A completed copy of the thesis must be submitted to the major department at least eight weeks before the end of the semester in which degree requirements are expected to be completed. After the student has passed his/her thesis defense and at least five weeks before the end of the semester in which degree requirements are expected to be completed, six copies of the thesis approved by the thesis committee, the department chair, the appropriate college dean, and the graduate dean must be deposited in the Office of Graduate Studies along with a receipt for the binding fee. Theses must comply with the regulations set forth in the Graduate School's *Thesis and Dissertation Manual*, available online at www.gdeanoff.uah.edu/thman/welcome.html.

In exceptional cases, theses may be written in absentia. Before leaving the University, students must 1) select a thesis subject, 2) submit to the chair of the major department a satisfactory outline of the thesis, and 3) submit satisfactory evidence that adequate facilities are available where

research is to be done. The student's advisor, the department chair, and the graduate dean must then approve such a plan.

Non-Thesis

Degree requirements for the master's degree under this plan include the completion of a minimum of 33 semester hours of graduate coursework. A thesis is not required. However, a candidate working under this option may be required to participate successfully in a seminar or in problem courses for acquaintance with research methods and appreciation of the place and function of original investigation in the field.

Transfer Credit

With permission of the major department, students may transfer up to twelve semester hours of acceptable graduate credit earned in an approved institution and may count it toward a master's degree. All transferred credit may not be more than six years old at the time of a student's graduation from UAH. It is transferable only if the student (1) was enrolled in a graduate school at the time it was taken and (2) has an overall average of B or better in graduate coursework at that institution. Students who have graduate credits from another campus of the University of Alabama must complete a minimum of 12 semester hours of acceptable graduate credit at UAH to receive a master's degree from UAH.

Time Limit

All requirements for the master's degree are expected to be completed within six years. Credit for individual graduate courses completed at UAH more than six years but less than ten years before the completion of all requirements for the degree must be validated by the department that offered the course through the administering of a written or oral examination. Once a course is validated, it is considered valid through the tenth year only.

Credit for courses more than ten years old, or transferred from other institutions, cannot be validated at UAH.

The requirements of this section also apply to post-master's certificate programs.

Application for Degree

All candidates for a master's degree must apply for the degree by submitting the appropriate form through their department chair to the School of Graduate Studies at least three months before the degree is to be conferred.

Final Examination

A final comprehensive examination, or satisfactory performance (B or better) in a capstone course, is required of all candidates for a master's degree. Capstone courses must be designated as such by the department/program during the course approval process and approved by the College Dean, the Graduate Council Curriculum Committee, the Graduate Dean, and the Provost.

Final examinations for non-thesis candidates may be written, oral, or both. Thesis option candidates must pass a final examination that includes an oral presentation of the thesis in the form of a seminar before the student's supervisory committee; the oral presentation is open to the members of the University community. The examination must be given at least six weeks before the end of the semester in which degree requirements are expected to be completed, and the results reported within two working days to the graduate dean.

A written notice of the time and place of examination is sent to the graduate dean at least two weeks before the examination date. The graduate dean appoints an additional member of the graduate faculty to act as observer for all thesis defenses. Once set, the examination becomes an official Graduate School matter; the date cannot be changed without prior arrangement amongst the supervisory committee members and the student and without approval of the graduate dean. For more details, consult the *Graduate School Handbook*.

After approval by the graduate dean, the department sends a copy of the written notice to the candidate and each member of the committee. The examination must be given at least six weeks

before the end of the semester in which degree requirements are expected to be completed, and the results reported within two working days to the graduate dean. A student may take the final examination no more than twice.

Second Master's Degree

A student is permitted to apply no more than six semester hours of credit earned for one graduate degree toward an additional master's degree at UAH. Such permission is granted at the discretion of the major department.

Summary of Checkpoints toward Completion of Degree Requirements

The following checkpoints have been established to assist a student in proceeding from admission to graduation. Timely completion of the forms, in sequence, will help to insure that a student's degree program is in order.

Program of Study. This form must be filed as early as possible and definitely before the completion of 12 semester hours. If a supervisory committee develops the program, the student should be invited to the committee meeting.

Petition for a Change in Program of Study. A valid reason must be given for the change.

Application for Advanced Degree. This is to be filed at least three months before the end of the semester in which degree requirements are expected to be completed. It is available in department offices.

Notification of Thesis Defense/Final Examination. Notification of the examination date must be turned in to the Graduate Studies Office at least two weeks in advance. The final examination must be taken at least six weeks before the end of the semester in which degree requirements are expected to be completed, and not earlier than the semester in which the student will complete all required coursework. A graduate faculty observer will be appointed to participate in the student's thesis defense.

The Doctor of Philosophy Degree

The doctor of philosophy degree is a research-oriented degree awarded upon the demonstration of scholarly competence. The degree program at UAH is based on the successful completion of a program of study designed by the student and a faculty committee. The program may include mastery of certain research skills (e.g., languages, computer programming, statistics, and others approved by the Graduate Council), and must include an independent research project, the results of which are presented in the form of a dissertation.

Degree Requirements

The following specific degree requirements are applicable to all Ph.D. degree programs within the University. Additional requirements may be specified by individual colleges and/or departments as shown in this catalog under the appropriate section.

Course Requirements

Course requirements, including at least 48 hours of graduate coursework (excluding dissertation research), are defined in the Program of Study and are determined by the appropriate department. Usually the student will take a majority of the courses in a given field with the remainder in a cognate field. This, however, is not a requirement. A maximum of nine semester hours credit in thesis/research work from the master's degree may be allowed to count toward the 48 hour requirement. Students must also register for a minimum of 18 semester hours of dissertation research.

Students must register for dissertation research each semester in which they receive faculty supervision. All students who have completed the minimum coursework requirements for the doctoral degree they are pursuing must register for a minimum of 3 semester hours of graduate credit (to include dissertation credit) each fall and spring semester until all degree requirements are complete.

The approval of the Program of Study should be accomplished as early as possible, but no later than one year after admission to the Ph.D. program. Once approved, the program may be amended only by the supervisory committee upon submission of the appropriate form and approval of the graduate dean.

Transfer Credit

All credit toward the Ph.D. which has not been earned at UAH must be acceptable graduate credit from an approved institution. Such credit is transferred with approval of the major department if the student 1) was enrolled in a graduate program at the time the coursework was taken and 2) has an overall average of B or better in graduate work at that institution.

At least half of the credit hours (including dissertation credits) toward a doctoral degree must have been earned at UAH (or, in the case of joint/shared programs, at the participating institutions).

Residence Requirement

Residence at UAH as a doctoral student is required for evaluation of the student's investigative abilities, independent thought, and scholastic progress by faculty members other than the major advisor.

Residence may be established through either (1) being enrolled as a full-time student (at least 9 graduate semester hours) either for one continuous academic year, or for Spring and Fall semesters in the same calendar year, or (2) being enrolled in at least 6 hours of graduate course work in at least three of four consecutive semesters. Colleges and/or departments may have more stringent requirements and students should refer to the appropriate section of the catalog for details.

All research effort presented for residence credit toward the Ph.D. degree must be performed under the direction of a full member of the graduate faculty.

Supervisory Committee

A supervisory committee is appointed for each student working toward the Ph.D., usually after satisfactory completion of a preliminary examination administered by the major department. The supervisory committee is appointed by the department chair with approval of the graduate dean as part of the Program of Study approval and will examine the student's research proposal for the dissertation. The supervisory committee is composed of at least five members of the graduate faculty, with at least half being from the major department/program. The chair and at least half of the committee must 1) be full-time UAH faculty members and 2) have full membership in the graduate faculty.

Qualifying Examination

The Qualifying Examination is given under the auspices of the School of Graduate Studies and must be administered by the Supervisory Committee within one year of the date the student completes the formal coursework on the Program of Study. It is conducted in two distinct stages which may be separated by a length of time deemed appropriate by the supervisory committee.

The first stage is a demonstration through written and oral examination that the student is proficient in the subject matter in the Program of Study. The final stage is the dissertation proposal review in which the student prepares a written report and makes a subsequent oral presentation describing the proposed dissertation research. Both the dissertation topic and expected approach(es) must be clearly delineated to the committee's satisfaction in order for a pass to be granted.

The presentation of the oral dissertation research proposal must be scheduled through the School of Graduate Studies at least two weeks in advance. Once this review is complete, the results of the Qualifying Examination are reported to the School of Graduate Studies within two working days on the prescribed form. The presentation of the oral dissertation proposal may be given no more than twice.

Time Limit

All requirements for the doctoral degree must be completed no more than five years after the student has passed the qualifying examination.

Application for Degree

All candidates for a Ph.D. degree must apply for the degree by submitting the appropriate form through their department chair to the School of Graduate Studies at least three months before the end of the semester in which degree requirements are expected to be completed.

Dissertation

The dissertation is evidence that the student can independently identify a problem of contemporary significance through familiarity with the current literature in the major field, organize and execute a program of research, recognize and analyze the results, and present them in cogent, well-written exposition. Furthermore, the dissertation should be written in fluent, acceptable English. Dissertation results are expected to be submitted for refereed scholarly publication. All dissertations must be accessible to the general public.

A completed copy of the dissertation must be submitted to the major department at least eight weeks before the end of the semester in which degree requirements are expected to be completed. At least five weeks prior to this date, six copies of the dissertation, approved by the student's committee, the chair of the major department, the appropriate college dean, and the graduate dean, must be deposited in the Office of Graduate Studies with a receipt for the binding fee. A copy of the dissertation will be submitted for microfilming to University Microfilms International (UMI) by the time of graduation. Dissertations must comply with the regulations set forth in the Graduate School's *Thesis and Dissertation Manual*, which is available online at <http://www.gdeanoff.uah.edu/thman/welcome.html>.

Final Examination

The final examination must include an oral presentation of the dissertation in the form of a seminar before the student's committee; this presentation is open to the members of the University community. The examination must be given at least six weeks before the end of the semester in which degree requirements are expected to be completed, and the results reported within two working days to the graduate dean. The graduate dean appoints an additional member of the graduate faculty to act as observer for all dissertation defenses.

Once set, the examination becomes an official Graduate School matter; the date cannot be changed without prior arrangement amongst the supervisory committee members and the student and without approval of the graduate dean. For more details consult the *Graduate School Handbook*. A student may take the final examination no more than twice.

Summary of Checkpoints toward Completion of Degree Requirements

The following checkpoints have been established to assist a student in proceeding from admission to graduation. Timely completion of the forms, in sequence, will help to insure that a student's degree program is in order.

Program of Study. The supervisory committee should meet to develop a complete program for the student, who should be invited to the meeting.

Petition for a Change in Program of Study. A valid reason must be given for the change.

Notification of Qualifying Examination. Notification of the qualifying examination must be turned in to the Graduate Studies Office at least two weeks before the examination date.

Application for Advanced Degree. This should be filed three months before the end of the semester in which degree requirements are expected to be completed. (Available from department offices.)

Notification of Dissertation Defense. Notification of the defense must be turned in to the Graduate Studies Office at least two weeks before the examination date. This examination must be taken at least six weeks before the end of the semester in which degree requirements are expected to be completed. A graduate faculty observer will be appointed to participate in this examination.