2014-2015

# Graduate Student Handbook

Department of Materials Science and Engineering
IOWA STATE UNIVERSITY

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## Introduction

With its internationally recognized faculty, world-class research facilities, and an atmosphere of discovery that naturally stems from a leading technological university, the Graduate Program in Materials Science and Engineering is the heart of a dynamic research department, striving for groundbreaking advancement in science, innovation in engineering and technology, and true integration of research and academics.

The graduate program is built on a foundation of thermodynamics, kinetics of phase transformations, mechanical behavior, physical properties, solid state science, and the structure and chemistry of materials. Advanced studies are offered in many areas of materials science and engineering, including the design and control of materials for structural, electronic, photonic, magnetic, optical, and biological functionality. The department awards M. Engr., M.S., and Ph.D. degrees in Materials Science and Engineering. An opportunity to complete and obtain a certificate in Nondestructive Evaluation (NDE) is also an option for students. Graduates of the program have a fundamental understanding of the critical aspects of the field and how they are applied to real materials systems. The M.S. and Ph.D. programs are highly flexible and research-oriented, where students work closely with their major professor in tailoring the various academic and research components to match their interests.

Our graduates have the ability to address complex problems in materials science while considering the various constraints inherent to both academic and industrial environments; they are well prepared for a wide range of academic and research-related careers. They are skilled in carrying out independent and collaborative research, able to communicate effectively in formal and informal settings, and are proficient at writing technical articles.

The department has excellent research facilities and maintains a wide range of laboratories across the ISU campus. In addition, departmental research is highly integrated with several Research Centers, such as the Ames Laboratory, the Center for Nondestructive Evaluation, the Microelectronics Research Center, and the Center for Advanced Technology Development. These laboratories offer excellent resources and opportunities for graduate student research.

It is the sincere hope of the MSE faculty and staff that all students who become affiliated with the Department enjoy a stimulating and productive education and research experience. To facilitate such an experience, this handbook is intended to provide a clear description of the requirements and regulations that govern the departmental programs.

## Scope

This *MSE Graduate Student Handbook* outlines the special requirements and policies which have been adopted by the Department of Materials Science and Engineering with regard to its graduate program of study. This *Handbook* is intended to supplement the following university documents:

- The Graduate Catalog[1] (incorporated into the ISU Catalog),
- The Graduate College Handbook[2]
- The ISU Thesis Manual[3]

It is the responsibility of the student to become familiar with the program requirements outlined in all of these documents. If questions arise that cannot be resolved with the information contained in these documents, the student is encouraged to contact one or more of the following individuals:

- The student's Major Professor
- The MSE Graduate Program Coordinator (Jackie Kester)
- The MSE Department Director of Graduate Education (Xiaoli Tan)

## Graduate Degrees Offered by the MSE Department

The Department of Materials Science and Engineering offers the following graduate degrees:

- *Master of Engineering* in Materials Science and Engineering
- *Master of Science* in Materials Science and Engineering
- *Doctor of Philosophy* in Materials Science and Engineering

An appropriate background for entry into the MSE Graduate Program generally includes a B.S. degree (or higher) in materials science and engineering or a related field such as ceramic engineering, metallurgical engineering, or polymer engineering. However, the diversity of this field is such that students from a variety of backgrounds may be well suited for graduate studies in materials science and engineering. Accordingly, a background in physical sciences, life sciences, mathematics and computation, or in another engineering discipline may also be appropriate. It should be pointed out, however, that students from such fields may be required to take some basic coursework from the undergraduate MSE curriculum corresponding to the proposed field of graduate study. These courses would carry no graduate credit and would typically be taken concurrently with graduate level courses in the major area. In most cases this does not increase the duration of the student's Program of Study.

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[1] Available from the Registrar's Office, 214 Enrollment Services Center

[2] Available from the Graduate College Office (room 1137 Pearson Hall) or on-line at http://www.grad-college.iastate.edu/publications/gchandbook/homepage.html

[3] Available from the University Bookstore, Memorial Union or on-line at http://www.grad-college.iastate.edu/publications/thesismanual.html

**Application to the MSE Graduate Program**

Application for admission to the MSE Graduate Program at Iowa State University is made through the Iowa State Graduate College application procedure described on the Graduate College website. The online application form is available at (http://www.admissions.iastate.edu/apply/graduate.php). Along with the application form itself, this page includes a "How to Apply" instruction set, Letter of Recommendation forms, and the Financial Statement form for international students.

As indicated on the Graduate College website, a complete application to the MSE Graduate Program includes the following:

- ISU Graduate College application form
- Full resume or curriculum vitae
- GRE general test scores (Applicants who have earned a B.S. from Iowa State University, Materials Science & Engineering are not required to present GRE scores.)
- Three letters of recommendation
- Personal statement of purpose and research interests
- TOEFL test scores (This requirement applies only to certain students. See Graduate College guidelines. The Internet-based TOEFL test format is recommended.)

**Admission to the MSE Graduate Program**

In accordance with the minimum qualifications specified in the Graduate College Handbook, the MSE Department will consider for admission only those applicants holding (or scheduled to receive within one year) a bachelor's or advanced degree from an accredited U.S. institution or from a recognized foreign institution where the requirements for the bachelor's degree or its equivalent are similar to those at ISU. Applicants are required to submit scores from the Graduate Record Examination (GRE) General Examination, although this requirement is waived for applicants who have earned a B.S. degree from the MSE Department at ISU. Applicants whose native language is not English are required to present a TOEFL (Test of English as a Foreign Language) score of 79 (internet-based test format) or higher; this requirement may be waived for students who have earned a B.S. or M.S. degree from an English-based-instruction university.

All applicants meeting these minimum requirements will be considered for admission by the Graduate Studies Committee (GSC) upon receipt of a completed application package (see next section). In most cases, acceptance will require sponsorship from a major professor. Therefore, applicants are encouraged to examine faculty research areas (www.mse.iastate.edu), to make inquiries regarding possible sponsorship, and to state preferences for a major professor in the personal statement of purpose that must accompany the application to the Graduate Program.

Upon preliminary acceptance by a sponsoring major professor, applicants will be notified of "intent to admit" by the MSE Office. Formal admission to the MSE Graduate Program can be granted only by the Graduate College, at the request of the MSE Department Chair or the MSE Director of Graduate Education (DOGE). Any other offer or statement of admission should be considered preliminary.

Any hard copy application materials are to be submitted to the University Office of Admissions at the following address:

Office of Admissions
Iowa State University
100 Enrollment Services Center
Ames, IA 50011-2011

Attn: Graduate Admissions

Only complete application packages will be considered for admission to the Graduate Program.

Once all required materials have been received, applications will then follow a prescreening by the MSE Department. At this time the application will either be denied if it is found to be deficient or forwarded to the general MSE faculty for consideration for open graduate research assistant positions if it is found to be meritorious for admission. Applicants will be notified if they have been selected for an open position. Applicants not selected will be contacted and may be given the choice to either renew for circulation at a later date, withdraw their application, or enroll as self-supporting students without assistantship support. For international students, proof of financial means is required for admission as a self-supporting student.

**BS/MS Concurrent Enrollment Program**

A *Concurrent Enrollment Program* is offered for undergraduate students at Iowa State University who wish to begin a graduate program of study while completing a B.S. degree in Materials Engineering. Students in the concurrent degree program may apply up to 6 credits of major or non-major graduate credit courses, at a level of 500 or above, to both the B.S. and M.S. programs of study, subject to Program of Study Committee approval.

Admission to the concurrent enrollment program is based on demonstrated academic excellence where students must have a cumulative GPA of 3.50 or higher to be considered. Interested students may apply to the program during the Fall semester of the academic year *prior* to the academic year of graduation. Selection of students for admission to the program is announced during the Spring semester of that same year. Interested students are encouraged to speak to their undergraduate academic advisor prior to applying to this program. Each Fall semester, a general information session is held for undergraduate students interested in applying to graduate school, including MSE's BS/MS.

A student admitted to the BS/MS program will be eligible for a ¼-time research assistantship. Students may qualify for ½-time graduate assistantship as soon as the total number of credits applied toward the BS/Graduate degree equal the minimum number of credits required for a B.S. degree. However, <u>this change from a 1/4- to 1/2-time assistantship is not automatic</u>. The student must complete the Concurrent Assistantship Increase form. This form must be approved by both the student's academic advisor and the student's major professor. The form can then be submitted to the Graduate Program Coordinator to initiate the increase.

Students enrolled in the BS/MS program may not be eligible for certain types of undergraduate financial aid. Students receiving financial aid for undergraduate studies are advised to discuss the restrictions that may apply to their own situation with the Financial Aid Office.

**Concurrent Enrollment (BS/MS) Application Procedure**

1. Identify a major professor.
2. Obtain recommendation from undergraduate advisor.
3. Complete MSE Concurrent Enrollment Approval Form
4. Complete Application for Concurrent Graduate Degree Form
5. Create Concurrent Proposed Graduate Plan (CPGP)

Forms found at - http://www.mse.iastate.edu/undergraduate/program-of-study/concurrent-degree-program/

**MSE Graduate Student Responsibilities**

Graduate students are responsible for submitting forms and documents in compliance with all policies of the Graduate College and the Department of Materials Science and Engineering. This section contains a list of these responsibilities. Students should refer to the ISU Graduate Handbook for more information regarding Graduate College requirements. The MSE Department requests that all forms are to be submitted through the Graduate Program Coordinator (GPC). A flowchart for these program requirements is given in the Appendix.

**Graduate English Requirement**

Graduate students whose native language is not English and who do not have an undergraduate degree from ISU or another English-speaking university must take the Graduate English Placement Test prior to the start of their first semester of enrollment. This test is administered by the Department of English. Students who do not pass this examination will be required to complete and pass one or more courses in English, as assigned by the Graduate College. This coursework must be completed during the first year of graduate enrollment.

**Sponsorship by a Major Professor**

Normally all graduate students must obtain major professor sponsorship by the start of the second semester of enrollment. Students should contact the Director of Graduate Education (DOGE) if they have been unable to gain sponsorship with a major professor. Authorization for graduate student registration beyond the first semester must be granted by the major professor. Under special circumstances, authorization may be granted by the DOGE. In the rare cases

when a major professor cannot be assigned, the student will be referred to the full GSC for appropriate help and action.

### Program of Study Committee

The student, in consultation with the major professor, will establish a Program of Study (POS) Committee. By the end of the second semester of enrollment, the graduate student must submit a Recommendation for Committee Appointment (RCA) form, with all appropriate signatures. For all policies regarding the composition and responsibilities of the POS Committee, the student is referred to the Graduate College Handbook. By the end of the third semester of enrollment (typically one calendar year), the student must submit a POS form, with all committee member signatures, to the GPC for DOGE approval. The form will automatically be forwarded to the Dean of the Graduate College for final approval.

### Request for Preliminary and Final Oral Examinations

At least three weeks prior to the scheduled preliminary and final oral examinations, the student must submit to the Graduate Program Coordinator (GPC) a “Request for Preliminary Oral Examination” or a “Request for Final Oral Examination” form. This form must be accompanied by a presentation title and abstract. The form will be reviewed by the GPC and forwarded to the Graduate College. The student is responsible for scheduling the oral examinations.

### Reports of Preliminary and Final Oral Examinations

If the “Request for Preliminary or Final Oral Examination” form is approved by the Graduate College, a “Report of Preliminary or Final Oral Examination” form is sent back to the major professor. At the conclusion of the oral examination, this form must be completed by the major professor and signed by all members of the POS Committee. It is the student’s responsibility to ensure that this form is immediately submitted to the GPC, who will forward it to the Graduate College.

### Application for Graduation (Diploma Slip)

Any graduate student planning to receive a degree must submit to the Graduate College an “Application for Graduation” form by the end of the first week of classes in the semester of graduation.

### Graduate Student Approval Slip for Graduation

After the final oral examination and no later than the deadline date for the semester of graduation, graduating students must submit the “Graduate Student Approval Slip for Graduation” form to the Graduate College. The form is sent to the student’s major professor when the Request for Final Examination is approved. Students must obtain the first signature and bring the form to the Graduate College for the final two signatures along with the

Thesis/Dissertation submission form. (Thesis/Dissertation form required only for M.S. and Ph.D. degrees.)

### MSE Graduate Program Grade Average Requirements

All graduate students are required to maintain a cumulative GPA of 3.0 or higher out of 4.0 for all graduate coursework. Additional eligibility requirements apply to Ph.D. students; see specific requirements for the Ph.D. Program.

## Specific Requirements for the M. Engr. Degree

### Coursework

As a minimum, every M. Engr. POS in MSE must include:

- 30 total credits, none of which may be MSE 699
- 9 credits from MSE 510, 520, 530, and 540
- 21 credits must be MSE 5XX or 6XX courses, including the 9 credits described in the previous item
- 9 credits of 300-level or above courses in technical disciplines other than MSE*

### Creative Component

A creative component may be included as part of a M. Engr. Degree in MSE. If the student chooses to complete a creative component, a maximum of 3 credits of MSE 599 may be included in the 21-credit MSE course requirement.

### Thesis and Oral Examination

No thesis is required for the M. Engr. Degree. A final oral examination is required only if a creative component is included in the program of study.

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* Graduate College policy on undergraduate coursework:

- No 100- or 200-level classes may be used, but all 300- and 400-level classes at Iowa State (not undergraduate classes from other institutions) will be eligible.
- Up to three courses at the 400 level will be permitted, or a POS may include one 300-level class and two 400-level classes.
- If a 300-level class is used, it must be from outside of the student's major (see Graduate College Handbook for further information on courses outside of the major).

## Specific Requirements for the M.S. Degree

### Coursework

As a minimum, every M.S. POS in MSE must include:

- 33 total credits
- 20 credits of coursework including a minimum of 9 credits of MSE 5XX or 6XX coursework and 2 credits of MSE 601 (SEMINAR*).
- 12 credits of MSE 699 (Research)
- 1 credit of Responsible Conduct of Research in Science and Engineering (GRST 565)

* M.S. degree students will be required to have 2 credits of MSE 601X (SEMINAR) to receive the M.S. degree. Students earn 1 credit for each semester of attendance at the seminars. Students with special circumstances that prevent them from attending a sufficient number of semesters of seminars to meet the requirement may petition the Graduate Studies Committee to have this rule waived.

### M.S. Thesis

The M.S. thesis document must be prepared using the guidelines and formatting requirements of the Graduate College. A copy of the thesis and a title and abstract must be presented to each POS Committee member and the GPC (for public display) at least two weeks prior to the scheduled final oral examination. At this time, the oral examination date, time, and place will be submitted to the GPC. Final versions of the M.S. thesis will be submitted to the Graduate College in accord with the requirements listed in the Graduate College Handbook. One electronic copy of the final version of the M.S. thesis must be submitted to the GPC for department files.

### M.S. Thesis Presentation and Oral Examination

No later than the published Final Examination Deadline for the semester of graduation, the student must complete and pass a final oral examination consisting of two parts: (1) a presentation of the thesis work in the form of a formal seminar that is open to the public, and (2) an oral examination by the POS Committee, which will immediately follow the seminar and which may include thesis topics and other topics, at the discretion of the POS Committee. (See also: Request for Oral Examination.)

## Specific Requirements for the Ph.D. Degree

Coursework

As a minimum, every Ph.D. Program of Study in MSE must include:

- 72 total credits
- A minimum of 27 coursework credits, including:
  - course credits necessary to satisfy the MSE core requirements†
  - non-MSE credits may be used, approved by the Program of Study Committee for graduate credit.
  - 5 credits of MSE 601 (SEMINAR) in MSE seminar*
  - 1 credit of Responsible Conduct of Research in Science and Engineering (GR ST 565)
- A minimum of 36 credits of MSE 699 (research – graded as A,B,C,D,F)

* Ph.D. degree students will be required to have 5 credits of MSE 601X (SEMINAR) to receive the Ph.D. degree. Students earn 1 credit for each semester of attendance at the seminars. Students with special circumstances that prevent them from attending a sufficient number of semesters of seminars to meet the requirement may petition the Graduate Studies Committee to have this rule waived.

Note: Eligibility for the Ph.D. Preliminary Examination requires a minimum grade point average of 3.30 for all MSE graduate coursework and for all MSE 699 credits (computed separately).

The Ph.D. Core Requirement

As a part of the coursework requirements, Ph.D. students are required to complete a 15-credit core. To satisfy the core requirement, a Ph.D. student must:

- complete MSE 510, MSE 520, MSE 530, and MSE 540 (earning a grade of "B" (not B-) or better in each course, as described in the next section); and
- complete one of the following courses: MSE 521, MSE 564, MSE 569, MSE 630, MSE 651, MSE 652x, or EM 516.

† Students holding an M.S. in MSE from Iowa State University may apply credits earned during M.S. degree study toward meeting the Ph.D. course requirements, consistent with Graduate College guidelines.

Ph.D. Qualifying Standard (replaces former PhD Qualifying Examination)

Students wishing to become eligible for the Preliminary Ph.D. Oral Exam must meet the Ph.D. Qualifying Standard (QS). The QS is met by earning a grade of "B" (not B-) or better in each of the four MSE 5x0 courses: MSE 510, 520, 530, and 540.* Students who receive a grade lower than "B" in a core course, may take the core course a second time; if a "B" or better grade is received on the second attempt in the course, that portion of the QS is considered to be satisfied. Alternatively, a student who has received a grade lower than a “B” in one or more of the MSE 5X0 core courses may satisfy the QS by requesting and passing a special QS oral examination to be administered by the MSE faculty in the appropriate “core” subject(s) listed below corresponding to the 5x0 course involved:

- The Structure and Chemistry of Materials
- Thermodynamics and Kinetics of Materials Systems
- Physical Properties of Materials
- Mechanical Behavior and Structure-Property Relations in Materials

A student who twice receives a grade lower than "B" in a given MSE 5x0 core course or who requests a QS oral exam and fails will not be permitted to continue as a Ph.D.-seeking student. In that event, the Major Professor will make a recommendation for dismissal from the program or continuation in the M.S. or M. Engr. Program.

Ph.D. Preliminary Examination (PE)

The Ph.D. Preliminary Examination (PE) consists of a written document that is compatible with ISU dissertation template and approved by the POS committee, and a Preliminary Oral Examination. The PE is typically completed by the end of the fifth semester of enrollment or the third semester after receiving the M.S. degree. The PE is a public event with all MSE students and faculty members encouraged to participate in the discussion.

To be eligible to take the PE, a student must:

- have satisfied the QS requirement, and
- hold a minimum GPA of 3.0 for all courses taken, and
- hold a minimum GPA of 3.3, averaged over all 500-level and 600-level MSE courses taken, not including MSE 699, and
- hold a minimum GPA of 3.3 averaged over all MSE 699 credits.

All requests for the PE will be reviewed by the GPC to ensure that these requirements have been satisfied. A copy of the written Graduate Research Proposal must be delivered to each POS Committee member and the GPC (for public display) at least two weeks prior to the PE.

* Transfer credits are not allowed for MSE 510, 520, 530, or 540.

At this time, the examination date, time, and place will be submitted to the GPC. (See also: Request for Oral Examination.)

The Ph.D. PE meeting will consist of two parts. The first portion of the meeting is devoted to public presentation and discussion of the research topic, literature review, preliminary research results, and the proposed final research plan. The second portion of the meeting will include an examination and discussion period conducted only by the members of the POS committee and is closed to the general public. This part will be focused on the fundamentals of materials science and engineering as related to the research field of the candidate. The examination questions will be derived largely from the student's written proposal and oral presentation. The POS Committee will assign a single grade (pass, conditional pass, or fail) for the entire exam.

If a failing grade is assigned, the student may retake the examination. At least six months must elapse between the first and the second attempts (see Graduate College Handbook). If the student fails the second attempt, the student will not be granted Ph.D. candidacy, and the POS committee may recommend that the student pursue an M.S. or M. Engr. degree. If a "conditional pass" grade is assigned, then a schedule of specific student actions will be assigned by the POS Committee and monitored by the major professor. The specific actions and the criteria for "release of conditions" must be clearly stated on the "Report of Preliminary Oral Examination".

## The Ph.D. Dissertation Document

The written dissertation must be prepared according to the guidelines and formatting requirements of the Graduate College. A complete draft of the dissertation must be presented to each of the POS Committee members and the GPC (for public display) at least two weeks prior to the scheduled oral examination. At this time, the examination date, time, and place will be submitted to the MSE GPC. Final versions of the Ph.D. thesis will be submitted to the Graduate College in accord with the requirements listed in the Graduate College Handbook. One electronic copy of the final version of the Ph.D. dissertation must be submitted to the MSE Department Office for department records.

## Ph.D. Final Oral Examination

No later than the published Final Examination Deadline for the semester of graduation, the candidate must complete and pass a final oral examination consisting of two parts: (1) a presentation of the dissertation work in the form of a seminar that is open to the public, and (2) an oral examination conducted by the POS Committee that is closed to the public that immediately follows the public seminar; this may include dissertation material and other topics, at the discretion of the POS Committee. To be eligible for the Final Examination, a student must have passed the Ph.D. PE. All MSE faculty and students are strongly encouraged to attend the Ph.D. final examination and participate in the public portion of the examination. The Ph.D. defense will be graded by POS Committee members immediately after discussion (See also: Request for Oral Examination.)

## Requirements for a Graduate Minor Program of Study in MSE

Any student wishing to declare a formal minor in Materials Science and Engineering must take an appropriate complement of coursework as specified below. In addition, the POS Committee must include at least one MSE faculty member (to counsel the student regarding both coursework and research). Declaration of the Minor Program of Study must be made prior to completion of the PE.

| Degree | Minimum No. of MatE or MSE Credits | Stipulation |
|---|---|---|
| M.S. | 8 | Two or more of these credits from 500- or 600-level MSE courses |
| Ph.D. | 12 | Eight or more of these credits from 500- or 600-level MSE courses |
| * To be selected from list of courses approved by MSE Department, for major or minor credit (See Graduate Catalog). | | |

## Graduate Assistantships

Many, but not all of the graduate students in the MSE Department receive assistantship appointments. Most of these appointments are graduate research assistantships (GRA), supported primarily by research grants and contracts. In addition to traditional grants contracted through ISU, these may include contracts administered by the Ames Laboratory of the U.S. Department of Energy or by the ISU Institute for Physical Research and Technology (IPRT). All University, Ames Laboratory, and IPRT regulations applicable to C-Base (graduate student) appointees must be followed. These regulations and requirements are outlined in the Faculty Handbook, The Graduate College Handbook, and the employee's handbooks published by individual institutions. The graduate student is responsible for becoming fully informed about the obligations and privileges of his or her particular appointment. All graduate students on assistantship will be provided office or desk space and will have access to the equipment and facilities necessary to conduct the research associated with their assistantship and research assignments.

### Research/Teaching Load and Course Load

Appointments are usually made for quarter-time or half-time research or teaching duties and are most often for a 12-month period. Renewal appointments will be made, contingent upon the availability of funds and the student’s satisfactory academic progress, as determined by the

major professor, the POS Committee, and the GPC. To remain eligible for an assistantship, the student must be registered for the appropriate amount of coursework every semester as described in the Graduate Handbook section on course load requirements and limitations. The credit-hour limits for graduate students may be exceeded only in exceptional circumstances with the written recommendation of the major professor, the concurrence of the department chair, and approval of the dean of the Graduate College.

## Assistantship Stipends

There are two assistantship stipend levels for MSE Graduate Research or Teaching Assistants (GTA) based on degree program, as indicated by the 1/2-time GRA or GTA stipends listed below.

| Program | Monthly Stipend |
|---|---|
| MS | $ 1,800 |
| PhD | $ 2,083 |

## Assistantship Obligations

Graduate Assistants are expected to work a minimum of 20 hours per week on the research or teaching activities to which they are assigned. The assistantship research is usually in the same area as the student's thesis work, and the results of the research may be used to help satisfy the academic requirements for the degree; however, the effort expended to meet the terms of the assistantship appointment must be over and above that which is required for the thesis research credits (MSE 699) being earned by the student. As a general guideline, three hours of work per week per credit of MSE 699 is expected. However, this rate varies somewhat with the nature of the research and the specific phase of the problem with which the student is involved. The criteria for earning MSE 699 credits will be determined by the major professor.

## Fringe Benefits of the Graduate Assistantship

In addition to the stipend, graduate assistants have an opportunity to participate in the University group health insurance program, are assessed only in-state fees regardless of their residency status, and are eligible for tuition scholarships established by the University. Arrangements for a leave of absence are made between the graduate assistant and the major professor. Standard professional courtesy is expected from all parties with regard to absence requests.

## Graduate Tuition Scholarships

Graduate students appointed to Graduate Assistantships (GRA or GTA) 1/4-time or more (except those also holding traineeships, fellowships, or contracts that provide funds for payment of tuition and/or fees), are assessed tuition at the full resident (in-state) rate. In

addition, the Graduate College may pay a tuition scholarship covering a portion of the resident tuition for each eligible graduate assistant, except those students on restricted admission or on academic probation. The Graduate College tuition scholarships are not paid directly to the student, but are applied to the student's tuition bill. The scholarship award amounts are listed below.

| *Assistantship* | *M.S. Student* | *Ph.D. Student* |
|---|---|---|
| 1/4-time GRA/GTA | 25% | 50% |
| 1/2-time GRA/GTA | 50% | 100% |

For fall and spring semesters, a student must be on appointment for at least three months during the semester to qualify for a Graduate College tuition scholarship. For summer session, a student must be on appointment for at least six weeks during the term to qualify for a Graduate College tuition scholarship. For all terms, appointments must have been processed by the Graduate College before the end of the first full month of classes (i.e., usually around the fifth week of the fall or spring semesters). Graduate College tuition scholarships not used by the due date of the second fee payment installment will be forfeited.

Students who will not be on appointment for the summer session may still be eligible for the Graduate Assistantship tuition rate. This tuition rate is restricted to a summer session following a nine-month appointment. An eligible student must submit the "Application for Summer Resident Tuition Rate" form (on the Graduate College website) to the Graduate College after receiving departmental approval.

Graduate College Tuition Awards

Underrepresented students who are recruited to Iowa State University with offers of assistantship support are eligible for the Graduate College Tuition Award. The award pays for half of tuition for master's students and Ph.D. students. These amounts will provide fully paid tuition when combined with the Graduate College Scholarship. The award requires a 3.0 GPA minimum.

## The Major Professor

The major professor will serve as the principal student advisor for all matters related to research, academics, assistantships, and overall programmatic progress. The major professor will also serve as the primary evaluator of student performance and will be assisted by the Program of Study Committee and the MSE Graduate Program Committee.

Students may request a change in major professor assignment at any time. Such changes may result from a shift of the student's area of interest, medical problems that make the professor unable to continue serving as major professor, contract funding changes, personal incompatibility between the student and the professor, or other factors. However, a change of major professor made after an appreciable amount of time has been devoted to the initial program is likely to prolong the time needed to complete the degree requirements. Such an action should be considered carefully and requested only when clear and significant advantages to the student are apparent. Any student who feels that a change in Major Professor is desirable should immediately discuss the situation with the DOGE. When appropriate, the department will attempt to minimize financial disruption of assistantship support for students changing major professors, but it is not possible to guarantee continuation of GRA or GTA funding for students changing major professors.

## The Program of Study (POS) Committee

The POS Committee is chaired by the major professor and meets annually starting the 4$^{th}$ semester to review performance and provide the student with critically important academic and research direction. The membership requirements for the Committee have been established by the Graduate College so that the student will receive the most comprehensive and effective assistance for his or her specific area of work. For all policies regarding the composition and responsibilities of the POS Committee, the student is referred to the Graduate Student Handbook.

## Sources of Information and Assistance

Several sources of information are available to graduate students at Iowa State. These sources include the general references cited in the introduction section of this document and the listings of other offices and departments that provide a variety of student services. In addition, the individuals and materials described below are available to all MSE graduate students as sources of information and help. For specific contact information, see (www.mse.iastate.edu).

### The Director of Graduate Education (DOGE)

This faculty member is the Chair of the Graduate Studies Committee and is responsible for overseeing the administration of the entire Graduate Program. Questions regarding any aspect of the Graduate Program may be addressed to the DOGE.

The Graduate Program Coordinator (GPC)

This staff member is responsible for maintaining all official departmental documentation of graduate student progress and serves as the administrative liaison to the Graduate College.

The MSE Department Website

All relevant information concerning the MSE Graduate Program, including this handbook, can be found at the MSE Department Website (www.mse.iastate.edu).

The Graduate College Website

All relevant information concerning the ISU Graduate College can be found at the ISU Graduate College Website (www.grad-college.iastate.edu).

## Closing

This Handbook is intended to assist MSE Department graduate students in learning the procedures and regulations that apply to their academic programs. We welcome suggestions regarding ways in which future editions might be made more useful.

The faculty and staff of the MSE Department wish all students every success in their graduate and professional careers. We pledge our continuing efforts to help our students while they are with us and to serve them in any possible way after they graduate.