

**The University of Georgia
Institute of the Faculty of Engineering (FE)
Graduate Program Handbook**

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Chapter 1

Introduction

Welcome to the University of Georgia and the Institute of the Faculty of Engineering (FE)! This handbook was approved by the faculty of the FE and is designed to serve as a guide for applicants, graduate students and faculty to the degree requirements, policies and procedures of the FE's Master of Biochemical Engineering and Master of Environmental Engineering degree programs. (For information about the PhD program, please see Section 2.1.1)

The information provided in this handbook is consistent with Graduate School guidelines and should provide information regarding nearly all your questions about program policies and degree requirements. However, there could be circumstances where additional detail is needed. In these instances, consult the graduate bulletin, located at <http://www.uga.edu/gradschool/bulletin/>. If you are still unclear about something, please ask! You may direct your inquiries to the Engineering Academic office: gradprog@engr.uga.edu. More information about the Engineering Academic office can be found under Program Administration.

Chapter 2

Important Deadlines and Events

To assist in your timely progress toward your graduate degree, this chapter provides you with information and timetables of the steps to be taken each semester from application to completion of your MS degree. Links to the appropriate procedures or forms are included for your convenience.

CHAPTER 2. IMPORTANT DEADLINES AND EVENTS

2.1 Applying for Admission

2.1.1 Admission Requirements

The Institute of the Faculty of Engineering (FE) accepts applications from graduates having a bachelors and/or masters degree in engineering, physics, chemistry, biological sciences, mathematics, food science and ecological sciences from recognized US and foreign institutions. Qualified applicants with a degree in the above mentioned non-engineering areas are frequently admitted under the condition that they will satisfactorily complete prescribed undergraduate engineering science courses as a part of their program of study.

Generally, applicants with BS degrees will be admitted as MS degree candidates; however, those with demonstrated research proficiency may be admitted directly into the Biological and Agricultural Engineering PhD program, bypassing the MS degree. A PhD (Engineering) program is in development within the FE. For details about the PhD offered through the Biological and Agricultural Engineering (BAE) Program, please go to: <http://www.engr.uga.edu/index.html>

2.1.2 Proficiency (Make-up) Courses

When a candidate meets the stipulated performance standards for admission, background knowledge in engineering will be evaluated at the time of admission by the FE Graduate Committee, and admission may be recommended with a list of required make-up courses. Once enrolled, the student's Major Professor and Advisory Committee will evaluate the candidate's preparedness and may modify the list of make-up courses initially recommended by the FE Graduate Coordinator at the time of granting the admission. These changes must be approved by the Graduate Coordinator. The student **MUST** obtain at least a grade of B in all make-up courses.

Deficiencies may be satisfied by either completing recommended courses or by passing a placement examination administered by the FE Graduate Committee using questions solicited by the committee from instructors of the courses. Each candidate must have a satisfactory knowledge of engineering sciences.

2.1.3 Application Procedures

Most often, initial contact with a prospective student for graduate studies is made by a faculty member, the Graduate Coordinator or the Graduate School Admissions Office. If contact is first made by a faculty member, he/she is encouraged to immediately inform the Graduate Coordinator who, in cooperation with the Student Affairs Professional I, supply the prospective student with instructions and information about the FE's graduate program.

Please note: The application deadline for engineering programs differs from that of the Graduate School! Because the Institute prefers to admit students for the fall semester, **complete applications (see below) must be received by January 31 for the following fall semester.** Admissions beginning other semesters may be entertained under special circumstances (e.g., funded projects with non-fall start dates).

CHAPTER 2. IMPORTANT DEADLINES AND EVENTS

A complete application includes the following:

- University of Georgia Graduate School Application.
- G.R.E. Scores obtained within the last five years.
- Official transcripts of colleges and universities attended. When the original transcript is in a foreign language, attested translated copies of the transcript in English are required.
- Three letters of reference by persons familiar with your academic credentials, training and research potential.
- A one-page resume.
- An application for assistantship (if desired).

Foreign applicants must also provide the following:

- TOEFL Score (taken within last two years). Please be aware that the Graduate Coordinator may contact you for a telephone interview for further evaluation of your communication skills.

A step-by-step guide to the application process is provided below:

WHAT	WHEN	LINK/MAILING ADDRESS
Submit Online Application	Receipt Deadline: January 31	http://www.uga.edu/gradschool/admissions/requirements.html
Submit 3 Letters of Reference to Graduate Coordinator	Receipt Deadline: January 31	Submitted through online application process (recommended) or by e-mail or mail using Letter of Recommendation Form. For instructions and links see: http://www.uga.edu/gradschool/admissions/requirements.html
Submit GRE and TOEFL Scores	Receipt Deadline: January 31	Scores to be sent directly to the Graduate School from the testing agency. The UGA institutional code for ETS reporting: 5813 (See above link for more information)
Submit Official Transcripts from all schools (except UGA) to UGA Graduate School	Receipt Deadline: January 31	Graduate Admissions The University of Georgia 320 E. Clayton Street, Suite 400 Athens, GA 30602-4401 For more information, see website: http://www.uga.edu/gradschool/admissions/requirements.html
Submit 1-page resume to Graduate Coordinator	Receipt Deadline: January 31	Send by e-mail (preferred) to: gradprog@engr.uga.edu Or by mail to: Graduate Coordinator Engineering Academic Office Driftmier Engineering Center The University of Georgia Athens, GA 30602-4435
Submit Application for Assistantship	Receipt Deadline: January 31	Link to Application: http://www.engr.uga.edu/student_resources/grad_asst_form.html

CHAPTER 2. IMPORTANT DEADLINES AND EVENTS

2.1.4 Application Evaluation Procedure

All applications for admission are evaluated by the FE Graduate Committee. The Graduate Coordinator will receive recommendations from each committee member individually. The Committee may choose to set limits and authorize the Graduate Coordinator to act without receiving members' recommendations when the applicants are either clearly qualified or not qualified. Based on the recommendations from the Committee, the Graduate Coordinator will forward the recommendation of the Institute to the Graduate School regarding admission. The Graduate School Dean makes the final decision and notifies the candidate and the Graduate Coordinator.

The following set of criteria will serve as a guide to the FE's Graduate Committee in the admission process. Potential candidates are evaluated on:

- Grade Point Average—Graduate $\geq 3.5/4.0$; Undergraduate $\geq 3.0/4.0$
- GRE Scores—Verbal > 450 ; Quantitative > 650 ; Analytical > 3.5
- Three letters of reference
- TOEFL Score (foreign students)—paper-based minimum 550; > 590 preferred; computer based minimum 213; internet based minimum 80; speaking 20, writing 20
 - TAST Score (foreign students)—minimum 26.
- Transcripts are evaluated for evidence of an engineering or quantitative science background. Prospective students not having an engineering science background may be admitted with or without assistantship with stipulations to include selected extra undergraduate courses in their plan of study.

Please note: Competition among applicants is keen! The above guidelines do not reflect the actual scores of current admitted students:

Average of Students Admitted Fall 2009:

Average Graduate GPA: 3.94

Average Undergraduate GPA: 3.27

GRE Scores: Verbal: 465

Quantitative: 633

For more information about the admissions process, please visit the UGA Graduate School website:

<http://www.grad.uga.edu/>

CHAPTER 2. IMPORTANT DEADLINES AND EVENTS

2.2 Masters Student Timeline for Completion of Program

2.2.1 Every Semester

WHAT	WHEN	HOW
Register	Continuing students must register during Early Registration.	For registration instructions, deadlines, course schedules and, academic calendar go to: http://www.reg.uga.edu/or.nsf/html/registration To register: https://oasisweb.uga.edu/
Pay Tuition	By tuition payment deadline.	For information about fee payment and deadlines, go to: http://www.bursar.uga.edu/
Midterm With-drawal	See Academic Calendar for withdrawal deadline.	For Academic Calendar, go to: http://www.reg.uga.edu/or.nsf/html/Academic_Calendar
Domestic Fellowship Application —1 st & 2 nd year US students	All semester	Students interested in pursuing a PhD apply for external fellowships—NSF, NDSEG, DOE, etc. For information: http://www.ovpr.uga.edu/researchnewsletter/index.html
Domestic Fellowship Application —3 rd & 4 th year US students	All semester	Students interested in pursuing a PhD apply for fellowships—NIH-NRSA, AHA, etc. For information: http://www.ovpr.uga.edu/researchnewsletter/index.html

CHAPTER 2. IMPORTANT DEADLINES AND EVENTS

2.2.2 Steps Toward Completion

WHAT	WHEN	HOW
Temporary Advisor Appointed	No later than 7 days from the date admission is granted	<u>The Temporary Advisor</u>
Attend Orientation	Scheduled prior to enrollment	<u>Orientation</u>
Review Research Programs	During the first semester in residence	<u>Review FE's Research Programs</u>
Major Professor Appointed	Within your first semester in residence	<u>Major Professor Assignment</u>
Form & obtain approval of your Advisory Committee	By the middle of your 2 nd semester	<u>MS Advisory Committee Appointment</u>
Submit Program of Study	By the middle of your 2 nd semester in residence	<u>MS Program of Study</u>
Modify the Program of Study	Whenever the changes are approved by the Advisory Committee	<u>MS Program of Study</u>
Present Thesis Research Proposal	By the end of your 3 rd semester	<u>Thesis Research Proposal</u>
Apply for Graduation	2 semesters prior to graduation	<u>Application for Graduation</u>
Announce Oral Defense	No later than 3 weeks prior to Final (Oral) Examination	<u>Announce Oral Defense</u>
Distribute Thesis	2 weeks prior to Final (Oral) Defense	<u>Review</u>
Prepare Journal Article Manuscript Draft	Prior to scheduling of Final Exam	<u>Journal Article</u>
Final Exam & Oral Defense		<u>Final Exam and Oral Defense</u>
Approval of Final Examination	No later than the last day of classes of the semester following the oral defense	<u>Final Exam and Oral Defense</u>
Order Copies of Thesis for Library		<u>Final Exam and Oral Defense</u>

Chapter 3

Administrative Issues

3.1 The Institute of the Faculty of Engineering (FE)

The Faculty of Engineering (FE) is designed as an institute without borders, having approximately 100 members from many units across the UGA campus. It is closely affiliated with the Department of Biological and Agricultural Engineering (BAE) which has teaching, research and extension programs located at the Athens, Griffin and Tifton Campuses. The BAE is contained within the College of Agricultural and Environmental Sciences while the FE is an independent entity. The chief administrative officer of the FE is the Director of the Institute. The FE is also administered by the Associate Director and the Graduate and Undergraduate Coordinators. You are encouraged to consult www.engineering.uga.edu for additional information pertaining to the Faculty of Engineering and www.engr.uga.edu for additional BAE information. See Appendix A for links to FE and BAE faculty information.

Graduate classroom instruction is provided primarily in the Driftmier Engineering Center in Athens, although courses may be in other classrooms around campus or from distant locations via distance learning.

3.2 Program Administration

The graduate program of the Faculty of Engineering is administered by the Graduate Coordinator who also serves as a liaison between the institute and the Graduate School. The Graduate School approves all actions related with the graduate programs. Students and faculty must invite the Graduate Coordinator to all meetings and keep him/her informed of progress toward completion of the degree.

Support to the Graduate Coordinator is provided by the Academic Office located in Room 120 of the Driftmier Engineering Center. Questions for the Graduate Coordinator may be directed to this office in person, by telephone (706) 542-0860 or by email: gradprog@engr.uga.edu

3.3 Research Locations and Facilities

The selection of the Major Professor and research area will determine the location for the research portion of the program. The primary research location will normally be either at the main UGA campus in Athens, the UGA campus in Tifton or the UGA campus in Griffin. Under special circumstances, the primary research location may be at cooperating institutions such as the Environmental Protection Agency, and the USDA Agricultural Research Service.

See affiliated FE faculty websites for specific areas of research:
http://www.engineering.uga.edu/foe/faculty/list_name.php

CHAPTER 3. ADMINISTRATIVE ISSUES

3.4 Committees

The following committees guide the processes of the FE graduate program.

3.4.1 FE Graduate Committee

The FE Graduate Committee plays a decisive role in admission and assistantship decisions, evaluations and recommendations for degree program and examination administration or scoring. The Committee is comprised of four faculty members representing four research foci (computer systems, environmental, biochemical and bionanotechnology). The Graduate Coordinator and members are appointed by the Director.

3.4.2 Advisory Committee

The Advisory Committee is responsible for advising, examining and approving all facets of the student's progress. The composition of the committee's members varies depending on the degree program of the student. For information specific to your degree program, please see [Masters Advisory Committee Appointment](#).

3.5 Assistantships

Financial support for graduate students is available on a competitive basis. The available funds from state and federal allocations and from sponsored research programs are allocated competitively. If financial support is desired, the applicant should complete and submit an [Application for Assistantship Form](#) directly to the institute when the application to the Graduate School is submitted. In general, applications must be received by January 31 for award of an assistantship starting fall semester (August). Award of assistantships may be made throughout the year based upon the availability of funds.

3.5.1 General Information

Assistantships are generally awarded for July through June on an annual basis. Renewal of the assistantship is dependent upon the availability of funds and sufficient academic progress on the part of the student to warrant continuation of support. Assistantship rates are determined by the Director, in consultation with the Graduate School.

Students on assistantship may be asked to assist professors in various research, teaching and extension-outreach responsibilities, with thesis research being the predominant responsibility. Teaching-related duties may be responsibilities such as grading, occasional guest lectures and laboratory coordination. Extension-outreach duties may include duties such as assisting with various workshops. All masters students on assistantship are asked to assist in proctoring undergraduate computer labs.

CHAPTER 3. ADMINISTRATIVE ISSUES

3.5.2 Travel

The FE encourages the participation of graduate students in state, regional, national, and international professional meetings. To the extent possible, travel support will be provided by the FE and the Graduate School. The Major Professor should be notified four months in advance when travel to professional meetings is anticipated. The travel request is submitted to the Graduate Coordinator with the recommendation of the Major Professor.

Travel funds to conduct research project(s) will be provided by the FE or via research grant. It is imperative that an early assessment (prior to initiation of the research project) of the travel requirements be made by the graduate student and his/her Major Professor. In the event that significant travel expense is anticipated during the research, a travel budget should be prepared for review and approval by the Director. For in-state travel, the student must use the Travel Request Form available in the mail room and submit the form, with the Major Professor's signature, to the Director for approval prior to each travel event. Similarly, for out-of-state travel, the student must submit the UGA Travel Authority Form at least three weeks prior to the planned travel which will be prepared by the Administrative Associate with information coming from the major professor, Graduate Coordinator, Director, and Graduate School if the funding is coming from them. Once the graduate student returns, reimbursement for institutionally funded travel must be submitted to the Administrative Associate within one week of returning. Please see below for instructions for travel funding provided by the Graduate School.

The following Graduate School Travel Reimbursement Procedures were copied from a handout from the Graduate Coordinator's Assistant's Workshop given by the UGA Graduate School:

This information is provided so that graduate students may obtain reimbursement of travel expenses from the Graduate School as painlessly and as quickly as possible.

Submit a check request form, a travel expense statement, and receipts as required. All documents should be typed. Have someone on the faculty approve the travel expense statement. Original receipts are required for lodging, common carrier, parking, and registration fees.

The reimbursement request must be received within 30 days of your return. Reimbursement requests received after the 30 day deadline **will be denied**. Your materials should be delivered to: 320 E. Clayton Street, Suite 400, Athens, GA 30602-4401. If your departmental secretary or bookkeeper is helping with the typing, make sure that you get your materials to her well before the deadline.

DO NOT charge an airline ticket to the Graduate School. You may charge to your personal credit card or to another university account if you are authorized to do so.

Please include an extra copy of the check request information. This copy now includes all supporting documentation—travel expense statement, receipts, letters and copy of TA.

Consult the university's Travel Regulations and Procedures if necessary. This document is located on the web at: <http://www.uga.edu/campuslife/services/businessoffice/stuttravel.html>

One trip per student per fiscal year.

CHAPTER 3. ADMINISTRATIVE ISSUES

3.5.3 Leave Policy

The University of Georgia policy for graduate students on assistantships or fellowships does not provide for any leave—sick, annual, or miscellaneous. However, the FE allows students to negotiate time off with their Major Professor and the Graduate Coordinator.

The FE will use the following general guidelines for considering any request for time off by students on graduate assistantships or fellowships, regardless of the source of funds.

- Time off with pay is a privilege granted by the Institute on the basis of performance.
- Time off may be granted for illness, hospitalization, etc. at the discretion of the Major Professor. In the absence of a major professor, such decisions will be made at the discretion of the Graduate Coordinator.
- Time off for vacation will be based upon performance. Up to 5 working days per year may be granted at the discretion of the Director. The student should make a written request to her/his major professor who should provide a recommendation to the Graduate Coordinator.
- In all cases, the departmental Leave Request Form must be used to request time off and appropriate records will be maintained in the institutional office.
- University approved holidays are approved for all graduate students.
- Any unapproved time off will be leave without pay.

3.5.4 Probationary Period

Assistantships are initially awarded for one semester only and are extended beyond the probationary period based on satisfactory performance of assigned duties as judged by the advisor(s) and the Graduate Coordinator.

3.5.5 Grades

At the end of any semester in which a graduate student's cumulative GPA for courses approved for the graduate program falls below a 3.0, the student, the student's Major Professor, the Graduate Coordinator and the Director shall collectively discuss the factors related to the GPA. If the student's cumulative graduate GPA at the end of the next semester is less than 3.0, the assistantship shall be discontinued.

3.5.6 Other Employment

The FE considers the academic requirements and duties of assistantship responsibilities to constitute a full-time commitment under normal circumstances. Thus, please note that holding other part-time or full-time employment in the University or outside the University, without prior approval from the Director may result in the immediate termination of the assistantship.

3.5.7 Institutional Duties

The Institute may provide those holding assistantships with opportunities to assist with proctoring and teaching responsibilities from time to time. These duties will be assigned depending on availability and the preparation of the student. Please be aware that the FE views these duties as important both to your academic experience and the operation of the Institute. If assigned duties are repeatedly not performed, disciplinary action will result.

CHAPTER 3. ADMINISTRATIVE ISSUES

3.5.8 UGA Right to Know Training

In accordance with the Public Employee Hazardous Chemical and Right to Know Act of 1988 enacted by the State of Georgia, the University of Georgia has developed a policy and plan to ensure that employees are protected from hazardous chemicals that may be encountered in the workplace. University policy requires that all students on assistantship complete the university's Right to Know training available online at: <http://www.busfin.uga.edu/rtk/RTKTrain3.html>

3.6 Use of University Facilities

3.6.1 Office and Lab Space

Appropriate office space and furniture (i.e., desk, file drawer, etc.), are provided to all incoming Graduate Students until lab accommodations, that meet the unique needs of the research project, become available and are provided by the Major Professor. The Graduate Coordinator, who will work with the Director and the Major Professor to make appropriate arrangements, should be notified of any unique needs.

3.6.2 Keys

The FE will issue keys to the building and to appropriate labs and offices within the building. These keys are not to be duplicated or loaned to others. They must be returned to the office (Room 101) before leaving. Please be aware that failure to abide by the policy relating to keys may result in disciplinary action. Failure to turn in keys when terminating your assistantship may result in your check being withheld.

3.6.3 Computers and Printers

Computers and printers are provided for students in the Graduate Offices (Room 607) and in some labs and other offices. For technical assistance, or to request additional software, contact the Systems Administrator at (706) 542-4816 or support@engr.uga.edu

The FE provides paper and toner for printers. So that the FE can continue to provide paper and toner for students, students are asked to use paper prudently. That is, print only research related materials and then, only the section of the document under revision rather than the entire document.

3.6.4 Mail Service and Email Policy

Graduate students are each provided with a mail box in the Driftmier mailroom located in Room 202. Additionally, students in the FE Graduate Program are required to create a UGAMail e-mail account which is provided at no cost to you upon enrollment. For information about UGAMail, or to set up your account, go to: <http://www.ugamail.uga.edu/index.html>

Please note: It is important that you pick up your mail regularly and check your UGAMail account daily as the FE and university rely on mail and email for official communication.

CHAPTER 3. ADMINISTRATIVE ISSUES

3.6.5 University Vehicles

Graduate students who are employed by the university and who possess a valid drivers license are eligible to check out institutional vehicles for official local, in-state and out-of-state travel.

Vehicle reservations are made in the Research Machine Shop (Lab 335). To reserve a vehicle, students must:

1. Obtain the permission of their Major Professor
2. Complete required State Motor Vehicle Usage Forms*
3. Check the availability of vehicles and complete a reservation slip for an appropriate vehicle

*Students may be required to demonstrate driving proficiency

When picking up a vehicle:

1. Complete the sign-out form in the Research Machine Shop
2. Obtain a university hangtag for on-campus parking (if needed) from your major professor
3. Check fuel levels—The University Fuel Depot, located on Riverbend Road, is open from 7 a.m. to 11 p.m., Monday through Friday. A WEX card and pin are needed. Each vehicle will have a card. To determine your pin, please go to:
<http://vehicle.ppd.uga.edu>

While traveling:

1. Students are expected to obey all traffic laws. **Any violations or fines are the responsibility of the student!**
2. **All accidents or incidents are to be reported as soon as possible.** See Section 3.8 for further instructions.
3. The university provides vehicle insurance for official university business only. **The university does not cover claims for vehicle damage or injuries sustained by unauthorized drivers or passengers or while not on official business.**

When returning the vehicle:

1. Check that fuel levels are at least at half-full
2. Enter date returned on the check-out sheet
3. Report any mechanical problems to the Electronics Technician
4. Return the key to the proper location
5. Return hang-tag
6. Turn in Fuel Account Sheets to the Accounting Assistant (Room 203)
7. Turn in completed Travel Expense Statement and receipts to Accounting Assistant

The motor pool is overseen by the Electronics Technician (706) 542-6764.

CHAPTER 3. ADMINISTRATIVE ISSUES

3.6.6 Purchasing

With the approval of the Major Professor, students may purchase research materials.

Please consult your Major Professor or the Administrative Associate in Room 101 for instructions.

3.6.7 Research Machine Shop

The Research Machine Shop is located in Lab 335 which is the building beyond the rear of the “300” hallway. The shop is equipped for the following:

- Sheet metal fabrication
- Precision metal fabrication
- Metal welding
- Wood and plastic fabrication

Students should arrange to use the shop facilities through their major professor. However, students may use the facilities for smaller projects with the approval of the shop supervisor. Before using the equipment, each student must demonstrate that they are capable of safely using the tool(s) before permission is granted. The use of some equipment is restricted to shop personnel only.

All equipment, including hand tools, should be returned to the proper storage location and any broken or damaged equipment reported to the shop supervisor.

The telephone number to the Research Machine Shop is: (706) 542-0875.

3.6.8 Photocopier

Each FE graduate student is provided with an ID number enabling the use of the copy machines located in Room 201. For the FE to continue to supply paper and toner, copy machines should be used sparingly and limited mostly to assistantship-related work.

3.7 Student Fees

Tuition is waived for students who hold graduate assistantships. However, activity, athletic, transportation, technology and health fees are mandatory for all students and fees are subject to change. For semester information, visit the Bursar’s Office website: www.bursar.uga.edu

3.8 Accident and Incident Reporting

University polices require that all serious accidents or incidences be reported as soon as possible. The following link provides definitions and procedures:

<http://www.caes.uga.edu/intranet/policy/section5/05-01.html>

CHAPTER 3. ADMINISTRATIVE ISSUES

3.9 Files, Correspondence and Forms

The records of all graduate students are maintained by the Student Services Professional I, under the direction of the Graduate Coordinator. All inquiries regarding the status or contents of your files should be made to the Graduate Coordinator.

Copies of all correspondence, including most forms, are required to be included in your student file. Please remember that it is your responsibility to know, and adhere to, form submission deadlines. For specific deadline dates, see <http://www.uga.edu/gradschool/academics/deadlines.html>

For general information (e.g., brochures, assistantship application forms, etc.) relating to the graduate program, please visit the Engineering Academic Office located in the Driftmier Engineering Center, Room 120.

3.10 Residency Requirement

The Graduate School limits the number of transfer hours to six (6) for all Masters Program students. Therefore, all but these six hours are required to be taken at UGA.

3.11 Change of major from MS to PhD

Students admitted into the program as a prospective MS degree candidate may apply for a change in degree objective if they have demonstrated proficiency in the conduct of research. Demonstrated excellence in coursework and research may be used as a basis for a petition to change the degree objective. A student or his/her Major Professor may make a formal request to the student's Advisory Committee for evaluation of this change. The FE Graduate Committee will evaluate the petition and recommendation of the Advisory Committee and recommend its decision to the Graduate Coordinator. The Graduate Coordinator will make the FE's recommendation to the Graduate School Dean. Criteria to be used by the Institute when recommending that a student bypass a MS degree and proceed directly to the PhD program include both the following:

- A minimum grade point average of 3.5
- Research proficiency as evidenced by the quality of scientific papers presented at national professional society meetings, scientific paper(s) accepted for publication in a refereed journal, and peer-reviewed grant proposals funded by an external granting agency

CHAPTER 3. ADMINISTRATIVE ISSUES

3.12 Graduate Certificates

Certificates are recognized as an excellent way to package qualifications for various jobs in industry. Graduate students may elect to pursue certificate programs while they complete degree requirements. Certificates, administered by the Biological and Agricultural Engineering Department (BAE), are available in the following areas:

<u>Certificate Program</u>	<u>Coordinator</u>
Certificate in Computer Science and Engineering	Dr. Sidney Thompson
Certificate in Engineering Physics	Dr. E.W. Tollner
Certificate in Coastal and Oceanographic Engineering	Dr. David Stooksbury
Certificate in Atmospheric Sciences	Dr. David Stooksbury

Certificates generally require 18 additional course hours, with some overlap of the MS program of study being possible. Specific details for each certificate are available from the coordinators listed above and in the [BAE Website](#). Certificates generally require students to complete an MS thesis in the general area.

The Graduate School also offers the Interdisciplinary Certificate in University Teaching for PhD students. To learn more about this certificate, go to:

http://www.uga.edu/gradschool/academics/certificate_teaching.html

3.13 Student Resources

3.13.1 The Engineering Graduate Club

The Engineering Graduate Club is available to all engineering graduate students “to foster the social, educational, and professional interests of graduate students”. Incoming Graduate Students are introduced to the club at [Graduate Engineering Programs Orientation](#).

3.13.2 Professional Societies

Graduate Students are encouraged to participate in the student chapters of the following societies currently active within UGA Engineering:

- SWE – Society of Women Engineers
- ASABE – The Society for Engineering in Agricultural, Food, and Biological Systems
- ASHRAE – American Society of Heating, Refrigerating and Air-Conditioning Engineers
- EBE – Engineers without Borders

3.13.3 Counseling at CAPS

Graduate school can not only be challenging academically but socially and personally too. CAPS offers individual and group counseling as well as outreach programs addressing a wide range of topics including stress management, cultural diversity and relationship issues. For more information, visit:

<http://www.uhs.uga.edu/CAPS/index.html>

CHAPTER 3. ADMINISTRATIVE ISSUES

3.13.4 Resources for International Students

3.13.4.1 The Office of International Education

International students needing help with immigration, financial help, mandatory health insurance or employment issues can get advice here. For further information, visit <http://www.uga.edu/oie/>

3.13.4.2 The International Student Life Office

The International Student Life (ISL) Office at the University of Georgia serves as an *Archway to the World* for both U.S. and international students attending the University. With a number of exciting cultural programs, students and community members alike can travel around the world without leaving UGA. In addition to programs that enhance international awareness, ISL also provides orientation sessions for new international students, individual counseling, and advises approximately twenty-five international student organizations. If you questions about housing, student organizations, taxes or social issues, you may get assistance at: <http://www.uga.edu/isl/>

Chapter 4

Requirements for all Degrees

4.1 Graduate Engineering Programs Orientation

An orientation to the Institute of the Faculty of Engineering (FE) is held for all new graduate students prior to the start of the fall semester. Some of the activities and topics covered during orientation include the following:

- An introduction to the Graduate Handbook and some of the policies contained herein
- Advising and registration
- Employment paperwork for those on assistantship
- Computer user and photocopier accounts
- Office space assignment
- Lab tours at the Athens Campus
- Proctoring of Undergraduate Computer Lab
- Research Machine Shop
- University Vehicles

Orientation is not only an opportunity for new graduate students to familiarize themselves with the logistical aspects of graduate study; it is also an introduction to, and welcome from, the faculty, students and staff of the FE!

4.2 The Temporary Advisor

The Graduate Coordinator will appoint a temporary advisor no later than seven (7) days from the date admission is granted.

Responsibilities of the Temporary Advisor include:

- Consulting with the student in the preparation of a course schedule for the first semester
- Explaining information related to:
 - Expertise of faculty members and their active research programs.
 - General requirements of the FE.
 - General information about the University.
- Assisting the Graduate Coordinator in the selection and appointment of a Major Professor.
- Mentoring the student until a Major Professor is selected.

The Major Professor must be a full member of the graduate faculty; however, this is not a requirement for the Temporary Advisor.

CHAPTER 4. REQUIREMENTS FOR ALL DEGREES

4.3 Course Registration

A graduate student using university facilities and/or staff time must register each semester. All students on assistantships **MUST** enroll in **ALL** semesters during the academic year, including the summer term. Also, they must register by the scheduled registration day. **Please be aware that failing to meet these requirements may result in the termination of your assistantship!** Also, please note that all students must register for the semester in which they intend to graduate.

The full-time course load is 12 hours per semester during the academic year and 9 hours during the summer. The minimum/maximum course load a student may enroll in follows:

	<u>Min.</u>	<u>Max.</u>
Students w/o assistantship	3	18
Students with assistantship		
One-fourth (.25)	9	18
One-third (.33) time	12	18
Four-ninth (.44) time	12	18
One-half (.50) time	12	18
UGA Full-time employee	3	6

4.4 Review of FE's Research Programs

In the first semester of residence, the student is expected to become familiar with faculty research projects in their area of interest. The Graduate Coordinator and the student arrange visits with faculty working in related areas. (See [Appendix A](#))

Please be aware that those students who are offered assistantship from a contract or grant are obligated to assist in research related to grant objectives.

4.5 Major Professor Assignment

The student will provide a written request to the Graduate Coordinator explaining the reasons for his/her recommendation of a major professor and set up an appointment with the Graduate Coordinator for a discussion in person. After receiving the student's input the Graduate Coordinator will, in consultation with the Director, appoint the student's Major Professor before the start of the second semester.

4.5.1 Responsibilities of the Major Professor

The Major Professor will serve as a mentor, cooperator, encourager, critic, and friend to the graduate student. The Major Professor will identify the strengths and the weaknesses of the student and assist the student in achieving his/her goals. It is thus a task not to be taken lightly. If the program is conducted successfully, the Major Professor and student will learn from each other. With input from the Major Professor, the student will begin the process of selecting a research topic, Advisory Committee members, and coursework. Throughout the student's graduate program, the Major

CHAPTER 4. REQUIREMENTS FOR ALL DEGREES

Professor has the responsibility to ensure that the student continues to make satisfactory progress toward completion of the degree.

The strengths and weaknesses of the student should be assessed early in the program. Perceived problem areas should be addressed directly. The student must be proficient in basic sciences, engineering sciences, and mathematics to be successful in a graduate program in engineering. Additionally, students must also have developed oral and written communication skills in order to contribute effectively in their careers. The Major Professor should provide as many opportunities as possible for the student to improve his/her oral presentation skills by arranged and impromptu presentations and opportunities to lecture in classes where appropriate. PhD students should also be encouraged to give presentations of research papers at professional meetings.

Research is a key component. The Major Professor should encourage the student to practice creatively the three "I's" of research: Initiative, Ingenuity, and Imagination. The research project is the aspect in which the individual can perhaps best exercise his/her independence as well as ability to work and communicate in a group setting. The student should be aware of the total program of the Major Professor and how his/her part of the research fits into that program. This will require frequent meetings with the full research team and cooperators to communicate current status and goals of the program. Thus, it is important that the Major Professor keep the student informed of his/her work and current goals.

It is fully expected and encouraged that the student both: a) work on aspects of the Major Professor's research program that may not be related directly in the student's thesis/dissertation; and b) incorporate other aspects of the Major Professor's work into his/her thesis/dissertation. The Major Professor may ask the student to collect data with or for him/her or another student on a related topic that is not necessarily to be reported in the dissertation. Likewise, the Major Professor or another student may have data which the student may be able to use directly without compromising the data for other use. The student should also be made aware of other research of the FE.

The Major Professor must actively seek ways to challenge the student to work under his/her own initiative. Choice of a research topic and the undertaking of research requires a judicious balance between over-direction and under-direction by the Major Professor. Some students may initially need more direction than others, but the ultimate goal is for the student to develop abilities for independent research. To do so obviously requires adequate education and training in engineering and science, but it also requires self-motivation and confidence.

Thus, the specific responsibilities of the Major Professor are:

- To ensure that the student has a rigorous program of academic coursework and research which meets institutional criteria and provides the student with an education at the highest possible level of excellence
- To assist in the selection of a course of study
- To actively involve the Advisory Committee, who, like the Major Professor, provides expertise, examines and evaluates plans of study with regard to their respective areas of expertise
- To oversee completion of all FE and Graduate School requirements, including submission of all required forms, on a timely basis
- To provide guidance to the student so that he/she can become an effective leader through his/her engineering and scientific contributions

CHAPTER 4. REQUIREMENTS FOR ALL DEGREES

- To ensure that the student successfully completes the graduate program, or alternately, to identify at an early stage that it is not in the student's best interest to continue in the program.

4.6 Teaching Requirements

All students should attend the Graduate School orientation for teaching assistantships in the fall. Details may be obtained from the Student Affairs Professional I in Room 120. All students are advised to receive some teaching experience. The FE endeavors to provide some teaching experience for all students. Teaching experience may include one or more of the following:

- Assisting in classroom teaching (lectures, grading, etc.)
- Assisting in laboratory exercises
- Providing tutoring when arranged by the Institute
- Accessing and preparing materials for lectures or lab
- Being responsible to teach part of a course or an entire course
- Preparing and providing continuing education short courses, workshops, etc.

As much as possible, teaching assignments should include student contact and be diverse for a positive learning experience.

For teacher training and support, please go to: http://www.ctl.uga.edu/teach_asst/teach_asst.htm

4.7 Policy on Academic Honesty

The University of Georgia Honor Code: "I will be academically honest in all of my academic work and will not tolerate academic dishonesty of others." All students in the FE Graduate Program are expected to adhere to the university's policy on academic honesty. To review the policy, go to: <http://www.uga.edu/ovpi/honesty/ah.pdf>

4.8 Policy on Responsible Conduct in Research and Scholarship

As a companion to the university's policy on academic honesty, it is expected that FE Graduate Program students adhere to the university's policy on responsible conduct in research and scholarship. To review the policy, go to: <http://www.ovpr.uga.edu/rinteg/#1>

4.9 Academic Probation and Dismissal

A student is placed on academic probation when his/her cumulative graduate grade point average falls below 3.0 and remains on probation as long as the cumulative average is below 3.0. Proficiency (Make-up) Courses will not be counted towards maintaining the minimum cumulative graduate grade point of 3.0. The student must make a minimum 3.0 graduate grade point average on at least 9 hours in each of the succeeding semesters while on academic probation. If the student makes below a 3.0

CHAPTER 4. REQUIREMENTS FOR ALL DEGREES

grade point average during probation, he/she will be dismissed. If a student repeats a course, the last grade received will be used in the calculation of grade point average for the purposes of determining academic probation or dismissal decisions.

An incomplete (I) grade must be removed before the completion of 2 semesters. Otherwise, under the Graduate School policy, the grade is automatically changed to a grade of Fail (F) by the Registrar.

Whenever a student is placed on academic probation, the student, the Major Professor, the Graduate Coordinator and Director shall collectively discuss factors related to the low GPA and if the student has an assistantship, they will also evaluate the assistantship assignment. If the student remains on academic probation for two consecutive semesters, his/her assistantship will be discontinued.

Graduate students may appeal an academic dismissal to the Graduate School Dean. For information, go to:

<http://www.uga.edu/gradschool/academics/regulations.html#ProbationDismissal>

4.10 Application for Graduation

The Application for Graduation must be submitted online to the Graduate School two semesters prior to your anticipated graduation date. The form and further instruction can be found at the Graduate School's Forms and Publications for Current Students website located at:

http://www.uga.edu/gradschool/forms&publications/currentstudent_forms.html

Chapter 5

Requirements for the MS Degree

5.1 Overview

The Institute of the Faculty of Engineering (FE) offers research-based master's degrees in biochemical and environmental engineering. The MS Program provides an opportunity for learning skills in advanced data analyses, original research presentation and problem definition. A PhD (Engineering) program is in development. Currently, students can pursue their PhD through the Biological and Agricultural Engineering (BAE) Program. For details, please go to: <http://www.engr.uga.edu/degrees/phd.html>

5.2 Required Coursework

A student must complete at least 24 semester hours of graduate credit, excluding thesis. At least 12 semester hours must be UGA courses open only to graduate students. The 12 hours may not be satisfied by transfer credit, master's research (7000), thesis writing (7300), or independent study courses. The FE places high value on advanced proficiency in mathematics, the student's selected area of engineering and science, and knowledge of research methods. To achieve this proficiency, the following requirements must be met.

The FE requires the following courses (or their equivalent) approved by the Graduate Coordinator to provide skills for engineering research.

ENGR 6910 Research Methods (2 hrs)

ENGR 8950 Graduate Seminar (1 hr)

ENGR 6101, 8102, 8103 Computational Methods is a module course (3 hrs)

Course(s) should be included to provide students with knowledge of instrumentation for engineering research, advanced mathematics, statistical methods and computers. Students with non-engineering BS degrees are highly encouraged to take ENGR 6920 Engineering Design.

The courses in the program of study are selected by the student in consultation with his/her Major Professor and the Advisory Committee and approved by the Graduate Coordinator. Generally, the courses selected should have the student acquire the following:

- Understanding in the selected area of study
- Ability to synthesize knowledge
- Rational problem solving skills
- Confidence in conducting independent work.

CHAPTER 5. REQUIREMENTS FOR THE MS DEGREE

5.3 Masters Advisory Committee Appointment

The purpose of the Advisory Committee is to advise, review, examine and recommend actions on all aspects of the student's graduate studies. Thus, the Advisory Committee is charged to work with the student in the development of the program of study and thesis research proposal, and to review and examine the student's performance in developing an understanding of the selected courses and thesis research. Actions of the Major Professor and the Advisory Committee are required on all recommendations before the Graduate Coordinator can forward his/her recommendation to the Graduate School.

The student and the Major Professor should identify faculty members who may serve on the committee and discuss with the Graduate Coordinator before contacting potential members of the Committee. The Major Professor must agree with the selection of committee members before the request is presented to the Graduate Coordinator for approval. In many cases, the student and the Major Professor may recommend more than two additional members. These additional members can be voting or non-voting members which permits the flexibility of selecting competent individuals from other colleges, universities and industries who may not be members of UGA Graduate Faculty. The majority of the committee members will be from the FE faculty.

The Advisory Committee must be approved by the middle of the second semester of graduate study and the Advisory Committee for Master of Arts and Master of Science Candidates Form must be completed and submitted by the Graduate School deadline found at:

<http://www.uga.edu/gradschool/academics/deadlines.html>

The student and Major Professor are expected to fill out the form, obtain required signatures, and submit to the Graduate Coordinator. The Advisory Committee for Master of Arts and Master of Science Candidates Form is available at:

http://www.uga.edu/gradschool/forms&publications/currentstudent_forms.html

5.4 Masters Program of Study

The program of study must be prepared and approved by the middle of the second semester in residence. A program of study is the list of courses identified in consultation with the Advisory Committee. This action leads to good selection of courses for acquiring knowledge in the selected area of study. The committee's recommendation should be forwarded to the Graduate Coordinator for his/her approval. The Graduate Coordinator will forward his/her recommendation for the Graduate School Dean's approval.

The program of study may be amended with the approval of the Advisory Committee and the Graduate Coordinator. In this case, submit the Recommended Change in Program of Study Form for the approval of the Graduate School Dean. Please note that the thesis credit hours cannot be counted towards the 24 hours of graduate course credit requirement. Also, at least 12 semester hours in UGA must be earned from courses restricted to graduate students only. Sample Programs of Study are available in [Appendix B](#).

For the Graduate School submission deadline, go to:

<http://www.uga.edu/gradschool/academics/deadlines.html>

CHAPTER 5. REQUIREMENTS FOR THE MS DEGREE

The above mentioned forms are available at:

http://www.uga.edu/gradschool/forms&publications/currentstudent_forms.html

5.5 Thesis

Students are encouraged to make regular progress toward completing their thesis research. Consulting regularly with your Major Professor and Advisory Committee and writing parts of the thesis while actively conducting research is highly recommended.

The format of the thesis and other requirements are explained in the guidelines available from the Graduate School at: <http://www.uga.edu/gradschool/academics/thesis.html>

The Graduate School places deadlines for submission of your thesis! Go to: <http://www.uga.edu/gradschool/academics/deadlines.html>

5.5.1 Research Proposal

A written proposal and an oral presentation of the proposed thesis research to the Advisory Committee are required by the FE.

In general, a thesis proposal will include a summary, an introduction which states the problem, previous and current research, work to be undertaken, objectives and its significance, analysis of the problem, hypothesis, outlined plan of work, anticipated theoretical and experimental work, bibliography and resource needs.

The Graduate Coordinator in consultation with the major professor schedules the oral presentation of the thesis proposal. The Graduate Coordinator may be present with the Advisory Committee for the oral presentation.

Following approval by the Advisory Committee, the Major Professor immediately completes the Thesis Research Proposal Form and submits it to the Graduate Coordinator for final approval. The thesis research proposal must be approved before research is undertaken.

The student is expected to have an approved proposal by the end of the second semester. Whenever this deadline is missed, the student and the Major Professor may be asked to provide a written progress report to the Graduate Coordinator. Failing to have an approved thesis proposal by the end of the third semester will reflect unsatisfactory progress requiring special attention.

5.5.2 Review

The student should provide adequate time for the members of the Advisory Committee to review the thesis research and thesis draft. Generally, the student's Major Professor approves the quality of the thesis draft before one copy each is provided to the Advisory Committee members and the Graduate Coordinator. The student should distribute the draft copies at least two weeks before the scheduled final examination. The final examination will be postponed when the majority of the Committee does not approve the written thesis draft.

CHAPTER 6. REQUIREMENTS FOR THE MS DEGREE

5.5.3 Journal Article

The quality of thesis is judged by evaluating whether the research is publishable in a reputable refereed journal. The student should prepare at least one manuscript for a refereed journal following the publication guidelines. The manuscript should be in the final form requiring only minor editing. The Major Professor may not agree to schedule a meeting of the Advisory Committee for the purpose of conducting final examination without a satisfactory draft of the manuscript.

5.5.4 Final Examination and Oral Defense

The purpose of the final examination and oral defense is to evaluate whether the following criteria have been met:

- A. The student has gained knowledge in the selected area of study through course work which has significantly increased his/her ability in engineering analysis and rational problem solving.
- B. The student's understanding of research process is at a level where he/she can independently approach problem definitions and solutions.
- C. The thesis research work is of a quality which will likely be approved by peers for publication in a reputable refereed journal.

Part I, the final exam, tests for criteria A. The format is either written and oral, or oral only.

Part II, the oral defense, is an evaluation of criteria B and C. The format is oral only.

Generally, both Part I and Part II will be oral during a single meeting of the Advisory Committee; however, either the student or the committee may choose to conduct the two-part examination separately in both written and oral formats.

It is required that the Graduate Coordinator be present for the Oral Defense and any oral portion of the final exam. The Advisory Committee conducts these examinations and recommends action by a majority vote. Students and FE faculty are invited to attend the portion of the examination dealing with the presentation of the thesis research.

5.5.5 Approval Form for Master's Thesis and Final Examination

The Approval Form for Master's Thesis, Defense, and Final Examination Master of Arts and Master of Science Candidates must be submitted to the Graduate School. Part I of this form will be completed by the Major Professor when he/she feels that the thesis is suitable for reading by the Advisory Committee. Part II of the form requires the signatures and actions of the Advisory Committee for the thesis. The Major Professor will complete Part III of the form after all required changes have been made. The oral defense can then be scheduled. The student must be registered for at least three (3) hours in the semester the oral defense is scheduled. Part IV of the form will be completed after the oral defense.

The form is available at:

http://www.uga.edu/gradschool/forms&publications/currentstudent_forms.html

Appendix A

Faculty Membership Information

Members of the FE and their areas of specialty can be found at:

http://www.engineering.uga.edu/foe/faculty/list_name.php

A listing of BAE faculty and their area(s) of specialty is located at:

http://www.engr.uga.edu/directory/people.php?user_type_id=1

Appendix B

List of Supplementary Courses

The following is a list of "recommended" courses outside of engineering. For course description information, please visit the [UGA Bulletin](#). Also, please note that when looking for courses online, many of the 6000-level courses have an undergraduate (4000-level) component under which the course is listed.

Chemistry

CHEM/BCMB 6190	Introduction to NMR Spectroscopy	3
CHEM/BCMB 8189	Fundamental Principles of NMR Spectroscopy	3
CHEM 8220	Physical Methods in Inorganic and Bioinorganic Chem.	4
CHEM 8310	Reaction Mechanisms in Organic Chemistry	3
CHEM 8820	Electrochemistry	3
CHEM 8830	Electronics	4
CHEM 8840	Surface and Thin Film Analysis	3
CHEM 8920	Thermodynamics and Statistical Mechanics	3
CHEM 8940	Chemical Kinetics and Dynamics	3

Crop and Soil Sciences

CRSS 6520-6520L	Field Soil and Site Assessment	3
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Environmental Health Science

EHSC 6080	Environmental Air Quality	3
EHSC 6090	Emerging Technologies: Bioremediation	3
EHSC 6150	Solid and Hazardous Waste Management	3
(EHSC)AAEC 6250	Environmental and Public Health Law	3
EHSC 6350-6350L	Environmental Chemistry	3
EHSC 6490	Environmental Toxicology	3

Forestry

FORS 6150	Control & Systems Theory for the Environmental Scientist	3
(FORS)GEOL 8740	Hydrologic Flow and Transport Modeling	3

Water & Soil Resources

WASR 6500	Quantitative Methods in Hydrology	3
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Please keep in mind that some of the above courses have required prerequisites.

Appendix C

Sample Programs of Study

MS in Biochemical Engineering

Example Program of Study I

Required Courses: (6 hrs)

ENGR 6910	Research Methods	2
ENGR 8950	Graduate Seminar	1
ENGR 6101, 8102, 8103	Computational Methods Modules	3

Engineering Courses (15 hrs)

ENGR 6130	Bioengineering Systems	3
ENGR 6510	Biochemical Engineering	3
ENGR 6520	Design of Biochemical Separations Processes	3
ENGR 8980	Advanced Topics in Biological Engineering - Biomass Feedstock Engineering	3
ENGR 8990	Advanced Topics in Engineering - Syngas Production and its Catalytic Conversion	3

Other Courses (9 hrs)

STAT 6310	Statistical Analysis I	3
STAT 6320	Statistical Analysis II	3
STAT 8200	Design of Experiments for Research Workers	3
		<u>3</u>
		30 hrs

APPENDIX C. SAMPLE PROGRAMS OF STUDY

MS in Environmental Engineering

Example Program of Study

Required Courses: (6 hrs)

ENGR 6910	Research Methods	2
ENGR 8950	Graduate Seminar	1
ENGR 6101, 8102, 8103	Computational Methods Modules	3

Engineering Courses: (12 hrs)

ENGR 6113	Intro Geophysical Fluid Dynamics with Applications	3
ENGR 6130	Bioengineering Systems	3
ENGR 6170	Hydrology, Geology, and Soils of Georgia	3
ENGR 6410	Open Channel Hydraulics and Sediment Transport	3

Other Courses: (16 hours)

STAT 6310	Statistical Analysis I	3
ECOL 6310	Limnology	4
ECOL 8220	Stream Ecology	2
ECOL 8580	Theory of Systems Ecology	4
GEOL 8740	Hydrologic Flow and Transport Modeling	3
		<hr/>
		34 hrs

Appendix D

Other Resources

The following resources may be useful to Graduate Students. For the most current contact information and additional resources, students are advised to refer to the UGA website at www.uga.edu

Disability Resource Center

Provides Academic and Support Services

www.dissvcs.uga.edu/

Family & Graduate Housing

www.uga.edu/housing/gradfam/index.html

Veteran's Educational Benefits

Office of the Registrar

106 Holmes/Hunter Academic Building

(706) 542-8772