Graduate Handbook

MSE students
Starting Prior to Fall 2011

Version 2.2 (9 Sept 2011)

Contents

Introduction to Graduate Studies

This electronic handbook is intended to assist Materials Science and Engineering graduate students during their stay at Georgia Tech and is a supplement to the material contained in the Georgia Tech General Catalog, particularly the section entitled "Information for Graduate Students." The rules and regulations in the Catalog govern all graduate students. This manual covers matters of particular concern to graduate students in Materials Science and Engineering. All such students should carefully read and follow the guidelines set out in the Catalog and this manual.

The Director of Graduate Studies should be consulted in case of questions concerning academic requirements and procedures. Forms may be obtained from the Materials Science and Engineering Academic Office (Room 297, J Erskine Love Manufacturing Building) or from the Graduate Studies and Research Office located on the 3rd floor of the Savant Building, Room 317 and respective web sites.

Other Sources for Information

In addition to this document, MSE graduate students are encouraged to use the following resources to assist them during their course of study.

1. Research in the School of Materials Science and Engineering.
2. School of Materials Science and Engineering Annual Report.
3. Various program descriptions such as those concerning the Graduate Cooperative Program. A booklet describing the various inter-disciplinary certificate programs is available in the Office of the Dean of Engineering.
4. Graduate Student Orientation Handbook (published by the Graduate Student Senate).
5. Manual for Graduate Theses (published by the Office of Graduate Studies and Research).
6. OSCAR, the on-line listing of classes for each semester, also contains registration information and an academic calendar.

Reference copies of these documents are available in the Materials Science and Engineering Academic Office; however, individual copies may not be available.

Every graduate student in the School of Materials Science and Engineering is assigned a mailbox in the School mail room. Correspondence from the School Director and Director of Graduate Studies is placed in these mailboxes periodically. A full-time student should check his/her mailbox and e-mail at least once a day. A bulletin board for graduate affairs is also maintained in the mail room (room 2S50, Erskine Love Manufacturing Building). This board should be periodically checked for relevant seminar and conference announcements, employment and educational opportunities, course offerings, scholarship and fellowship announcements and social events. Also, the Institute assigns you a post office box at the campus Post Office in the Student Center. Please check that box periodically as correspondence from the Office of Graduate Studies, Library, Bursar's Office and many other campus offices are sent directly to that P.O. box rather than our internal, departmental box or your home address.

Students are responsible for reporting changes in their residential address and telephone number, within one week's time from the change, to the Office of the Registrar and the Materials Science and Engineering Academic office.

MSE Graduate Degree Requirements

Course	Hours	Description
MSE 8803D (Fall)	3-0-3	Thermodynamics
MSE 8803E (Fall)	3-0-3	Crystallography, Structure and Defects
MSE 8803G (Spring)	3-0-3	Kinetics of Diffusional and Non-Diffusional Phase Transformations
*Course of Choice	3-0-3	Characterization
**Course of Choice	3-0-3	Computations

***Courses in Characterization** (*could include not limited to*):

1. MSE 6105 Diffraction Studies
2. MSE 6110 Transmission Electron Microscopy
3. MSE 6120 Quantitative Characterization of Microstructures
4. MSE 6130 Surface Characterization
5. MSE 8803 Scattering Theory
6. CHEM 6172 Physical Methods in Inorganic Chemistry
7. CHEM 6181 Chemical Crystallography
8. CHEM 6283 Electroanalytical Chemistry
9. CHEM 6572 Macromolecular Structure
10. CHEM 6752 Polymer Characterization

****Courses in Computations** (*could include not limited to*):

1. MSE 6795 Mathematical, Statistical, and Computational Techniques in Materials Science
2. CHEM 6382 Computational Methods in Organic Chemistry and Biochemistry
3. ISyE 6739 Basic Statistical Methods
4. ME 6104 Computer-aided Design
5. ME 6124 Finite-Element Method: Theory & Practice
6. MATH 4255 Monte Carlo Methods
7. MATH 4247 Partial Differential Equations I
8. MATH 4348 Partial Differential Equations II

M.S. with thesis

- 12 course hours in major
- 12 course hours at 6000 or higher

- 18 total course hours required and
- A thesis approved by a committee of the graduate faculty

M.S. without thesis

- 18 course hours in the major
- 21 course hours at 6000 or higher and
- 30 course hours required

Additional M.S. requirements include

- 3.0 GPA at completion
- At least three of the five core courses must be taken
- MSE 8001, Seminar (1-0-1), is required for all graduate students
  For the thesis option: the seminar is in addition to the eighteen hours of courses listed above
  For the non-thesis option: it can be included in the thirty required hours

Ph.D. Requirements

- Students must complete all core courses with a grade of "B" in each course. A maximum of one course can be repeated. Withdrawal will be considered an attempt. (15 hours)
- Six hours from general MSE curriculum (6 hours)
- Nine hours in an approved minor (9 hours)
- Prepare and submit a research proposal for the qualifying exam to the Graduate Committee within 30 days of completing Thermodynamics, Crystallography & Kinetics. Proposals must be submitted by Summer of 2nd year or 4 semesters (not including Summer). Courses in Computations and Characterization may be completed after qualifying exam.
- Pass the oral qualifying exam
- Complete all course work with a minimum GPA of 3.0
- Write, present and defend a Ph.D. dissertation
- MSE 8001, Seminar (1-0-1), is required for all graduate students (1 hour)

Additional Ph.D. Requirements for students entering directly from B.S. program

- Six additional hours of course work in the major (6 hours)
- Note: A total of 37 credit hours are required for Ph.D. direct from B.S.

Degrees,Programs of Study,Honor Code & Class Attendance

Degrees and Programs of Study

The School of Materials Science and Engineering offers programs of study and research leading to M.S. and Ph.D degrees in Materials Science and Engineering. The School also offers an undesignated M.S. degree for students with special interests. To obtain a Ph.D degree, the student must have met the course requirements for at least one of the M.S. Degree options.

Honor Code

All students and faculty should read the Georgia Tech Academic Honor Code (http://www.catalog.gatech.edu/rules/18b.php) and strictly adhere to it. Students will be required to sign and submit a printed version of the honor code when first enrolled. Faculty should make known to their class as specifically as possible what constitutes appropriate academic conduct as well as what comprises academic misconduct.

Papers submitted as part of course requirements, as well as the written document for the qualifying examination, will be checked for improper citation or potential plagiarism by comparing them against continuously updated databases available to MSE. This safeguards academic integrity. Any suspected violations of the student honor code will be dealt with immediately. Academic misconduct may result in a failing grade.

Class Attendance – Participation

Students should not arrive late or leave early from class without contacting instructor with prior arrangements. Tardiness is disruptive and disrespectful to classmates and instructors. Do not come into the classroom after lectures or testing has begun. Tardiness or leaving early will be counted as an absence for that class period. Attendance is essential for understanding the complex subject matter covered in our coursework and is critical for success. It is also unacceptable to disrupt class in nonverbal ways (e.g. sleeping during class, reading or doing other paperwork, cell phones.)

E-mail & Keys

E-mail

The official method of Institute and MSE communication to all faculty, staff, and students is through @gatech.edu e-mail address of record. E-mail accounts are assigned and maintained by OIT. Georgia Tech assumes no responsibility for the reliability of external e-mail services. The most straightforward way to insure that you are not missing official Georgia Tech electronic communications is to point your alias to your @gatech.edu e-mail address. If you chose to associate your alias with an address other than your @gatech.edu e-mail address, **YOU ARE**

ASSUMING THE RESPONSIBILITY OF CHECKING MAIL DAILY AT BOTH YOUR @GATECH.EDU AND ALIAS DESTINATION ADDRESSES.

Creating a non-GT personal email alias on passport.gatech.edu does not provide for receiving mail that is sent straight to your GT account, such as user@mail.gatech.edu.

If you choose not to use your GT account, you should access your MyGatech account via the web and place a forward to whatever email address that is desired. From within your account, choose Preferences, Mail Filters, and establish a new rule to forward your mail. Within that new rule, you can choose to optionally Keep a Copy of the mail in your MyGatech Inbox. Always leave the default rule in place as number 1, as it flags spam. In order not to receive the flagged spam, you should edit that number 1 default rule and make sure that the small box in the lower left corner is checked. That box, "Do not process additional filters," will prevent any further rules from processing mail once it has been identified as spam.

Keys

General access to MRDC II, the microscopy labs and the computer cluster is via your Buzz card. You will need to obtain a key and activate your buzz card from the Facilities Manager in Room 181 in order to access your office and lab. A $10 per key refundable deposit is required.

Financial Aid

Five types of financial assistance are available to qualified graduate students:

1. Graduate Research Assistantships
2. Fellowships
3. Out-of-State Tuition Waivers (automatic for GRA's)
4. Graduate Cooperative Program
5. Graduate Industrial Internship Program (GIIP)

Each of the above are awarded on the basis of academic potential and performance and not on the basis of need. However, students having a demonstrated need may apply to the Financial Aid Office (Administration Building, first floor) for employment under the work-study program or for student loans. GRA’s are normally provided funding for a specific period of time, usually for two consecutive semesters, and it is automatically renewed if the student maintains good academic standing and makes good progress toward his/her degree goal. However, the maximum length of time that a student may receive financial aid from any source is limited to 5 semesters for the M.S. degree and 15 semesters for the Ph.D. Exception to this policy may only be granted by the Director, with positive recommendations by the student's advisor and the Graduate Committee. The progress of students who have been enrolled in the M.S. Program for 18 months, or in the Ph.D. program for three years (after completion of the M.S. requirements), will be carefully reviewed by the Graduate Committee,

which will render a decision to the Director of Graduate Studies as to whether financial aid should be continued.

Classification of Graduate Students & Teaching Assignments

Classification of Graduate Students

Graduate students are classified according to their graduate standing (i.e., full graduate standing, conditional graduate standing, special graduate standing) and according to their course work load (i.e., full-time, part-time). These different classifications and what they imply are discussed below:

1. Classification by Graduate Standing
    a. Full Graduate Standing - Students who hold a Bachelor's degree from an approved institution and whose previous work has been of a nature and quality sufficient to offer reasonable assurance of immediate success in advanced study.
    b. Conditional Graduate Standing - Students who hold a Bachelor's degree from an approved institution and whose previous work, because of deficiencies either in content or quality, must be supplemented by additional work or demonstrated ability at a specified level.
    c. Special Graduate Standing - Students who wish to enroll for course work but not pursue a program of study for a graduate degree. Students on special standing who wish to pursue an M.S. degree must make application for a change of graduate standing to the Director of Graduate Studies by the time of completion of no more than 16 semester hours. Approval by the Materials Science and Engineering faculty is required for this change of status.
2. Classification by Course Work Load
    a. Graduate students are classified as full-time or part-time, depending upon the number of hours of course work they take per semester. Course work includes regularly scheduled courses, seminars, special problem courses and thesis research; that is, any activity carrying a course number, whether taken for graduate credit or on an audit basis. A full-time student must register for at least 12 hours per semester, with a maximum load of 21 hours. A part-time student should register for no more than 11 hours and no less than 3 hours per semester.

Teaching Assignments

We consider teaching assignments to be part of the educational process. All graduate students are required to participate, with the exception of students whose sponsors specifically prohibit this. Normally an average of 3-5 hours per week will be spent on TA duties.

Vacation Policy & Stipend Policy

Vacation Policy

Two weeks vacation and all official Georgia Tech holidays are allowed during each calendar year. Advisors must be notified of all vacation time and absences. Mid-term and intermission breaks are not vacation days unless scheduled as such.

Stipend Policy

For the purposes of determining the stipend level, graduate students are classified as follows:

- M.S. Thesis Option: Any student pursuing an M.S. degree under the thesis option with an offer of financial assistance from the School.
- Ph.D : Any student admitted to the direct Ph.D. program. The minimum qualifications are a
  B.S. degree in Materials, Metallurgy, Ceramics or Polymers with a GPA of 3.5 or better and a high GRE score or a B.S. degree in another field of Engineering, Physics or Chemistry with a GPA of 3.7 or higher and a high GRE score. Or any student entering the Ph.D. program with an M.S. degree.

Level	Stipend ($/Month)*	Max. Duration**
M.S. with thesis	$1,900 ($22,800)	5 semesters
Ph.D.	$2,000 ($24,000)	4 years with M.S. 5 years without M.S.

* These amounts are effective Fall 2010. Full-time graduate research assistants (GRAs), pay fees of $848 per semester (current rate).
**Refers to the maximum period for which the students can receive a stipend.

M.S. and Ph.D. Thesis Option

Because graduate degrees are research oriented, once you obtain financial support as a GRA, the only option available to you is degree completion with a thesis. Students receiving funding will not be permitted to change to the non-thesis degree option. Non-thesis is for students who have been totally self-supported or in the five-year BS/MS program.

Students on external fellowships (from sources outside of Georgia Tech) are entitled to enhancement awards from the School. The amount of enhancement will vary depending on the value of the external fellowships. To be eligible for such enhancements, the student must disclose the amounts of all fellowships he/she receives from sources outside Georgia Tech. For M.S. students receiving outside funding, the total award (from MSE) must not normally

exceed a rate of $1,900 per month plus tuition, and similarly for Ph.D. students it must not normally exceed a rate of $2,400 per month. In no case will the payment from the school exceed the stipend levels established for the level of the student. Presidential Fellowships are in addition to any other sources of funds.

For exceptional students supported entirely on research grants, enhancements of up to 50% over the normal level subject to the maximums in the preceding paragraph may be possible solely at the discretion of the thesis advisor after the student has completed all requirements for Ph.D. other than the final thesis defense. Such appointments will be entirely supported by the grant/contract that the student is supported on. No part of the student stipend can be paid from school funds.

Dismissal Policy

All students receiving stipends must maintain minimum academic standards and must make good progress toward the degree goal to retain their stipends. Toward this end, the following is expected:

1. M.S. students receiving a stipend must complete all degree requirements in 5 semesters or less, including Summer term.
2. Students must not receive an unsatisfactory grade on thesis research more than once. With the first unsatisfactory grade, the student will receive a letter from the MSE Academic Office placing them on review, outlining the deficiencies and indicating corrective actions that must be taken to remove the deficiencies. The second unsatisfactory grade will result in losing their stipend and being dropped from the program. Ph.D. students without an advisor will be dropped from the program.
3. Ph.D. students without an advisor for more than one term will be dropped from the program.
4. Ph.D. students must complete all courses in the core with a minimum grade of B in each course. A maximum of one course can be repeated. A second grade below B will result in being dropped from the Ph.D. program.
5. All Ph.D. students are required to take the oral Ph.D. qualification examination within 2 years of admission to the Ph.D. program. Students failing to pass the oral qualification examination in their first attempt must retake the oral exam as described in the letter given to the student at the time he/she failed on the first attempt. Failing to take the examination within the timeframe described will result in being dropped from the Ph.D. program. Furthermore, students must make progress in their research as judged by their academic advisor.
6. Exceptions to the above conditions may be granted on demonstration of extraordinary circumstances by successful petition to the MSE Graduate Committee. The petition must include a letter of support from the student's thesis advisor and a demonstration of satisfactory progress toward his/her degree objective.
7. Students must pass the annual safety examination.

The School of Materials Science and Engineering (MSE), in collaboration with industry proposes to offer an additional option for fulfilling the requirements for earning the M.S.

degree in Materials Science and Engineering. Students have three options: (1) complete a minimum of 30 semester credit hours of approved courses maintaining a B or higher average and also present a thesis based on original work that must meet the approval of the MSE faculty; (2) complete a minimum of 30 credit hours of approved courses and maintain at least a B average; or (3) enroll in the Graduate Industrial Internship Program (GIIP).

GIIP is designed to provide students with the option of combining graduate course work along with a high quality industrial internship experience to meet the requirements for earning a M.S. degree. A minimum of 30 semester hours are required under this program. Industry mentors will specify broad areas of specialization within the field of materials in which meaningful projects of one semester and summer duration can be offered to the students during the internship. The students selected under this program will attend school for 2 semesters during which they will complete 24 semester hours of courses while maintaining at least a B average. The course selection will be made by the student in consultation with the industry mentor and a MSE faculty member who will act as the student's academic advisor. In addition to the course work, the student will also register for a minimum of 3 semester hours of Special Problems courses on a pass/fail basis during the semester prior to the internship. These three hours of Special Problems courses will be used to build the student's knowledge through independent study and laboratory experience in an area closely related to the proposed internship. A written report is required from the student that summarizes the work completed as part of the Special Problems courses.

The student will intern at the sponsoring company for a minimum of 1 semester and a summer. The experience may range from working on an individual project or as a team member in a larger project. In the semester the student wishes to graduate, he/she will register for 3 semester hours of Special Problems course on a letter-grade basis. The student will prepare a report on the findings during the internship period and, after obtaining the approval of the industry mentor, submit the report to the academic advisor no later than the end of the twelfth week of the semester. As part of the approval process, the student must appear in person for an oral examination to be conducted by the academic advisor and two other committee members, of which at least one will be a member of the MSE faculty. The remaining member may be the industry mentor or a Georgia Tech faculty member. The oral examination will be scheduled during or before the last day of classes during the semester in which the student is scheduled to graduate.

For more information on the program, contact:

Susan Bowman or Dr David Bucknall

School of Materials Science and Engineering
Georgia Institute of Technology
Atlanta, GA 30332-0245
Fax: 404.894.9140

The Graduate Co-op Program & Allowable Course Load if Employed

The Graduate Cooperative Program

The co-op program provides an excellent opportunity for Georgia Tech students to finance their graduate studies. Students participating in this program work at least two semesters in industry in a professional capacity before receiving an M.S. or Ph.D. degree. The program is very flexible regarding the timing of the work semesters, the rate and method of payment, and the amount of academic credit (thesis or special problem) that can be received for activities during the work semesters. These matters are arranged individually with the student and the employer. Application for the Graduate Cooperative Program is made through the Office of Graduate Studies and Research (Graduate Office).

Allowable Course Load if Employed

Students who do not hold assistantships but are otherwise employed (on or off campus) are limited in the amount of course work they may take per semester as shown below:

Hourly Employment Load Per Week (On or Off Campus)	Maximum Allowes Semester Hour Courseload
Full-time (40 hours)	6
3/4 time (30 hours)	9
2/3 time (26 hours)	10
1/2 time (20 hours)	12

The limitations can be exceeded in a given semester with the approval of the Director of Graduate Studies, provided the average course load of the student's program does not exceed the figures shown. Exceptions to these maximum loads may be made by the Associate Vice President for Graduate Studies.

Academic & Thesis Advisors, Registration & Preregistration, Registration for Thesis Hours

During their first semester in residence, new graduate students are assigned to the Director of Graduate Studies for academic advisement. New students are strongly urged to discuss research topics with all faculty members of the school before choosing a permanent advisor. Toward the end of their first semester, new graduate students are expected to choose a permanent thesis advisor who, in most cases, will also serve as their academic advisor, by completing a "Request for Assignment/Change of Advisor" form and submitting it to the Director of Graduate Studies for approval. In those cases in which the student's thesis advisor

is not a full-time member of the School's faculty (e.g., an adjunct faculty member, a faculty member of another school at Georgia Tech, or a GTRI researcher), he/she will be required to have an academic advisor from the School. The student should select an academic advisor by consulting with the MSE faculty; in no case should this decision be postponed to the second semester.

Registration and Preregistration

Registration and early registration dates may be found in the OSCAR and the Materials Science and Engineering Office. A tentative schedule of courses to be offered during each semester is also available in the Materials Science and Engineering Academic Office. Graduate students are urged to register during Phase I registration to ensure their assignment to the course and to facilitate course scheduling. Some courses with labs have a limited number of seats available. A scheduled course may be cancelled if an insufficient number of students register for it during Phase I.

New graduate students should consult with the Director of Graduate Studies the week prior to registration to prepare a course schedule. Formal orientation for new graduate students is conducted in the Fall semester only, prior to registration, by the Graduate Office and provides information on the registration process. An informal orientation is conducted by the Director of Graduate Studies each semester of admission.

Registration for Thesis Hours

M.S. students in Materials Science and Engineering are required to have completed a minimum of 12 credit hours of thesis research (MSE 7000) prior to graduation. M.S. students in Polymers need 17 credit hours of research. There is no specified minimum number of thesis hours (MSE 9000) for a Ph.D. degree. The following guidelines may help students in determining the number of thesis hours they should register for in a given semester.The advisor must be in agreement with the number of thesis hours selected every semester.

- First semester graduate students should register for 18-21 hours, which will include letter - grade, pass-fail and thesis hours. Students must maintain a 12-hour schedule in order to keep their GRA status.
- Students who have chosen thesis advisors and are pursuing thesis research should register for an appropriate number of thesis credit hours which are commensurate with their proposed effort for the semester.
- MSE 8901, 2, 3, Special Problems, should not be used for thesis research.
  Students who have completed all course requirements toward their degree and are engaged in full-time thesis research should register for 17 credit hours of MSE 7000 or MSE 9000, as appropriate.

Scholastic Standing & Seminar Attendance

Scholastic Standing

Students should consult the General Catalog for descriptions of various categories of scholastic standing. All requirements specified in the catalog apply to Materials Science and Engineering graduate students, with one exception. In order to receive an M.S. and/or Ph.D. degree from the School, the student must achieve a minimum grade point average (GPA) of 3.0 in their graduate course work.

Seminar Attendance

Graduate seminars are designed to keep graduate students and faculty informed of current research programs and new developments in materials science and engineering. All graduate students are required to attend all thesis seminars and guest seminars each semester they are in residence.

Scheduling & Preparing Announcements for Proposal & Thesis Defenses

Academic office approval is required when scheduling thesis proposals and defenses. The Academic Office is located in room 296 Love Building. In order to avoid conflicts with seminars and other school activities, it is imperitive that each student schedule their defense through this office. Failure to follow this procedure may result in serious conflicts that could require the postponement of the defense.

It is also the responsibility of the student to schedule a room once the date has been verified by the Academic Office. After confirming the date for the defense, the student should prepare an announcement with the title, time, location, and a brief abstract and submit it in electronic form to the Academic Office for posting and distribution. The recommended time table is listed in this manual. Please adhere as closely as possible to the suggested time lines in order to avoid delays and scheduling problems.

PhD Petitioning

Petitioning pre-Spring 2012
The Degree Petition form must be completed and filed with the Registrar's Office during ***the preceding term*** of the expected term of graduation. The form and deadline for filing the Degree Petition is found at
http://www.registrar.gatech.edu/docs/pdf/GRAD_PETITION_FOR_DEGREE.pdf

Petitioning for Spring 2012 onwards

All PhD students have been selected to participate in the Online Application for Graduation (OAG) pilot program. This process will replace the current paper Degree Petition used in the past. Please note that the pilot program is restricted to these programs, and will be open for all programs and all students beginning Summer 2012.

In order to utilize the OAG, you must meet certain eligibility requirements. They are as follows:

- Undergraduate Students
  - 85+ Earned Hours at the time of applying
  - The program you wish to apply for must be declared officially (this includes any concentrations within your major as well as minors)
- Doctoral Students
  - The program you wish to apply for must be declared officially

Below are instructions for using the OAG to submit your application for graduation:

1. The OAG will open for use on September 16, and close October 15. There will be an additional window from October 16 – October 31, however applications during this time will incur a $50 late application fee.
2. During the application window, you must login to OSCAR, and select Student Services>Student Records>Apply to Graduate**.**
3. The first screen you will see is the Curriculum Selection screen. This displays your official curriculum as recognized by the Office of the Registrar. If your curriculum is incorrect, **STOP**. Please contact Degree Certification (dc@lists.gatech.edu or 404-894-4150) immediately for assistance. The program you are applying for must match your program on record.
4. If your program is correct, then you must select the radio button for the program which you'd like to apply to graduate. If you have more than one program displayed (for students that have two majors), then you can select either one, but not both. You will have to go through the process again for your second major.
5. Next, select the graduation term in the drop down that will appear.
6. At the next screen, please request any changes to your first or middle names to appear on your diploma. NOTE: all requests will be reviewed by the Office of the Registrar, and are subject to approval. If you would like to change your last name, or make more significant changes to your diploma name, please contact the Office of the Registrar. Restrictions apply.
7. Confirm which address you would like to use as your diploma mailing address.
8. Next, please review the summary of your application before clicking on "Submit Request."
9. At the confirmation screen, you will be redirected to an Exit Survey sponsored by the Office of Assessment. Please continue with the Exit Survey to complete your application.

10. Once you have applied, you will be able to view your Application and Graduation status in DegreeWorks, near the top of your degree audit, under the section entitled "Student View." Upon applying you will be given an Application Status of "Active" and a Graduation Status of "Received, Pending Evaluation." Please check your status throughout the semester, and work with your advisor and resolving any deficiencies in a timely manner.

Degree certification timeline:

1. OAG Window: September 16 – October 15.
2. OAG Late Application Window: October 16 – October 31 (generates a $50 late fee).
3. First Audit: Begins immediately following Spring Phase I registration (November 18), and is expected to be completed by Spring Phase II registration (January 4 - January 13).
4. Second Audit: Begins immediately following Spring Phase II registration (January 13) and will be completed by March 8.
5. Following Second Audit, Degree Certification will inform departments that the Second Audit is complete, and any deficiencies not resolved by April 8, will cause the student's application to be inactivated.
6. On April 8, Degree Certification will inactivate applications for those students who are no longer eligible for graduation (see #'s 5 and 6 in the information above "For Advisors.")
7. Final Audit: Conducted on the Tuesday following Commencement.
8. Degree Certification will work with departments until 9am on Thursday morning to clear up deficiencies.
9. Degrees awarded Thursday afternoon.

IMPORTANT NOTE
This new online petitioning process requires your supervisor to review, audit and support your application through the GTAAN on-line system. It is your responsibility to ensure your supervisor has completed this stage. Without their on-line input your petition will not be accepted.

<u>Always</u> pre-register for the following term until such time as you have been certified for the degree. The best-laid plans sometimes fail! If you do not complete your thesis on schedule, your petition for graduation must be reactivated.

Engineering Communication, Deadlines & Travel

Engineering Communication

By unanimous vote, the MSE faculty decided that our Engineering Communication course (MSE 6754) must be taken on a letter-grade basis only.

Deadlines

Many institutional offices are involved in processing paperwork for formatting and submitting student thesis, degree petitions, program of study, and other related forms. It is the responsibility of the student to obtain and follow the deadlines set forth by these offices. Deadlines are printed in the OSCAR and are usually posted on the bulletin board in the MSE student mailroom. Other related websites are:
http://www.grad.gatech.edu
http://www.grad.gatech.edu/thesis
http://www.registrar.gatech.edu

Travel

Any student leaving Georgia Tech campus on Official Georgia Tech business must complete a Travel Authority Request (TAR). The TAR must be completed, approved by your advisor, and submitted to the MSE Finance Office prior to departure. This is required even if no cost is incurred by the traveler. If there are expenses to the traveler, failure to complete the TAR prior to departure could result in the denial of reimbursement of the travel expenses. It is your responsibility to be knowledgeable of all travel requirement prior to traveling. For the complete guidelines on travel, please see the Travel Section of the Institute Policies and Procedures.

Appendix A: Resources

- **Computer Availability and Use:** Each student is issued a password and user number for the campus computers shortly after entering graduate school. A card containing this information is mailed to the student's post office box. The password is to be kept confidential and should not be available to anyone else.

Graduate students in Materials Science and Engineering also have access to the personal computers in the MSE Cluster located on the second floor of the MRDC II - Love Building. The Cluster may be accessed by your Buzz card. Several student PC's are also available in shared graduate student offices. In addition, students have access to many public clusters available about the campus.

Computer facilities are available only to serve needs directly related to class assignments and research; they are not for personal use. Use of computers for personal or commercial activities is not permitted.

- **Use of Laboratories:** The School of Materials Science and Engineering maintains laboratories to support research and instructional programs. Graduate students are encouraged to become familiar with these laboratory facilities. All laboratories have faculty, graduate students and staff members assigned who are responsible for maintenance. New graduate students must contact the faculty member in charge of a particular laboratory if he/she would like to receive training to use equipment located in that laboratory. After completion of the training, the student may request access to the laboratory and authorization to operate equipment without supervision.

The Mechanical Properties Research Laboratory (MPRL) is a facility with advanced equipment for research in mechanical properties of materials. Priority of equipment use is given to funded MPRL research projects. However, others may use the facilities by requesting time. Interested students should see the MPRL lab manager..

- **Purchase Orders:** Purchases of equipment and other items require the submission of a "Purchase Request" form available in the Materials Science and Engineering Business Office located in Room 289. A faculty member must approve the request and supply the necessary research account number to which the purchase is to be charged. Purchases of items for research and other projects must be planned in advance so that a minimum number of separate requests are submitted.

Appendix B: Programs of Study

For the "Present schedule to be completed" section on the Program of Study, these courses should be semester courses. Special indication is not necessary.

Example:

Course	Number	Credit Hours	Basis
ISyE	6775	1	L/G
ISyE	7653	3	L/B

Total = 4 S

For the "Actual Hours Submitted" section on the Program of Study, the semster hour requirements for the Thesis and Non-Thesis option is as follows:

	With Thesis Option One		Without Thesis Option Two
	Required Actual	Required Actual	Required Actual
Credit Hours in Major Field	12	12	18
Credit Hours 6000-9000 Level	12	12	21
Coursework Hours*	24	18	30
Minimum Thesis Hours	6	12	n/a
Total Credit Hours for Degree	30	30	30

*If student has completed 18 hours of coursework, 12 thesis hours are required.
If student has completed 24 hourse of coursework, 6 thesis hours are required.

Please note:

1. Students are allowed to use a maximum of 3 semester hourse of P/F coursework (excluding thesis hours) toward their degree.
2. Graduate students with a special status are allowed to use a maximum of 16 semester hours earned as a special student toward their degree. Students MUST petition to use hours in EXCESS of 16 semester hours earned as a special student toward their degree.

Appendix C: Guidelines for Ph.D. Dissertation Research

Guidelines for Ph.D. Dissertation Research

1. The research should provide a useful educational experience for the student, emphasizing creativity, independent action and learning, research methodology, and scholarly approach.
2. The research must be relevant to the field in which the student is pursuing a degree.
3. The contributions to knowledge must be original and, as such, should represent a substantial addition to the fundamental knowledge of the field or a new and better interpretation of facts already known. The research must demonstrate creativity. Theses based on well-known principles, techniques, and models applied to situations only somewhat different from previous applications are not acceptable.
4. The dissertation should contain clear statements about (a) the relevance and importance of the problem and (b) the significance, originality, and generality of the research results. The relationship of the research to the literature of the field should be described.
5. The research should possess the major characteristics of the scientific method, namely objectivity and reproducibility. Assumptions should be clearly stated in both experimental and theoretical research.
6. The dissertation should reflect a level of competence indicative of significant achievement beyond the master's level. Thus, the research is expected to draw directly upon advanced learning in the student's major field and demonstrate mastery of that knowledge.
7. The dissertation must demonstrate understanding of the theory and methodology related to its main thrust. Further, the dissertation should reflect knowledge of the application area.
8. The research should result in at least one paper publishable in a suitable refereed journal of engineering, science, management or architecture, as appropriate.
9. The dissertation should demonstrate a high degree of proficiency in written communication of research results. It should conform to the Institute's requirements as outlined in the Graduate Office's "Manual for Graduate Theses."
10. The scope of the research should be such that it requires at least the time and effort equivalent to one year of full-time graduate study.