

Department of Industrial Engineering

Graduate Handbook



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<b>1</b>	<b>INTRODUCTION .....</b>	<b>1</b>
1.1	WELCOME AND PURPOSE OF THIS HANDBOOK .....	1
1.2	CONTACT INFORMATION .....	1
<b>2</b>	<b>PROSPECTIVE STUDENTS .....</b>	<b>2</b>
2.1	APPLYING TO IE AT CLEMSON .....	2
2.2	ADMISSION REQUIREMENTS .....	2
2.2.1	<i>English language proficiency</i> .....	2
2.3	TRANSFER CREDITS .....	3
2.4	DIRECT ADMISSION TO THE PH.D. PROGRAM.....	3
2.4.1	<i>Duplication of degrees</i> .....	3
2.4.2	<i>Undergraduates involved in Graduate Programs</i> .....	3
2.5	SOUTH CAROLINA RESIDENCY .....	4
2.6	UNIVERSITY EMPLOYEE ENROLLMENT .....	4
2.7	INTERNATIONAL STUDENTS.....	4
2.7.1	<i>Student expenses</i> .....	4
2.7.2	<i>Student visa</i> .....	4
2.7.3	<i>Social security number</i> .....	5
2.8	COSTS .....	5
2.9	ASSISTANTSHIPS (RESEARCH ASSISTANTS AND TEACHING ASSISTANTS).....	5
2.10	HOUSING AND AREA INFORMATION .....	5
<b>3</b>	<b>ENROLLED STUDENTS .....</b>	<b>6</b>
3.1	ORIENTATION .....	6
3.2	STUDENT RESPONSIBILITIES .....	6
3.3	ACADEMIC INTEGRITY .....	6
3.3.1	<i>Definitions, explanations and examples of violations of academic integrity</i> .....	6
3.3.2	<i>Levels of seriousness of violation</i> .....	7
3.3.3	<i>Graduate Academic Integrity Committee</i> .....	7
3.3.4	<i>Academic research</i> .....	7
3.4	MAINTAINING ACADEMIC STANDING.....	8
3.5	OTHER IMPORTANT GRADUATE SCHOOL POLICIES AND PROCEDURES.....	8
3.6	HARASSMENT .....	8
3.7	DRUGS, ALCOHOL, SMOKING.....	9
3.8	GRIEVANCE POLICY AND OMBUDSMAN INFORMATION.....	10
3.9	DEPARTMENTAL RESOURCES AND RESPONSIBILITIES .....	11
3.9.1	<i>Computer access and use</i> .....	11
3.9.2	<i>E-mail</i> .....	12
3.9.3	<i>Mailboxes and personal mail</i> .....	12
3.9.4	<i>Keys</i> .....	12
3.9.5	<i>Building security, maintenance</i> .....	12
3.9.6	<i>Use of departmental office resources</i> .....	12
3.9.7	<i>Student offices/desks</i> .....	12
3.9.8	<i>Faculty offices</i> .....	13
3.9.9	<i>Dress code</i> .....	13
3.9.10	<i>Student photos</i> .....	13
3.9.11	<i>Student travel and awards</i> .....	13
3.9.12	<i>Inclement weather</i> .....	13
3.10	CAMPUS FACILITIES AND RESOURCES.....	13
3.10.1	<i>Emergencies</i> .....	13
3.10.2	<i>Graduate Student Government</i> .....	13
3.10.3	<i>Counseling services</i> .....	13

3.11	PROFESSIONAL DEVELOPMENT .....	14
3.11.1	<i>Career planning</i> .....	14
3.11.2	<i>Professional and student organizations</i> .....	14
3.12	GRADUATE SCHOOL DEADLINES AND FORMS .....	14
3.12.1	<i>The GS2 and GS2-14 Forms</i> .....	144
3.12.2	<i>General Thesis and Dissertation Guidelines</i> .....	155
3.12.3	<i>Planning</i> .....	155
3.12.4	<i>Formatting guidelines and electronic submission</i> .....	16
3.12.5	<i>Patent, copyright/publishing information</i> .....	16
3.12.6	<i>Application for diploma</i> .....	166
3.13	FINAL CHECK-OUT .....	17
3.14	APPEALS PROCESS .....	17
3.15	ASSISTANTSHIPS/FINANCIAL SUPPORT .....	17
3.15.1	<i>Description of assistance available</i> .....	17
3.15.2	<i>Minimum enrollment</i> .....	19
3.15.3	<i>Employment-related information</i> .....	19
3.15.3.1	<i>Income taxes</i> .....	19
3.15.3.2	<i>Paydays</i> .....	19
3.15.4	<i>Paperless pay</i> .....	19
3.15.5	<i>Work injury protocol</i> .....	19
3.15.6	<i>Workload</i> .....	19
3.15.7	<i>Work product</i> .....	19
3.15.8	<i>Reduction of pay</i> .....	20
3.15.9	<i>Vacation policy</i> .....	20
3.15.10	<i>Military leave policy</i> .....	20
3.15.11	<i>Holidays</i> .....	20
3.15.12	<i>Termination of pay</i> .....	20
<b>4</b>	<b>THE DOCTOR OF PHILOSOPHY DEGREE .....</b>	<b>21</b>
4.1	SUMMARY OF PH.D. DEGREE REQUIREMENTS .....	21
4.1.1	<i>Residence for doctoral degree</i> .....	21
4.1.2	<i>Coursework restrictions</i> .....	22
4.2	BREADTH REQUIREMENT .....	22
4.2.1	<i>Substitutions for Breadth Courses</i> .....	22
4.3	DEPTH REQUIREMENT .....	23
4.4	SUGGESTED FIRST-YEAR PHD STUDENT COURSE PLAN (REQUIRED COURSES) .....	23
4.5	DOCTORAL EXAMINATIONS .....	23
4.5.1	<i>Qualifying Examination</i> .....	24
4.5.2	<i>Comprehensive Examination</i> .....	24
4.5.3	<i>Optional Additional Meetings</i> .....	25
4.5.4	<i>Doctoral Dissertation Defense</i> .....	25
4.5.5	<i>Exceptions to Exam Policies</i> .....	25
4.6	ADVISOR REQUIREMENT AND ADVISORY COMMITTEE .....	26
4.7	DISSEMINATION EXPECTATIONS .....	26
4.8	PROCEDURES AND DEADLINES .....	26
<b>5</b>	<b>THE MASTER OF SCIENCE DEGREE .....</b>	<b>27</b>
5.1	THE CORE KNOWLEDGE REQUIREMENT .....	27
5.2	NON-THESIS OPTION .....	27
5.2.1	<i>M.S. Non-thesis Program Requirements</i> .....	27
5.2.2	<i>Becoming a non-thesis student</i> .....	28
5.2.3	<i>IE 8900 Enrollment and IE 6000 Enrollment</i> .....	28
5.2.4	<i>Program Focus Areas</i> .....	28

5.2.5	<i>Students Enrolled in the BS/MS Option</i> .....	29
5.3	THESIS OPTION .....	29
5.3.1	<i>M.S. Thesis Program Requirements</i> .....	30
5.3.2	<i>Becoming a thesis student</i> .....	30
5.4	PROCEDURES AND DEADLINES.....	30
<b>6</b>	<b>THE MASTER OF ENGINEERING DEGREE</b> .....	<b>31</b>
6.1	COURSES .....	31
6.2	PROCESS AND PROCEDURES.....	31
6.2.1	<i>Schedule of courses</i> .....	32
6.2.2	<i>Appeals process</i> .....	32
6.3	APPLYING TO THE PROGRAM.....	32
6.3.1	<i>Applying to the MEng program at Clemson</i> .....	32
6.3.2	<i>Admission requirements</i> .....	32
6.3.3	<i>Transfer credits</i> .....	32
6.3.4	<i>Costs</i> .....	32

# 1 INTRODUCTION

## 1.1 Welcome and Purpose of This Handbook

Welcome to the Department of Industrial Engineering at Clemson University. We wish you success at every stage of your academic journey.

This handbook is intended to familiarize you, as a graduate student in IE, with the requirements, policies and procedures involved throughout your graduate experience. The rules and regulations provided in this handbook govern our academic programs and describe the duties and responsibilities of graduate students in the department. These rules and regulations, developed through the years and in conjunction with the Graduate School, have proven to be beneficial for both students and faculty in the department. In addition, this handbook provides useful information and resources to ease and enhance your experience in the program. Each student is expected to be familiar with the contents of this handbook.

These rules and requirements are in addition to and subordinate to those described in the *Graduate School Announcements*, which you can find through the Graduate School office in E-108 Martin Hall or at [www.registrar.clemson.edu/html/catalogGrad.htm](http://www.registrar.clemson.edu/html/catalogGrad.htm). Any inconsistencies within this handbook or between this handbook and the *Graduate School Announcements* should be brought to the attention of the Graduate Coordinator. The Graduate School website has additional information about the community, the University (e.g., available resources and activities), and resources for students (e.g., housing, events and activities).

## 1.2 Contact Information

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Ms. Monique Williams  
Student Services Coordinator  
[Moniquw@clemson.edu](mailto:Moniquw@clemson.edu)  
118 Freeman Hall  
864-656-4785

Here are the people to contact with common problems:

Computer issues: Email [ithelp@clemson.edu](mailto:ithelp@clemson.edu)

Keys and administrative matters: Ms. Wirtz

Academic issues or curriculum: Committee Chair or Dr. Stanley

Emergencies: Dr. Stanley or Dr. Smith

## 2 PROSPECTIVE STUDENTS

### 2.1 Applying to IE at Clemson

The online application can be found at [www.grad.clemson.edu/Admission.php](http://www.grad.clemson.edu/Admission.php). In the banner on the left-hand side, there is a large orange button entitled “Apply Now!” that will get you started. Once the online application is complete and application fee is paid, students can check the status of the application process by clicking on a large purple button “Application Status Check” and follow the instructions.

Admission decisions are made independently of funding decisions; hence, gaining admission *does not* imply that funding is available or will be offered. The Graduate School officially notifies students of admissions decisions, not the Department of Industrial Engineering or the IE Graduate Coordinator.

The following sections describe various aspects of the application process.

### 2.2 Admission Requirements

Minimum requirements to be considered for admission generally follow those of the Graduate School (see *Graduate School Announcements* at [www.registrar.clemson.edu/html/catalogGrad.htm](http://www.registrar.clemson.edu/html/catalogGrad.htm)). Minimum requirements include at least a four-year bachelor’s degree from an institution whose scholastic rating is satisfactory to the University, a high quality of previous academic record, and satisfactory scores on the general portion of the Graduate Record Exam (GRE) and the Test of English as a Foreign Language (TOEFL), if applicable.

It is expected that applicants to the IE graduate program will have earned baccalaureate degrees in engineering, physical sciences, mathematics, or other related majors with strong mathematical backgrounds. Entering graduate students are assumed to have competence in calculus, probability and statistics, and computing.

Upon receipt of all admission materials, the Graduate Committee in IE will evaluate the application regarding admission. Students who are judged to have the background and motivation to be successful in the program are accepted, and affirmed by the Graduate School. There are no minimum score requirements. However, students admitted to the IE Graduate Program typically have:

- An undergraduate grade point average (GPA) of at least 3.0 or above (on a 4.0 scale). Students with a Master’s Degree typically have a GPA above 3.5 in their graduate courses.
- Scores on the Graduate Record Exam (GRE) that exceed 160 (old score of 700) on quantitative.
- Scores on the Test of English as a Foreign Language (TOEFL) that exceed 100 (iBT) or 600 (PBT) for international students.

If the student’s performance on these measures is not consistent with the guidelines, it is important that the reference letters and the statement of purpose provide the Graduate Committee with additional information as to why the student should still be considered for admission to the IE Graduate Program.

Completed applications received before the deadline posted on the IE Graduate Program website will receive full consideration. You may find some helpful information about admissions from the following websites:

- <http://www.clemson.edu/cecas/departments/ie/academics/grad-programs/index.html>
- <http://www.grad.clemson.edu/admission/faq.php>
- <http://www.grad.clemson.edu/admission/>

#### 2.2.1 English language proficiency

A graduate student whose native language is not English may be required by the Graduate Committee or their Advisor to complete English 1110 (English as a Second Language) or an approved course from one of Clemson’s ESL affiliates.

## 2.3 Transfer Credits

Clemson University policy does not allow automatic transfer of graduate credit. Students with graduate credit earned at another institution, in another department at Clemson University, or earned before admission to this program must have prior work evaluated for transfer credit. Requests for transfer credit to the program must be recommended by your Advisory Committee and approved by the Program Coordinator, the Department Chair and the Dean of the Graduate School. The request must be in writing for each course or credited activity to be transferred. An official transcript, catalog description and syllabus or other supporting documentation must accompany each request. Grades earned for courses taken at institutions other than Clemson University will not be included in the student's academic GPA. It is the student's responsibility, not the Major Advisor's or the department, to request a transcript of transfer credits be sent directly to the Graduate School.

In any case, the number of credit hours that may be transferred from an accredited institution will not be greater than one-third of the graded course work required for a master's degree. For the doctoral degree, up to 48 semester credit hours of work may be transferred. No more than 12 semester credit hours earned in a non-degree status at Clemson University can be applied to a degree program.

Transfer credit will not be awarded for research, internships, courses graded pass/fail, or course work in which the grade received is lower than a B or its equivalent. No credit will be given for continuing education units, correspondence, extension or in-service courses or for concentrated courses and workshops that award credits at a rate exceeding one credit per week. Course work completed outside the six-year time limit may not be transferred to Clemson University or validated for graduate credit. See the *Graduate School Announcements* for more information regarding transfer credits ([www.registrar.clemson.edu/html/catalogGrad.htm](http://www.registrar.clemson.edu/html/catalogGrad.htm)).

## 2.4 Direct Admission to the Ph.D. Program

If a student has a bachelor's degree in a field approved by the department, but not a master's degree, they may apply directly to the Ph.D. program.

### 2.4.1 Duplication of degrees

The holder of a master's degree in a given field that was received at another institution may not become a candidate for another master's degree in the same field at Clemson.

### 2.4.2 Undergraduates involved in Graduate Programs

Undergraduate students majoring in Industrial Engineering at Clemson may take courses for graduate credit in two ways:

- Seniors with a minimum cumulative grade-point ratio of 3.0 may apply to take graduate courses while continuing to pursue their bachelor's degrees. If successfully completed, these courses may be eligible to be counted either (1) in lieu of one or more required undergraduate classes or (2) as graduate credits to be used at Clemson or transferred elsewhere. (See Graduate School form GS-6 for details.)
- Students may apply to take up to 12 semester hours of courses and have them count towards both the bachelor's and master's degrees in Industrial Engineering. To take advantage of this opportunity, students must have a minimum cumulative GPA of 3.4, must have completed the junior year and must have a record that will allow them to be admitted to the graduate program. (See Graduate School form GS6BSMS for details. *Note: It is important to identify these courses as "graduate credit" and not as replacing a requirement of the undergraduate program. Please see the Graduate Coordinator for further details.*)

Students should consult with their Undergraduate Advisor and the Graduate Coordinator before enrolling in graduate courses. If approved, the student must complete the appropriate form, including obtaining all required signatures. When this form is complete with all approvals, the student receives

conditional admission to graduate school dependent only on successful completion of the undergraduate degree. Under no circumstances can 6000-level counterparts of 4000/6000 courses required in the bachelor's program (e.g., 6610, 6650, 6820) be counted toward master's requirements if the bachelor's degree is earned at Clemson University. Additionally, 8910, 8920, 8950, and 9910 will not be accepted in the undergraduate program and cannot be included in the 12 semester hours that count towards both the B.S. and M.S. degrees. Determination of whether the classes count towards the non-thesis M.S. degree will be made by the student's Advisory Committee.

## **2.5 South Carolina Residency**

Many students are interested in establishing residency in South Carolina for the purpose of paying in-state tuition. The South Carolina residency laws call for you to establish legal ties with the state; in general, you must wait one year before establishing legal ties. Thus, you should take steps near the beginning of your program to initiate the process of becoming a South Carolina resident.

The legislation defining residency sets forth a fairly strict set of criteria for the administrative approval of residency requests. The Office of Residency Classification handles all the information regarding domicile requirements for residency status. Due to the frequency of changes implemented by the state legislature in past years, those criteria are not elaborated here. If you are interested in establishing South Carolina residency, review the up-to-date information at [www.clemson.edu/SCResident/](http://www.clemson.edu/SCResident/). Questions should be addressed to the Office of Residency Classification (G-01 Sikes Hall, (864) 656-2281).

## **2.6 University Employee Enrollment**

With the approval of the appropriate dean or director, a qualified employee of Clemson University may pursue graduate work for credit. However, no member of the faculty or staff who has a rank higher than instructor or its equivalent may be considered as a candidate for an advanced degree in the academic department where you are employed. Payment of the application fee is required.

You must make up any time spent in class during normal working hours under a schedule acceptable to your employment supervisor. Flexibility will be given to accommodate class schedules, but you must work out conflicts with your supervisor. You must complete a master's degree within six years of commencing the program; the Ph.D. must be completed within five years of satisfactory completion of your comprehensive examinations.

## **2.7 International Students**

### *2.7.1 Student expenses*

International students must certify access to a minimum of one year's estimated expenses. Form IS-50 can be accessed from <http://www.clemson.edu/administration/ia/services/forms.html>. You may also contact the Office of International Affairs (E-303 Martin Hall, 864-656-3614) for more information.

### *2.7.2 Student visa*

You are responsible for maintaining legal status with the US Department of Homeland Security during your studies. Form DS-2019 (J-1 exchange visitor visa certificate) is usually issued to students who are funded by their home government or by an international organization. If no organizational sponsor is involved, an I-20 (F-1 student visa certificate) will be issued.

When a student's application to the Graduate School has been accepted and their language and financial abilities are certified, Campus Immigration Services will issue an I-20 or DS-2019. The student should take this document to the nearest US Consulate to apply for a nonimmigrant student visa. For more information and details about applying for your visa, see the Office of International Affairs



International Services website at <http://www.clemson.edu/administration/ia/services/index.html> or contact them at 864-656-3614.

### 2.7.3 Social security number

If you are an international student receiving an assistantship, you must bring your offer letter to Clemson. You should then go to the Social Security Administration in Anderson, S.C., for a Social Security Number or meet with the Social Security Administration representative in Martin Hall on the dates indicated by the Graduate School. You should then see the Account Fiscal Analyst in 100D Freeman Hall. She will provide you with the paperwork that you must take with your signed Social Security card to the Foreign National Payments Coordinator in E-303 Martin who will complete the necessary paperwork to assist you with getting on the payroll. Be sure to bring the following:

- U.S. Visa
- Unexpired foreign passport
- I-94
- IAP-66/I-20

You *must* call for an appointment before going to the Foreign National Payments Coordinator's office. The telephone number is (864) 656-5589.

## 2.8 Costs

For current tuition and fees, see [www.grad.clemson.edu/Financial.php](http://www.grad.clemson.edu/Financial.php). Graduate students with assistantships may choose to defer tuition and fees. This means that fees and tuition costs will be deducted from the first six full paychecks of the semester. For more information about academic costs, financial aid and making payments, contact the Office of Student Financial Aid (G-01 Sikes Hall, (864) 656-2280) or the Bursar's Office (G-08 Sikes Hall, (864) 656-2321).

## 2.9 Assistantships (Research Assistants and Teaching Assistants)

Award decisions are based on academic record, test scores, statement of purpose, and letters of recommendation. Assistantships for entering students are almost exclusively reserved for those who already have an M.S. degree in Industrial Engineering or a closely related field. In other words, the vast of majority of students who are admitted to our Ph.D. program are provided with assistantships. M.S. students should be prepared to finance their entire program of study. Occasionally, some of our M.S. students who perform at a high level after enrolling at Clemson are funded in later semesters. More specifically, M.S. students may be eligible for assistantships if they are (1) enrolled in full-time graduate studies, (2) in high academic standing, and (3) making satisfactory progress toward their degree. Tuition and fees for students receiving support are combined into a reduced flat fee. To receive this reduced fee in a particular semester, a qualified student must be on the department payroll by the end of the second week of that semester.

TA and RA assistantships are awarded on a semester-by-semester basis and are not guaranteed in subsequent semesters. If you do not receive an RA or a TA assistantship, there may be other employment opportunities for graduate assistants or other positions around campus (like food service, campus police, etc.) after enrollment.

## 2.10 Housing and Area Information

Information about housing, transportation (CAT bus and Greenville LINK), and student life are provided on the Clemson University Graduate School website <http://www.grad.clemson.edu/>.

### 3 ENROLLED STUDENTS

#### 3.1 Orientation

University and Departmental orientations are now provided on-line. For the University orientation, go to the Graduate School web page (<http://www.grad.clemson.edu/>), and there is a “Newly Accepted Students Guide” that you can reach from the Current Students link. For the IE Department orientations, go to IE Graduate Programs webpage (<http://www.clemson.edu/cecas/departments/ie/academics/grad-programs/index.html>) locate your degree, and follow the link to the orientation pages.

#### 3.2 Student Responsibilities

The faculty members in IE expect you to approach your graduate study in a professional manner. This is a job and, as such, you should expect to work at least 45-50 focused hours per week on your studies and research. It should also be noted that graduate students may not be allowed all breaks/holidays afforded to undergraduate students.

#### 3.3 Academic Integrity

A university is a community of scholars dedicated to the inquiry into knowledge. It follows as a basic tenet that students will conduct themselves with integrity in academic pursuits. In instances where the academic standards may have been compromised, Clemson University has a responsibility to protect this process and to respond appropriately and expeditiously to charges of academic misconduct.

A summary of the Graduate School’s policy on academic integrity, current as of press time, follows. For a complete text of the policy, including rules and procedures, and specifics related to former students, academic research and revocation of academic degrees, see the “Academic Regulations Index” section of the CU Gradspace website at <http://gradspace.editme.com/Policies> and the *Graduate School Announcements* at [www.registrar.clemson.edu/html/catalogGrad.htm](http://www.registrar.clemson.edu/html/catalogGrad.htm).

##### 3.3.1 Definitions, explanations and examples of violations of academic integrity

- 1) Cheating. Cheating involves giving, receiving or using unauthorized aid on any academic work submitted for grading including coursework, laboratory assignments, research projects, comprehensive and qualifying examinations, theses and dissertations or using computer center account numbers that belong to another person without the permission of the account owner. Unauthorized aid includes collaborating with classmates or others when explicitly prohibited, using online paper mills or paying individuals to prepare research papers, reports or projects, submitting identical work to satisfy the requirements of more than one class without the approval of the faculty, or using textbooks, notes, the web and other sources when instructed to work alone.
- 2) Fabricating/falsifying information. Fabricating or falsifying information involves actions such as making up data that were not collected, stating that studies were conducted that were not, indicating that original source material was read when information was obtained from secondary or tertiary sources, making up references not used or identifying sources that were not consulted.
- 3) Facilitating violations of academic integrity. Facilitating violations of academic integrity involves students intentionally assisting others to violate the principles of academic integrity (for example, allowing friends access to their work, or instructing students on ways to solicit aid on papers, projects, take home exams, tests for state and national licenses, etc).
- 4) Failing to cite contributors. Failing to cite an author or multiple authors involves not giving credit to individuals who have contributed significantly to a work (paper, research project, poster, etc.) and claiming the final product as one’s own.
- 5) Plagiarizing. Plagiarizing is theft of the work accomplished by someone else. It includes copying words, phrases, sentence structure, computer code or files, images, or ideas from any source and attributing

the work to one's own efforts. Blatant examples of plagiarism include failure to use quotation marks, to indent text of more than three lines and failure to cite consulted sources either in footnotes, endnotes or within the body of the text of a document. More subtle examples of plagiarism include paraphrasing or using others' conceptual frameworks for developing creative works without acknowledgement or permission or citing a source within the text but then directly quoting the materials without the use of quotations marks or text indentation. For more information about and examples of plagiarism visit <http://gradspace.editme.com/AcademicGrievancePolicyandProcedures#integritypol>.

- 6) Thwarting others' progress. Thwarting others' progress involves editing, deleting or otherwise destroying computer files that belong to another person or intentionally stealing or destroying property which prevents others from using it to gain needed information to complete assignments, for example, library materials on reserve, materials on loan by a faculty member or reports and documents made available for student use by external companies, state and federal agencies, etc.

### 3.3.2 *Levels of seriousness of violation*

At the graduate level, it is expected that students exhibit sophistication in understanding the tenets of academic integrity. Even so, it is clear that some types of violations are more serious in nature than others and that some types of violations require deliberate, calculated actions on the part of the student. The Graduate School's policy categorizes academic integrity violations into four levels, ranging from an unawareness or minor misunderstanding, to an intention to defraud or otherwise engage in criminal-type activity. Each level of violation carries one or more sanctions, from verbal reprimand to permanent dismissal from the University; repeated violations, irrespective of the level, may result in more severe sanctions as well.

### 3.3.3 *Graduate Academic Integrity Committee*

The authority to resolve cases of violations of academic integrity by enrolled graduate students is vested in the Graduate Academic Integrity Committee (GAIC). The GAIC consists of four tenured faculty members from each of the five colleges and one graduate student from each college. An Associate Dean (AD) of the Graduate School serves as the non-voting administrative coordinator for the GAIC.

It is the responsibility of every member of the Clemson University community to enforce the academic integrity policy. Students and staff members should report violations of this policy to the faculty member for the affected course (including the research advisor or internship/practicum/co-op supervisor). When, in the opinion of anyone outside the University, there is evidence that a student has committed a violation of academic integrity, that person should bring the allegation to the attention of the AD of the Graduate School. The AD will contact the appropriate faculty representative of the student's program (consistent with the alleged violation).

When, in the opinion of the faculty member, a student has committed a violation of academic integrity, the faculty member will fully document the charge in writing in a statement delivered in a sealed envelope to the AD of the Graduate School. At the same time, at his or her discretion, the alleging faculty member is encouraged, but is not required, to privately inform the student charged of the nature of the allegation. Within three working days from the date the AD has received a formal charge of an alleged violation, he or she will provide the student with a copy of the charge and the procedures of the GAIC. Those procedures vary depending on the level of the violation and whether the student chooses to pursue a hearing. For more information about the procedures, refer to the *Graduate School Announcements* at [www.registrar.clemson.edu/html/catalogGrad.htm](http://www.registrar.clemson.edu/html/catalogGrad.htm).

### 3.3.4 *Academic research*

The effectiveness of the research infrastructure throughout the world is based on the personal and professional integrity of the people involved. The central assumption to all research endeavors is that researchers have done what they say they have done. The IE department is part of that infrastructure and the research conducted here must withstand the highest scrutiny. Consequently, we must all ensure that our scholarly work is conducted and reported with the highest ethical standards. We must be careful in our recordkeeping and diligent in our efforts to always attribute credit where it belongs. In particular, we must guard against any activity that would bring the integrity of the department or the individuals within it into question. Among the activities to be avoided are:

- Falsification of data – ranging from fabrication to deceptively selective reporting of results or methods, including the purposeful omission of conflicting data with intent to falsify results.
- Plagiarism – representation of another's work as one's own.
- Misappropriation of others' ideas – the unauthorized use of privileged information, however obtained.

By conducting research in the Department of Industrial Engineering, you enter into a covenant with the faculty and all of your student colleagues to uphold the highest ethical standards in research and that you will conduct your research and professional life in a manner consistent with those ideals.

### **3.4 Maintaining academic standing**

A graduate student must maintain a minimum overall average of B (3.0) for all courses taken. If at any time you fail to satisfy this requirement, you will be automatically placed on probation for one semester during which time you will not be eligible for financial aid/assistantship. You are permitted only one probationary semester during the entire course of your graduate program. In addition, a failing grade in a course in your major area may be a cause for dismissal regardless of your overall average.

The awarding of an advanced degree does not merely attest to completion of academic requirements in courses, seminars and research activities, but also to the acquisition of acceptable professional standards, including standards of ethics (see the University's Academic Integrity Policy). Violations of professional standards may result in disciplinary action, including dismissal from the program.

### **3.5 Other important Graduate School policies and procedures**

For other graduate school policies and procedures please see the Graduate School Policies webpage at: <http://gradspace.editme.com/policies>. Here you can find information about the policies and regulations related to incomplete coursework, enrolling in a class on a pass/fail basis, auditing courses, withdrawing from a course, enrollment and leave of absence policies, as well as the procedures for withdrawing from the University.

### **3.6 Harassment**

It is the policy of Clemson University to conduct and provide programs, activities and services to students, faculty and staff in an atmosphere free from harassment. Harassment is unwelcome verbal or physical conduct, based upon race, color, religion, sex, sexual orientation, gender, national origin, age, disability, status as a military veteran or protected activity (e.g., opposition to prohibited discrimination or participation in the statutory complaint process), that unreasonably interferes with the person's work or educational performance or creates an intimidating or hostile work or educational environment. Examples may include, but are not limited to, epithets, slurs, jokes or other verbal, graphic or physical conduct.

Harassment of University faculty, staff, students or visitors is prohibited and shall subject the offender to appropriate disciplinary action, including dismissal from the program. Employees or students

who feel they are victims of any form of discrimination are encouraged to consult the Office Access & Equity (E-103 Martin Hall, (864) 656-3181) for advice and assistance in resolving complaints.

In the event a graduate student wishes to appeal the resolution of the Office of Access & Equity, the student must submit a written request for an appeal to the Dean of the Graduate School, who in turn will convene an ad hoc committee that will review the process and/or sanction. The committee membership will come from faculty and students already appointed to the Graduate Council.

### Sexual harassment

Title VII of the Civil Rights Act of 1964, as amended, provides that it shall be unlawful discriminatory practice for any employer, because of the sex of any person, to discharge without just cause, to refuse to hire, or otherwise discriminate against any person with respect to any matter directly or indirectly related to employment. Harassment of any employee on the basis of sex violates this federal law. The Equal Employment Opportunity Commission has issued guidelines as to what constitutes sexual harassment of an employee under Title VII.

Unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature constitute sexual harassment when any of the following occurs:

- Submission to such conduct is made explicitly or implicitly a term or condition of an individual's employment or academic standing;
- Submission to or rejection of such conduct by an individual is used as a basis for employment or for arriving at academic decisions affecting an individual;
- Such conduct unreasonably interferes with an individual's work or academic performance, or creates an intimidating, hostile or offensive working or academic environment.

Sexual harassment of University faculty, staff or students is prohibited and shall subject the offender to dismissal or other sanctions after compliance with procedural due process requirements. In the event a claim of sexual harassment arises, the claimant may use University grievance procedures that have been established for faculty, staff and students as appropriate. This policy also prohibits an employee from sexually harassing a superior and a student from sexually harassing a faculty member.

### Amorous relationships

Amorous relationships that might be appropriate in other circumstances can be inappropriate when they occur between a faculty member, officer or supervisor of the University, and any student or subordinate employee for whom he/she has a professional responsibility.

Those in positions of authority inherently carry the element of power in their relationships with students or subordinates. It is imperative that those with authority neither abuse, nor appear to abuse, this power entrusted to them.

Officers, supervisors and members of the teaching staff should be aware that any romantic involvement with a student or subordinate employee could make them liable for formal action if a complaint is initiated. Even when both parties have consented to such a relationship, it is the officer, supervisor or faculty member who may be held accountable for unprofessional behavior. Difficulties can also arise from third parties who may feel that they have been disadvantaged by such relationships. Graduate assistants, research assistants, tutors and teaching assistants who are professionally responsible for students would be wise to exercise special care in their relationships with students they instruct or evaluate.

Any questions concerning these statements or Clemson University's Policy on Sexual Harassment should be directed to the Office Access & Equity (E-103 Martin Hall, (864) 656-3181).

## **3.7 Drugs, alcohol, smoking**

*Drugs:* The use, possession, distribution or dispensation of illegal drugs is strictly prohibited. Violation could result in your dismissal from the University.

*Alcohol:* Alcoholic beverages are prohibited for any activity held in any College of Engineering, Computing and Applied Sciences facility.

*Smoking:* In the interest of the safety and health of all the occupants of our buildings, no smoking is allowed in any classroom, hallway, laboratory, office or other public spaces.

### **3.8 Grievance policy and ombudsman information**

It is the policy of the Graduate School to address all grievances of an academic nature filed by enrolled graduate students. Graduate student grievances are heard by the Graduate Academic Grievance Committee (GAGC). The GAGC typically consists of three faculty representatives from each of the five colleges and one graduate student representative from each college. A six-member Initial Grievance Review Board (IGRB) is formed from among GAGC members and is responsible for determining which grievances will go forward to the GAGC.

#### Procedure

Grievances must be filed with the Graduate School within 60 days of the alleged act and may involve the following: violations of program, department, college or Graduate School policies related to final grades in courses or research (891 or 991); violations of program, department, college or Graduate School policies related to the completion of any academic requirement including theses and dissertations, and oral or written comprehensive examinations; and graduate student assistantship employment including offers of assistantship appointments made during recruiting not honored after enrollment.

At any time prior to filing a grievance, the student may consult with the University ombudsman charged with mediation in cases involving graduate students.

Any student wishing to file a complaint must first make every attempt to resolve it within the college. The student must first take the complaint to the faculty or staff member(s) involved. If no resolution can be reached, the student should request assistance from the department chair and the dean of the college.

If the grievance remains unresolved, the student may file the complaint with the Graduate School. The student must first meet with the Associate Dean of the Graduate School charged with oversight of the GAGC. The Associate Dean will describe the grievance process to the student. If the student wishes to proceed with the grievance, the Associate Dean will provide the student with Graduate School Form GSg-A, "Request to File a Grievance," which will enable the student to provide a written statement detailing the issue and his or her attempts to resolve it at the college level by documenting a) the dates of consultations at the college level, b) the names of those persons consulted, and c) the signature of the collegiate dean attesting that no resolution could be reached. The student must return the fully executed Form GSg-A to the Graduate School within 30 days of receipt from the associate dean. Students who fail to file the grievance within this timeframe forfeit their opportunity to proceed.

The student may seek external counsel (an advisor, an attorney, etc.) to assist with preparation of materials to submit to the GAGC. The student may request such individual accompany him or her to the hearing and may wish to proceed to prepare for this event. Questions concerning possible impacts on the student's graduate status should he or she not be successful in the grievance may be discussed at this time with the associate dean of the Graduate School.

The IGRB will determine if the complaint, as submitted on Form GSg-A constitutes a grievance under the Graduate School's policies. Grievable complaints will be addressed by a subcommittee of the GAGC appointed for the purpose of addressing the complaint in question. The subcommittee will convene an informal, closed hearing to recommend a resolution to the grievance. For more information about the

procedures, refer to the *Graduate School Announcements* at [www.registrar.clemson.edu/html/catalogGrad.htm](http://www.registrar.clemson.edu/html/catalogGrad.htm).

### University ombudsman

The ombudsman is an independent, confidential resource that provides assistance to faculty, graduate students and post-doctoral students in resolving problems, complaints and conflicts when normal processes and procedures have not worked satisfactorily. The Ombudsman's Office serves as a central information source on policies, procedures and regulations affecting faculty, graduate students and post-docs. The office refers individuals to persons able to resolve problems or handle appeals at the lowest possible level. Where appropriate, the ombudsman can facilitate and/or mediate communication between parties who find themselves in a dispute.

The ombudsman strives to ensure that faculty, graduate students and post-docs receive fair and equitable treatment within the University system. He provides an independent point of view in an informal and confidential environment. The ombudsman will not identify you or discuss your personal concerns with anyone without your permission. Private confidential meetings can be arranged at your convenience. All communications will be treated with strict confidentiality. The ombudsman works toward resolutions based on principles of fairness. He is neither an advocate for faculty, administration or students, nor an agent of the University, but is an advocate of fair processes.

The Office of the Ombudsman provides fair and impartial counseling to faculty members, graduate students and post-docs by: 1) addressing problems and concerns, and identifying and evaluating options to reach resolutions; 2) providing available resources within the University, particularly as to policies and procedures; 3) serving as a neutral party in conflict resolution; 4) opening lines of communication through mediation; and 5) recommending changes in University policies and procedures when necessary. The ombudsman assists in issues of harassment, academics, unfair or inequitable treatment, or any other University policy that you feel has been applied unfairly or erroneously.

The ombudsman, as a designated neutral, has the responsibility of maintaining strict confidentiality concerning matters that are brought to his attention unless given permission to do otherwise. The only exceptions, at the sole discretion of the ombudsman, are where there appears to be imminent threat of serious harm. The ombudsman must take all reasonable steps to protect any records and files pertaining to confidential discussions from inspection by all other persons, including management.

The ombudsman will not testify in any formal judicial or administrative hearing about concerns brought to his attention. When making recommendations, the ombudsman has the responsibility to suggest actions or policies that will be equitable to all parties.

Concerns can be directed to the University ombudsman by letter, walk-in, appointment or telephone: University Ombudsman for Faculty and Graduate Students and member of the Ombudsman Association, 101 Clemson House; telephone (864) 656-4353 or (864) 656-4957; email [ombudsman@clemson.edu](mailto:ombudsman@clemson.edu).

## **3.9 Departmental Resources and Responsibilities**

### *3.9.1 Computer access and use*

Graduate students will have access to computers in research labs, open departmental labs and in CCIT computer labs. Any problems with computers in department labs should be reported to [ithelp@clemson.edu](mailto:ithelp@clemson.edu).

CCIT offers numerous instructional short courses. Visit their website at <http://ccit.clemson.edu/training/> for details.

### 3.9.2 *E-mail*

E-mail is the most common medium used by the department and the University to communicate with you. Many events and information of importance to your success in the program are announced via email. It is very important, and you are expected to check your email regularly (at least once a day). If you are requested to respond, you should do so in a timely manner. There are resources available at <http://www.clemson.edu/ccit/> for accessing Clemson emails on mobile devices. There are also resources available for initializing google apps and g.clemson email addresses on the CCIT website. If you forward e-mail from you Clemson account to a private account such as Gmail, you take full responsibility for not receiving important or time-sensitive information due to malfunctions with the private account.

### 3.9.3 *Mailboxes and personal mail*

Each graduate student is assigned a mailbox, which you should check regularly. All personal mails are to be directed to your home address. The department is not to be used as your mailing address. The department assumes no responsibility for personal deliveries to Freeman Hall.

### 3.9.4 *Keys*

You will be issued keys to areas where you have been granted access and a building door key. Keys for other areas like research laboratories will be issued upon obtaining permission from the faculty member in charge of the lab. Students leaving the University through graduation or for an extended period of time for any reason *must* return all keys to the Office Manager. We recommend that you give your keys to the Office Manager any time you leave the country. A fee will be charged for any unreturned key.

The key(s) issued to you are for your use exclusively. You must never loan keys to anyone else, not even another graduate student. Failure to observe this rule may result in revocation of your key privilege. Unauthorized possession of a key to a University building is prohibited by South Carolina law. You are responsible for locking all rooms to which you have gained access with a key.

### 3.9.5 *Building security, maintenance*

Freeman Hall is normally locked after 5:00 pm on weekdays and throughout weekends. As you enter and leave the building, if it is locked, be sure that all doors are locked behind you. Should you discover a building problem, report this to the Office Manager. If something major is found wrong outside of normal office hours, inform the Graduate Coordinator and/or the Department Chair after you have called the University Security Office at (864) 656-2222.

### 3.9.6 *Use of departmental office resources*

Graduate students employed as teaching or research assistants may use the departmental copier and fax for official business associated with their employment. Use for any other purpose is strictly prohibited. The department does not furnish office supplies to graduate students for personal use. All use of office supplies while conducting contract-related research or as part of a teaching assistantship must be authorized by the appropriate faculty member. See the Office Manager for all requests of this nature.

### 3.9.7 *Student offices/desks*

It is the goal of the department to provide a desk for each graduate student. However, due to the limited available space, it may not be possible to accommodate each student. Therefore, a priority system is used which first assigns a desk to doctoral students, graduate assistants and graduate fellows, then to unsupported master's students. New students should see the Office Manager concerning a desk assignment.



### 3.9.8 *Faculty offices*

Faculty members carry out numerous duties, of which teaching and research are but two. Please observe faculty office hours when posted and arrange appointments in advance whenever possible. Do not enter a faculty member's office unless invited to do so.

### 3.9.9 *Dress code*

On December 3, 1969, the Board of Trustees of Clemson University delegated the power to the student body of Clemson University to recommend rules that regulate student conduct on campus. Clemson University does not have a dress code beyond that defined by local, state and federal laws. Consequently, beyond enforcing dress appropriate to the occasion for safety purposes, the Department of Industrial Engineering does not regulate dress codes. On the other hand, the faculty urges graduate students to dress appropriately for meetings and special occasions because others view you as representing yourself, the department *and* the University at these functions. If you are unsure of the guidelines, please ask your GS2 Advisor or the Department Chair for advice.

### 3.9.10 *Student photos*

At the beginning of each semester (as part of the new student orientation), photos of matriculating students are taken for the department directory.

### 3.9.11 *Student travel and awards*

The Committee Chair will inform students when travel is required as part of their duties in the Department and will provide student with details of the rules and regulations that are applicable. The Graduate Student Government (GSG) awards amounts of up to \$500 to full-time graduate students toward their attendance at conferences and other professional development events. See the GSG website for application information (<http://www.clemson.edu/students/cgsg/>).

### 3.9.12 *Inclement weather*

Cancellation of classes due to inclement weather is determined by University Administration and announced through local radio and television stations. University Administration attempts to alert students of any disruption of scheduled classes by 7 a.m. Separate announcements are made for the main campus and the University Center in Greenville.

## **3.10 Campus Facilities and Resources**

### 3.10.1 *Emergencies*

Call the 911 (or 9-911 from a Clemson phone) or Clemson University Police Department at 864-656-2222 for all major emergencies: fire, medical, police.

### 3.10.2 *Graduate Student Government*

The Graduate Student Government (GSG) is a University-wide organization of all graduate students for promoting graduate student interests. At the start of each fall semester, departmental GSG representatives are elected. The biweekly senate meetings are open to all graduate students. See the *Graduate School Announcements* ([www.registrar.clemson.edu/html/catalogGrad.htm](http://www.registrar.clemson.edu/html/catalogGrad.htm)) for more information, or contact the GSG office at (864) 656-2697. Your active participation in the Graduate Student Government is encouraged.

### 3.10.3 *Counseling services*

The demands of graduate school can sometimes seem overwhelming. If you feel you could benefit from talking to a counselor — about grad school stress or any other issue — you may be eligible to receive services from the Counseling and Psychological Services program (CAPS), located in Redfern Health Center. To learn about their current programs, visit the CAPS website at <http://www.clemson.edu/campus-life/campus-services/redfern/mental-health/> or call them at (864) 656-2451.

### **3.11 Professional Development**

There are a number of opportunities for you to develop professionally in addition to your coursework and research. These include presenting talks and/or posters at regional and national conferences, becoming a student member of professional organizations, and preparing for your eventual job search. In addition, the Graduate School provides professional development information on the [www.grad.clemson.edu](http://www.grad.clemson.edu) website.

#### *3.11.1 Career planning*

The Michelin Career Center provides information about market conditions and gives assistance in acquiring knowledge about your career opportunities and job requirements. The Center hosts career fairs each fall and spring, and offers workshops in a variety of career-related topics. The Center also provides information about internships and part-time and summer work. For more information, see their website at <http://career.clemson.edu> or call (864) 656-6000.

#### *3.11.2 Professional and student organizations*

Graduate students are encouraged to join the Clemson Student Chapter of the Institute of Industrial and Systems Engineers (IISE) that also provides membership in the national and local chapter as well. Additionally, if interested in Human Factors, students are encouraged to join Clemson University's Human Factors and Ergonomic Society Chapter.

### **3.12 Graduate School Deadlines and Forms**

The Graduate School sets deadlines according to the academic calendar for the semester in which you plan to graduate. Specific deadline dates for Graduate School forms can be found at <https://www.clemson.edu/graduate/students/deadlines.html>, departmental deadlines are contained in this document, and other deadlines will be sent to you from the Graduate Coordinator via your Clemson e-mail account. Graduate School forms are found at [www.grad.clemson.edu/forms/GeneralForms.php](http://www.grad.clemson.edu/forms/GeneralForms.php).

***Note to all graduating students: You do not need to fill out or file the GS7M or GS7D forms. These will be handled by the IE Department.***

#### *3.12.1 The GS2 and GS2-14 Forms*

The most common form request is the GS2 (Plan of Study – MS or PhD) or GS2-14 (Master's En-Route to PhD). Here are the possible form requirements when following an MS-related path:

1. Student pursuing M.S. non-thesis  
Submit a standard GS2 with courses listed appropriately;
2. Student pursuing M.S. thesis  
Submit a standard GS2 with courses and research listed appropriately;
3. Student obtaining M.S. non-thesis while pursuing Ph.D.
  - a. Submit the GS2-14 with courses listed to the Graduate Coordinator. Once approved, the Graduate Coordinator will get signatures from the Graduate Committee and the Department

- Chair. This signed GS2-14 form will be submitted to the Graduate School by the Administrative Coordinator;
- b. Also, submit a standard GS2 with courses and research listed;
4. Student obtaining M.S. with thesis while pursuing Ph.D. (not common)
- a. Submit the GS2-14 with courses listed to the Graduate Coordinator. Once approved, the Graduate Coordinator will get signatures from the Graduate Committee and the Department Chair. This signed GS2-14 form will be submitted to the Graduate School by the Administrative Coordinator ;
- b. Also, submit a standard GS2 with courses and research listed.

The GS2 form is the Plan of Study form required by the Graduate School for all graduate students and must be done electronically through iROAR. Submitting a GS2 has two steps: Committee Selection and Plan of Study. Committee selection must first be approved before an actual Plan of Study is submitted.

#### Committee Selection

- Students pursuing the M.S. degree via the non-thesis option will select three committee members from the IE Graduate Committee. The Graduate Coordinator serves as their committee chair; the Graduate Coordinator will inform the students by email the other two committee members during their second semester.
- Students pursuing the M.S. degree via the thesis option should have a minimum of three committee members and submit their GS2 during their second semester. Their thesis advisor will serve as the committee chair, and the students should consult with their advisors on the selection of the two other members.
- Ph.D. students should have a minimum of four committee members and submit their GS2 no later than the beginning of their fourth semester of study.
- In case students pursuing the M.S. degree via the non-thesis option and Ph.D. students have co-advisors, the students should select their committee chairs and other committee members first. The co-chair option is located at the far right end of the page. This turns the co-chair flag on, and then the student can select the co-chair.

#### Plan of Study

- When filling out the form, it is very important that the entire course name be typed out.
- All committee members will review the courses and research listed for accuracy before approval is granted.
- **As soon as the MS student reaches 30 graduate credit hours completed on their GS2, the Graduate School assumes the student is graduating.**

Detailed information is available at <http://www.clemson.edu/graduate/students/gs2-hints.html>

#### *3.12.2 General Thesis and Dissertation Guidelines*

All theses and dissertations shall be prepared in accordance with guidelines established by the Graduate School (see [www.grad.clemson.edu/Manuscript.php](http://www.grad.clemson.edu/Manuscript.php)). This guide provides advice on preparing an acceptable thesis or dissertation. You should consult this guide before beginning the writing phase of your graduate research. Pay particular attention to formatting requirements.

#### *3.12.3 Planning*

Task planning is a very important part of any research program. The deadlines for the tasks depend on the date of anticipated graduation and are presented in the *Graduate School Announcements*.

A list of the deadlines is also available from the Graduate School website, <https://www.clemson.edu/graduate/students/deadlines.html>. Failure to meet any of these deadlines will result in postponement of your graduation. You must allot sufficient time for writing the thesis or dissertation. It is highly recommended that you fully complete your thesis or dissertation before leaving the University. Many former students who left without completing their thesis or dissertation still have not completed their degree requirements. Experience shows it is very difficult to complete a report/thesis/dissertation after leaving the University.

#### *3.12.4 Formatting guidelines and electronic submission*

Once you have defended your thesis/dissertation, you must submit it electronically to the Manuscript Review Office of the Graduate School for formatting review. The Graduate School enforces specific formatting guidelines to ensure that your manuscript is considered credible and professional. Templates, examples and specific guidelines are provided on the Graduate School website (<http://www.grad.clemson.edu/Manuscript.php>) to assist you in formatting. You will not be allowed to graduate until the Manuscript Review Office has approved your final manuscript.

The Manuscript Review Office uses an electronic thesis/dissertation submission process (ETD). Hard-copy (i.e., paper) manuscripts will *not* be accepted. Not only does this process make your manuscript more accessible, but it also costs you much less due to the minimization of printing costs.

#### *3.12.5 Patent, copyright/publishing information*

Clemson University and the Department of Industrial Engineering retain full ownership rights to any inventions, discoveries, developments and/or improvements, whether or not patentable (inventions), which are conceived, developed or reduced to practice, or caused to be conceived, developed or reduced to practice by graduate students during the course of their research activities conducted as part of any Graduate School curriculum. Any such invention will be handled by the University in the same manner as set forth in The Faculty Manual of Clemson University (<http://www.clemson.edu/faculty-staff/faculty-senate/manuals.html>).

You will retain copyright ownership of your thesis or dissertation. However, the right to publish research will be maintained by the Department of Industrial Engineering. Copyright ownership of any research publications will be determined by University policy and by the policies of organizations responsible for publishing or distributing copyrighted materials.

All graduate students should keep a formal notebook for recording research procedures and results. Students are urged to study the recommendations for maintaining proper research records that are listed at the University's Intellectual Property Policy page (<http://curf.clemson.edu/technology-transfer/>).

All data, research notebooks and related materials (slides, pictures, graphs, publication reprints, etc.) generated by any graduate student within the department are the property of the department and will remain in the department after your graduation/departure. You must collect these materials and submit them to your Committee Chair before you graduate/depart. The major advisor will have final authority on the disposition of any or all of these materials.

#### *3.12.6 Application for diploma*

You must submit a formal application for a diploma to the Graduate School. You must complete this form online in the first four weeks of the semester in which you intend to graduate. Early submission is not accepted (e.g., do not complete the form in January if you do not plan to graduate until August or December, only if you plan to graduate in May). If you miss the deadline, you must contact Enrolled Services to receive a hard-copy version of the application; late fees will accrue at \$75 the first day after the deadline and an additional \$5 each business day thereafter to a maximum of \$125. If you submit the

form and, for some reason, do not graduate in that semester, you must re-submit in each term in which you hope to graduate thereafter.

If your name in the student database is not as you want it to appear on your diploma (due to marriage, etc.), you must contact Enrolled Services prior to submitting the Diploma Application form online. Any degree/major changes via form GS2 must also be processed before you submit the Diploma Application.

There is no fee to receive a diploma if you attend the graduation ceremony or agree to pick up your diploma in the Enrolled Services office in Sikes Hall. There is a \$10 fee assessed if you request that your diploma be mailed to you.

For more information, contact Enrolled Services at (864) 656-5339, if your last name begins with A-L, or (864) 656-5341 if your last name begins with M-Z.

If you choose to participate in graduation ceremonies, you should make arrangements for cap and gown purchase (or rental, if preferred, for Ph.D. gowns) at this same time. See the Clemson University Bookstore's website at [www.clemson.edu/bookstore/](http://www.clemson.edu/bookstore/) for deadlines and more information.

### **3.13 Final Check-Out**

When you leave the University due to graduation or any other reason, you must do the following pertaining to the department:

- Turn in all keys to the Department.
- Be sure that all equipment and supplies which you have drawn are returned to stock.
- Be sure that any portion of the lab or office that you occupied is clean and ready for another occupant. Please leave your lab or office in the condition you would have liked to have found it originally.
- Return all borrowed materials (books, journals, etc.) to their appropriate location.
- Inform the Program Coordinator that you are leaving and have complied with all regulations, and schedule an exit interview

### **3.14 Appeals Process**

Appeals for waivers to any of these policies and procedures are made to the Graduate Committee. You must outline the nature of your appeal and the desired outcome in writing, and submit the document to the Graduate Coordinator. A meeting of the Graduate Committee will be held and the decision will be communicated to you in writing.

*Any appeals for coursework to count towards a concentration must be made prior to the first day of classes in a given semester in order for the Graduate Committee to render a decision prior to the Add/Drop deadline for that semester.*

### **3.15 Assistantships/Financial Support**

The faculty members in Industrial Engineering understand that financial aid is of prime importance to many students. As described earlier, the vast majority of Ph.D. students who already have a master's degree in Industrial Engineering or a closely related field have assistantships. Unfortunately, very few entering M.S. students receive funding from the Department. Occasionally, some M.S. students who demonstrate a high level of academic achievements may receive assistantships in later semesters.

The following information provides more details on assistantships should you receive an offer at any point in your time at Clemson. Please read this very carefully so that you fully understand all requirements of the assistantship before you accept the offer.

#### *3.15.1 Description of assistance available*

Graduate assistantships are available in teaching and research. Graduate teaching assistantships include graders, laboratory assistants/instructors and teachers of record. These may be in the form of ¼-time (10 hours per week) ½-time (20 hours per week) or ¾-time (28 hours per week) appointments. Graduate research assistantships are generally made by individual faculty members to conduct research on specific projects. These may also be ¼-time, ½-time, or ¾-time appointments.

Fellowships are available from organizations outside Clemson University. Information on these opportunities is available from the department and from the Graduate School website ([www.grad.clemson.edu/fellowships.php](http://www.grad.clemson.edu/fellowships.php)).

Your responsibilities and details of your financial support are included in your official offer letter from the Department Chair and Graduate Coordinator. This letter requires your signature indicating your acceptance of the terms. (Teaching assistants will receive a separate communication with more detail as to their specific assignments, such as course sections, etc.) To maintain your assistantship, you must complete the duties in a satisfactory manner and make satisfactory progress toward your degree.

There are some overarching factors that govern both teaching and research assistantships.

- Continuation of assistantships and fellowships is contingent upon satisfactory academic performance, as well as satisfactory performance of assigned duties associated with the assistantship.
- All research contract- and grant-supported graduate assistantships are subject to continued funding by the contracting agency.
- *You are required to be on campus for the full term of your appointment as indicated on your offer letter. If you cannot be present on the first day prescribed on the offer letter, or if you cannot stay in Clemson until the final date on the offer letter, you MUST receive permission directly from your faculty supervisor. Alternatively, you can simply decline the offer.*
- All graduate students holding a teaching, research or graduate assistantship appointment at Clemson University shall be compensated based on a standard full-time (100%) equivalent (FTE) rate (12-month basis) established by the department. This rate shall also serve as the basis for all rate adjustments described below. Two standard FTE rates shall be established: one for master's students and another for Ph.D. students. Generally, all such appointments shall be ½-time appointments (50% of the standard FTE rate).
- Compensation at a rate exceeding the standard FTE rate is allowed according to the following guidelines:
  - Funds for such additional compensation may be derived from a fellowship, traineeship or similar form of award (e.g. NSF, Edwards or Alumni fellowships) in which the awardee is selected competitively from a group of applicants on the basis of scholarly excellence. In this case, such additional compensation is limited to a maximum of 25% of the standard FTE rate. In the event that such an award exceeds this limit, the assistantship appointment shall be diminished in like proportion such that the total compensation does not exceed 75% of the standard FTE rate.
  - Funds for such additional compensation may also be derived from a research grant or contract provided you had a significant intellectual role in preparing the research proposal leading to the grant or contract, as judged by your Committee Chair. In this case, such additional compensation is limited to a maximum of 25% of the standard FTE rate.
  - Upon each anniversary of your matriculation, your Committee Chair may, at his/her discretion, reward you for exceptional performance by increasing your pay rate in an amount not to exceed 15% of the standard FTE rate using either incentive, research contract or other funds derived from a similar source. NOTE: You are responsible for submitting the required paperwork to initiate the raise.

- The maximum compensation limit does not apply to students who do not hold a teaching, research or graduate assistantship appointment at Clemson University.

### *3.15.2 Minimum enrollment*

A minimum enrollment is required for appointment as a graduate assistant. During the academic year, the minimum enrollment is nine semester hours for all graduate assistants. Minimum enrollment in the summer sessions is three semester hours per session. An assistantship may be withdrawn at any time for failure to maintain satisfactory enrollment status.

### *3.15.3 Employment-related information*

#### *3.15.3.1 Income taxes*

The State of South Carolina, as well as the U.S. government, levies an income tax. Therefore, as a general rule, state and federal taxes will be withheld from your pay and you will need to file income tax returns with both the state and federal taxing agencies.

#### *3.15.3.2 Paydays*

Employees receive pay every two weeks for the period ending the 15<sup>th</sup>, and ending the 30<sup>th</sup> (or 31<sup>st</sup>) of each month. When you go on the payroll for the first time, you will have a two-week lag before you will be paid. This “lag pay” is paid out after your termination from your position.

#### *3.15.4 Paperless pay*

Stipend checks must be direct-deposited through the University system. You must fill out an “Authorization for Deposit of Net Pay” Form upon starting your assistantship. To view your pay stub and other employment-related information on [HR Self Service](#) (View Paycheck, Benefits, etc.). From the menu within Peoplesoft you are able to review paychecks, acquire tax information and access other employment information.

#### *3.15.5 Work injury protocol*

Should you be injured during the course of your employment responsibilities, you must immediately report the injury to your supervisor. Your supervisor should then immediately call the workers’ compensation insurance company. Their medical manager will gather information about the accident and direct you to a healthcare facility or physician for treatment. No coverage will be provided for work-related claims unless reported by your supervisor before you receive medical treatment at the authorized provider.

In the event of severe injury/emergency, call 911 first, and then execute the above procedures.

#### *3.15.6 Workload*

The normal ½-time graduate assistantship workload is 20 hours per week (average). Students are sometimes hired for 12.5% (5 hours), 25% (10 hours), 37.5% (15 hours) and 75% (28 hours) of full-time work, under appropriate circumstances. You should be aware of both your academic and work obligations, and are encouraged to discuss any problems with faculty.

#### *3.15.7 Work product*

Computer programs written, data generated, discoveries made, derivations developed, etc., in the course of your assistantship are the property of Clemson University.

### *3.15.8 Reduction of pay*

Normally, your agreed-upon workload will be submitted as hours worked for each payroll period. However, if the amount of work you perform consistently deviates below the required workload, your pay will be reduced accordingly. Due to the procedure in which time sheets are currently used, it may be necessary to implement any pay reductions in the pay period following the one in which the work deficiency actually occurred. Pay also may be withheld from students who violate the vacation policy (see below).

### *3.15.9 Vacation policy*

As a rule, graduate assistants do not accrue paid vacation time. Your work timeframe should *not* be perceived to be the same as the semester class schedule. In the event of a death in your immediate family, illness of a close family member or personal illness or hardship, you may request up to four weeks leave without pay per semester and one week of leave without pay per summer session from your immediate supervisor.

### *3.15.10 Military leave policy*

The Graduate School has ruled that a graduate student on military leave, for example summer camp, will not receive a stipend for the period of that leave. Students planning to take military leave should notify the departmental secretary of the inclusive dates. Short periods of about one week can be taken as regular vacation with no interruption in pay. Students leaving the campus for six weeks to attend summer camp must obtain written permission from the dean of the Graduate School to be excused from the continuous enrollment provision.

### *3.15.11 Holidays*

Graduate students are entitled to take as holidays the days on which the University is officially closed. See the official University holiday schedule at <http://www.clemson.edu/employment/benefits/holiday.html>.

### *3.15.12 Termination of pay*

Pay for any session will end when you leave Clemson or are no longer available for work assignments. Normal termination dates for the spring and fall semesters for students not continuing into the next session is graduation day. Any deviations from these dates must be approved by your Major Advisor or the department chair.



## 4 THE DOCTOR OF PHILOSOPHY DEGREE

The Doctor of Philosophy is the highest academic degree offered. The Ph.D. program emphasizes scientific and analytical foundations as well as concepts useful for practice at the highest professional levels. In addition to formal coursework, a Ph.D. student devotes significant time to independent study, participation in seminars, and preparation of a dissertation based on independent and original research. The basis for granting the Ph.D. includes:

- A grasp of the subject matter contained in the broad field of industrial engineering.
- Competency to plan and conduct independent and original research that contributes to knowledge in a focused area of industrial engineering.
- The ability to adequately and professionally communicate in oral and written form.

### 4.1 Summary of Ph.D. Degree Requirements

Pursuing a doctoral degree involves the following minimum requirements:

- It is mandatory for a Ph.D. student to have a Committee Chair by the end of their first Spring semester in the Ph.D. program. The Committee Chair must have an appointment in the Industrial Engineering department at Clemson. See Section 4.6 for further details.
- If a student wishes to continue in a Ph.D. program after obtaining an MS from the IE Department at Clemson University, or wishes to transition from an MS student into a PhD student, the student must complete an application to the Ph.D. program. The application includes a CV, statement of purpose, and three letters of recommendation. This includes having the support from at least one faculty member willing to serve as the Committee Chair. If admitted, the student needs to submit a GS-14 or GS2-14.
- Completing at least 18 credits of doctoral research (IE 9910) exclusive of any research credits earned at the master's level.
- Completing at least 12 credits of coursework, exclusive of IE 9910 research credits.
- Completing a minimum of:
  - 60 semester credit hours of graduate course work (including IE 9910 credits) beyond a baccalaureate degree; or
  - 30 semester credit hours of graduate course work (including IE 9910 credits) beyond a Master's degree.
- Passing all Doctoral Examinations.
- Satisfying the University's degree requirements addressed in the Graduate School Announcements.
- Finally, at least one-half of the total graduate credit hours shown on the GS2, exclusive of any dissertation research, must be selected from courses numbered 8000 or above.

#### 4.1.1 Residence for doctoral degree

Residence is a necessary concept in graduate education, particularly in the preparation of the dissertation. The purpose of residence is to require you to spend a specified minimum amount of time in direct personal association with members of the faculty of the University and under direct advisement of your Committee Chair and Advisory Committee, and to participate in other normal activities pertinent to graduate education such as seminars and close association with other student researchers.

To receive the Doctor of Philosophy degree, you must complete at least 15 hours of graduate credit including research credit hours (9910) on the Clemson University campus in a continuous 12-month period.

For students employed substantially more than ½-time, a statement specifying the manner in which the residence requirement is to be satisfied shall be formulated by your Advisory Committee and

included in your curriculum. Also, upon completion of the final examination, your Advisory Committee will forward to the Graduate School a statement approved by the department chair and college dean certifying that residence requirements have been met.

Exceptions to the residence requirement may be granted by the dean of the Graduate School. Committee Chairs seeking an exemption to this policy must submit an academic plan for the student that is signed by the Committee Chair and the department chair.

#### 4.1.2 Coursework restrictions

Students in the Ph.D. program cannot enroll in courses associated with the Master of Engineering (MEng) Program. This includes IE 8500-8590.

## 4.2 Breadth Requirement

Although the Ph.D. degree in Industrial Engineering (IE) at Clemson requires specialization in some discipline of IE, students must also acquire breadth of knowledge in their discipline. This breadth will facilitate collaborative research opportunities for IE students, and will allow them to be more versatile in their careers after graduation.

The breadth requirement for Human Factors PhD students focuses on one of the following courses:

- IE 8030 - Engineering Optimization and Applications 1-Deterministic OR: LP, Modeling

Or

- IE 8090 - Modeling Systems Under Risk: Probability, Discrete Time Markov Chains

The breadth requirement for Operations Research PhD students focuses on the following course:

- IE 8000 - Human Factors Engineering

The breadth requirement can be satisfied by one of the following mechanisms:

1. By taking the corresponding IE course and earning a C or better (or “pass”).
2. Via allowable substitutions of those classes taken at Clemson.
3. By petition to the graduate committee.

The third mechanism can be used to satisfy at most two classes. Those classes must be taken at the graduate level. Petitions must be made to the Graduate Committee within his/her first semester as a Ph.D. student at Clemson, but should be done before the first week of classes. This petition should include the course syllabus and textbook used (along with performance in the class). The committee will use this information, along with the student’s grade obtained in the course and institution at which the class was taken, to make a decision. Their decision will be final. To begin this process, download the Breadth Requirement Petition Form from the department website and submit the form and supporting materials to the student services coordinator.

**IMPORTANT NOTE:** Breadth requirement courses must be completed before the student takes his/her comprehensive exam.

#### 4.2.1 Substitutions for Breadth Courses

IE 8030 is considered to be a graduate-level introductory course to-deterministic OR (LP, modeling). If a student has prior knowledge in these areas, one of the following courses would be considered a suitable alternative:

- IE 8600 – Dynamic Programming
- IE 8800 – Advanced Methods of Operations Research
- MATH 8100 – Mathematical Programming

- MATH 8110 – Nonlinear Programming
- MATH 8130 – Advanced Linear Programming
- MATH 8140 – Network Flow Programming
- MATH 8160 – Network Algorithms and Data Structures

IE 8090 is considered to be a graduate-level introductory course to probability and discrete time Markov chains. If a student has prior knowledge in these areas, one of the following courses would be considered a suitable alternative:

- MATH 8030 – Stochastic Processes
- MATH 8170 – Stochastic Models in Operations Research I
- MATH 8180 – Stochastic Models in Operations Research II

The student has the option to appeal to the Graduate Committee for approval of a course not listed on either approved substitution list.

### **4.3 Depth Requirement**

Beyond the breadth requirements, all PhD students must meet their depth requirements. The depth requirement ensures that the PhD student acquires depth of knowledge in their general research areas.

The depth requirement for Human Factors PhD students focuses on the following five courses:

- IE 8000 (Human Factors Engineering)
- IE 8930 (Research Methods in Human Interaction)
- IE 8150 (Research Methods in Ergonomics)
- PSYC 8100 (Research Design & Quantitative Methods I) and PSYC 8110 (Research Design & Quantitative Methods II) or STAT 8010 (Statistical Methods I) and STAT 8050 (Data Analysis)

The depth requirement for Operations Research PhD students focuses on the following four areas:

- IE 8030 (Engineering Optimization and Applications) – Deterministic OR: LP, Modeling
- IE 8090 (Modeling Systems Under Risk) – Probability, Discrete Time Markov Chains
- IE 8800 (Advanced Methods of Operations Research)
- IE 8880 (Advanced Probabilistic Methods)

### **4.4 Suggested First-Year PhD Student Course Plan (Required Courses)**

- Human Factors students
  - Fall (9 hours) - IE 8000, PSYC 8100 or STAT 8010, 3<sup>rd</sup> course
  - Spring (9 hours) - IE 8150, IE 8930, PSYC 8110 or STAT 8050
  - 2<sup>nd</sup> Fall- IE 8030 or IE 8090
- Operations Research students
  - Fall (9 hours) - IE 8030, IE 8090, 3<sup>rd</sup> course
  - Spring (9 hours) - IE 8800, IE 8880, 3<sup>rd</sup> course
  - 2<sup>nd</sup> Fall - IE 8000

### **4.5 Doctoral Examinations**

Doctoral students are required to successfully complete three examinations: the Qualifying Examination, the Comprehensive Examination, and the Doctoral Dissertation Defense.

#### 4.5.1 *Qualifying Examination*

All Ph.D. students are required to take a written Qualifying Exam at the end of the first year of study in May. Students starting the PhD program in January of year  $n$  are expected to sit for the Qualifying Exam no later than May of year  $(n+1)$ , 16 months later. The purpose of this exam is to assess the student's depth of advanced knowledge in his or her chosen area of human factors or operations research. The Qualifying Exam is based on a core set of topics distributed to the students at the beginning of their first semester in the Ph.D. program. Students may need to acquire additional knowledge not taken in their coursework to master these topics. The Qualifying Exam is six hours long: three hours in a morning session and three hours in an afternoon session.

The human factors exam is divided into two parts. The student's core knowledge of human factors principles and theory are assessed in the morning, and their knowledge of methods and statistics are assessed in the afternoon. The operations research exam consists of two parts: deterministic operations research in the morning and stochastic operations research in the afternoon.

For both exams, a student is allowed to bring two two-sided sheets of notes (8.5" x 11"), one for the morning section and the other for the afternoon section. As both the human factors and the operations research exams are in two parts (morning and afternoon), a student's outcome on the exam will be one of the following:

1. Pass both sections = qualifying exam passed, student is eligible to continue in the PhD program
2. Fail both sections = qualifying exam failed, student is dismissed from the PhD program; student can work with the Graduate Coordinator to change their program of study to the Master's of Science in IE
3. Pass one section, fail one section = student may retake only the failed section in the middle of July, approximately two months after the initial qualifying exam attempt, if they choose to make another attempt.
  - a. Pass section being re-taken = qualifying exam passed, student is eligible to continue in the PhD program
  - b. Fail section being re-taken = qualifying exam failed, student is dismissed from the PhD program; student can work with the Graduate Coordinator to change their program of study to the Master's of Science in IE

#### 4.5.2 *Comprehensive Examination*

The purpose of the Comprehensive Examination is to test the student's ability to convey a deeper level of knowledge on subjects related to their chosen area of expertise, but not necessarily specific to their dissertation topic. The Comprehensive Exam should be attempted for the first time after the breadth requirement is completed, but not later than the student's third fall semester. Students who fail the Comprehensive Exam on the first attempt may be granted a second attempt by the Advisory Committee. The second attempt must occur within six (6) months of the first attempt. Failure of the second attempt will result in dismissal from the program. The Comprehensive Exam consists of a written portion and an oral portion.

*Please Note: The Breadth Requirement must be complete before the student takes his/her Comprehensive Exam.*

##### Written Portion

The student must submit their *research document* to the Advisory Committee. The format of the student's research document is flexible and up to the discretion of the student's Advisory Committee. Examples of the research document might be a research prospectus, dissertation proposal, or a paper submitted to a journal, as the Advisory Committee deems it appropriate. However, in all cases, there must be significant, unanswered research questions being proposed for future research.

A research prospectus document is typically 10-15 pages in length, single-spaced, in 12-point font. It might include an abstract, introduction, literature review, and research questions/research significance/potential research contributions. If appropriate, the student may also detail intended research directions along with a proposed timeline, experimental strategy, or analytical development tasks.

A dissertation proposal typically contains a few dissertation chapters, which may include the research topic, a description and citations of prior and recent research in the area that demonstrates an in-depth knowledge of the area, preliminary findings, and a proposed set of research questions.

Within 7-10 calendar days after the student submits their *research document*, the Advisory Committee will determine the exact nature and scope of the exam and construct a written examination to test the student's knowledge in their area of specialization within IE. The Advisory Committee's questions are released on a Friday, allowing the exam to span two weekends. After the student receives this examination, the student returns his or her answers to the written questions to the Advisory Committee within 10 calendar days.

#### Oral Portion

Within 7-10 calendar days after the student submits answers to the written examination, the student is required to take an oral examination. The oral exam is designed to take approximately two hours. The student will begin by presenting research ideas contained in their research document, followed by questions from the Advisory Committee regarding advanced book knowledge, components of the research plan, answers to the written exam questions, and other topics related to the proposed area of specialization. The committee will provide guidance on the desired scope and duration of the student research presentation that begins this portion of the exam.

#### 4.5.3 *Optional Additional Meetings*

In addition to the exams listed in 4.3.1 and 4.3.2, the student may also be asked to prepare materials for additional meetings as required by the student's Advisory Committee. For instance, the committee may require a proposal meeting or a progress update.

#### 4.5.4 *Doctoral Dissertation Defense*

The final examination is the Doctoral Dissertation Defense, in which the student presents the completed Dissertation to their Advisory Committee. There must be at least nine (9) months between receiving notification that the Comprehensive Exam has been passed and the Dissertation Defense.

The Dissertation Defense will be open to the University community. Each student must notify the date, time, location, and other details of their defense to the Graduate School. This notification is done by submitting the defense form available on the Graduate School website at least 10 days prior to the defense.

At least 10 calendar days prior to the Dissertation Defense, the student must submit their final dissertation to the Advisory Committee. This exam is designed for approximately two hours, where the Advisory Committee's examination typically focuses on the dissertation, but may include questions related to other components of the student's program as well. In the rare circumstance that a student fails the exam, the Advisory Committee may grant a second attempt; however, failure of the second exam will result in dismissal from the Graduate School.

#### 4.5.5 *Exceptions to Exam Policies*

Any exceptions to standard exam policies must be submitted to the Graduate Committee in the form of a petition. Such petitions will only be granted in extreme circumstances.

#### 4.6 Advisor Requirement and Advisory Committee

All Ph.D. students, after passing the qualifying exams, must always have a research advisor, select an Advisory Committee, and file Form GS2 (see Section 3.12.1). The Advisory Committee consists of a student's Committee Chair and at least three additional faculty members. Faculty members from outside the IE department are permitted to be members of the Advisory Committee; however, a simple majority of the committee (including Committee Chair) must be from the IE department.

If a student does not have an advisor for a span of 30 contiguous days after passing the qualifying exam, then that student's case is automatically brought to the graduate committee. The graduate committee can decide to (a) remove the student from the Ph.D. program, (b) articulate a set of requirements that the student must satisfy, by a certain date, or (c) table making a decision on the student until a given time. Option (c) requires the department chair's approval.

#### 4.7 Dissemination Expectations

The development of high-quality journal publications is a Ph.D. student's primary goal of their studies, and all Ph.D. students should expect enthusiastic and professional support from their advisors. The IE department will support students in whatever way possible toward the accomplishment of this aim. As such, IE Ph.D. students are expected to submit multiple articles to refereed journals during the course of their Ph.D. studies, perhaps with one or more accepted for publication, before the Dissertation Defense is scheduled. In addition, Ph.D. students are expected to present their research work at conferences.

#### 4.8 Procedures and Deadlines

There are some deadlines internal to the IE Department, as well as University and Graduate School deadlines. University and Graduate School deadlines can be found at: <http://www.clemson.edu/graduate/students/deadlines.html>. In addition, guidance on the formatting and submission process of theses and dissertations can be found at: <http://www.clemson.edu/graduate/students/theses-and-dissertations/index.html>.

Use the following checklist for Ph.D. deadlines within the Department.

Tasks	When to Complete
Select (in consultation with the appropriate department head) a major advisor	before the end of your second semester
Select advisory committee	before the end of your first year
Successfully Complete the Qualifying Exam	after the second semester if entering in Fall; during third semester if entering in Spring
Submit Plan of Study/Graduate Degree Curriculum ( <a href="#">Online GS2</a> ).	after your fourth semester
Complete Breadth Requirement Course	prior to first attempt at comprehensive exam
Successfully Complete Comprehensive examination (e.g. dissertation proposal) <i>Departmental form &amp; form GS7D</i>	no later than the third Fall semester

Apply for admission to candidacy for a doctoral degree (form GS5)	upon successful completion of comprehensive exam
Order diploma ( <a href="#">through iROAR</a> )	after completing at least half the prescribed course work
Order cap, gown, and hood from University Bookstore.	check with University Bookstore for semester deadlines
Submit completed dissertation to committee chair	<i>at least 10 business days prior to defense date</i>
Schedule dissertation defense with advisory committee. Submit date on <a href="#">defense calendar</a> .	<i>at least 10 business days prior to defense date &amp; at least 2 weeks prior to Grad School deadline</i>
Review <a href="#">thesis/dissertation submission guidelines and procedures</a> make sure you submit your properly formatted manuscript prior to the deadline.	See <a href="#">graduate school deadlines</a> by anticipated graduation semester

## 5 THE MASTER OF SCIENCE DEGREE

You may pursue the Master of Science (M.S.) degree in Industrial Engineering by either the *non-thesis* or *thesis* options. These options are designed to provide you with a strong foundation across the breadth of industrial engineering and sufficient flexibility so that the degree is tailored to your background and career objectives.

The non-thesis option is an excellent choice for most students. This option provides a solid background for students seeking industrial employment after graduation as well as those who wish to pursue the Ph.D. The thesis option is available if you have a very strong interest in research and you can identify a faculty member who agrees to be your major advisor.

We provide requirements for both the non-thesis and thesis options below. Additional information on course offerings at the graduate level can also be found at <http://www.registrar.clemson.edu/html/catalogGrad.htm>.

### 5.1 The Core Knowledge Requirement

Students must demonstrate an understanding of the breadth of industrial engineering by completing the following classes:

- IE 8000 Human Factors Engineering
- IE 8030 Engineering Optimization and Applications (LP, modeling)
- IE 8090 Modeling Systems Under Risk (probability, discrete time Markov chains)

### 5.2 Non-Thesis Option

The non-thesis option requires a minimum of 30 graduate semester hours of coursework. This option is recommended for all master's students except those with special interests in research. The coursework associated with this option provides an excellent background both for students seeking industrial employment after graduation as well as those who anticipate entering a doctoral program.

#### 5.2.1 M.S. Non-thesis Program Requirements

Students pursuing the M.S. degree via the non-thesis option must satisfy the requirements listed below.

- 1) Core Subjects
  - IE 8000 Human Factors Engineering
  - IE 8030 Engineering Optimization and Applications

- IE 8090 Modeling Systems Under Risk
- 2) At least 18 semester credit hours of coursework must be in IE.
  - 3) At least 30 semester credit hours of coursework in total must be taken.
  - 4) At least 50% of the total graduate credit hours shown on the GS2 must be selected from 8000-level courses.
  - 5) Courses taken outside of IE can be selected as follows:
    - All graduate-level courses in the College of Engineering, Computing and Applied Sciences
    - Graduate-level courses in Accountancy and Finance, City and Regional Planning, Construction Science and Management, Economics, Management, Psychology, and Technology Entrepreneurship
    - All other classes would need to be approved on a case-by-case basis.
    - No research or independent study credits from other departments are accepted.

*Important Notes:*

- A graduate-level IE course (excluding IE 8900 credits) must be a minimum three-credit course. Research credits (IE 8910) will not count towards the non-thesis requirement.
- 1 or 2-credit courses (excluding IE 8900 credits) or seminar courses do not count towards the non-thesis requirement.
- Students can enroll in a maximum of six credits of IE 6000 or IE 8900. These credits will count towards the non-thesis requirement.
- Master of Science (MS) students cannot enroll in Master of Engineering (MENG) courses (IE 8500-8590).
- Master of Science (MS) students cannot receive credit for IE 6880. This course is reserved for non-IE majors.

*5.2.2 Becoming a non-thesis student*

When a student selects the non-thesis option, he or she should construct a plan of study. Students may complete their degree in as few as three academic semesters (or one calendar year if courses are taken during the summer), but many students opt to spread their coursework across four academic semesters. Please refer to Section 3.12.1 for a complete discussion about the submission of the GS2 or GS2-14 Plan of Study forms.

*5.2.3 IE 8900 Enrollment and IE 6000 Enrollment*

Students who exhibit exceptional performance may be invited to join the research team of a faculty member and conduct a limited scope research project that counts as a maximum of three credit hours in any semester. Invitations to participate are extended by individual faculty to students whom they judge to be qualified. Each student is limited to a maximum of six credits of IE 8900.

Undergraduate students who are pursuing the BS/MS degree and are members of the Calhoun Honors College can take up to six credits of IE 6000. IE 6000 is intended to serve as the equivalent experience of an honors thesis for these students. Since it falls short of the traditional M.S. thesis, these credits will instead count towards the non-thesis requirement.

*5.2.4 Program Focus Areas*

Students may consider further specializing by taking a group of classes from such focus areas as Human Factors and System Safety, Logistics and Transportation, Optimization and Modeling, or Quality.



However, this is not a requirement. The plan of courses must only follow the guidelines set forth in Section 5.2.1. A sample of courses that would be representative of each focus area follows.

- Human Factors and System Safety: IE 6180, 6300, 6630, 6870, 6890, 8930, 8020, 8110, 8130, 8150
- Logistics and Transportation: IE 6560, 6570, 6650, 6820, 8040, 8650, 8860, 8870
- Optimization and Modeling: IE 6820, 6850, 8600, 8040, 8800, 8810, 8860, 8870
- Quality: IE 6520, 6600, 6620, 6630, 8040, 8050

#### 5.2.5 *Students Enrolled in the BS/MS Option*

Students in the BS/MS option may count up to 12 credits of graduate IE courses towards both their BS and MS degrees. Since the 6000-level of a required 4000-level class is not eligible, students frequently capitalize on this opportunity by taking the 6000-level of an IE technical elective while an undergraduate because that same course will count towards the BS degree and towards their MS degree in IE at Clemson. There are three important requirements associated with this program:

- 1) To be eligible, the student must have completed the bachelor's curriculum through the junior year (minimum 90 credits) and have a minimum overall grade-point ratio of 3.4.
- 2) All other requirements presented in Section 5.2.1 still hold.
- 3) The combined bachelor's/master's degree (documented on [GS6-Bachelor-to-Graduate](#)) must have a minimum combined total of 150 credit hours. This total may contain a maximum of 6 credit hours of thesis research and all credit hours to be included from courses taken after receiving the baccalaureate degree must be in 6000 level or higher courses.

Students in the BS/MS option who successfully complete their BS degree immediately become Master's students. If at any time during their Master's study a BS/MS option student wishes to pursue a PhD degree in the IE department, the following procedure must be followed:

- 1) The student must submit the following materials to the Graduate Coordinator:
  - a. Statement of Purpose (tailored to their PhD studies)
  - b. Resume
  - c. GRE scores (must have been taken within the last five years)
- 2) The Graduate Coordinator will route the application materials to the Graduate Committee to obtain each committee member's vote (yes or no) on admitting the student to the PhD program, effective the next long semester after the semester in which the application is submitted.
- 3) The Graduate Coordinator will notify the student of the application decision and if successful, will complete the GS2-14 form to convert the student from MS to PhD classification at the beginning of the next semester.

### 5.3 **Thesis Option**

The thesis option requires a minimum of 30 graduate semester hours of coursework (classes and research) and successful completion of a thesis. If you wish to pursue this option, you must first find a faculty member who has research interests consistent with yours and who will agree to be your major advisor.

#### 5.3.1 *M.S. Thesis Program Requirements*

Students pursuing the M.S. degree via the thesis option must satisfy the requirements listed below.

- 1) Core Subjects
  - IE 8000 Human Factors Engineering

- IE 8030 Engineering Optimization and Applications
  - IE 8090 Modeling Systems Under Risk
- 2) At least 15 semester credit hours of coursework must be in IE.
  - 3) At least 6 semester credit hours of thesis research (IE 8910).
  - 4) At least 24 semester credit hours of coursework in total must be taken.
  - 5) At least one-half of the total graduate credit hours shown on the GS2 (exclusive of any thesis research) must be selected from 8000-level courses.
  - 6) The student and major advisor shall select specific courses that support the thesis research.

*Important Notes:*

- Students must have an approved GS2 on file to enroll in thesis research hours (IE 8910).
- Thesis students cannot count IE 8900 credits towards their degree.
- Master of Science (MS) students cannot enroll in Master of Engineering (MENG) courses (IE 8500-8590).

**5.3.2** *Becoming a thesis student*

You and your major advisor select the remaining members of the advisory committee and develop a plan of study. Besides the core subjects, the remaining hours are selected to support the research as well as to augment your background. In addition, thesis research represents an original contribution to the selected field of study; hence, the program of study will also include at least 6 semester credit hours of thesis research.

Once you have decided to pursue the thesis option, identified a major advisor and advisory committee, and defined the program of study, you must complete Form GS2. An approved GS2 formalizes the requirements for the degree and must be approved prior to registering for IE 8910 (thesis research) credits. Please refer to Section 3.12.1 for a complete discussion about the submission of the GS2 or GS2-14 Plan of Study forms.

After a thesis topic is selected, you must schedule a thesis proposal presentation to your advisory committee. You must provide the committee with a thesis proposal document at least 10 calendar days prior to the presentation.

Prior to graduation, you must schedule your thesis defense. You must provide the committee with a final thesis document at least 10 calendar days prior to the presentation.

**5.4** **Procedures and Deadlines**

There are some deadlines internal to the IE Department, as well as University and Graduate School deadlines. University and Graduate School deadlines can be found at: <http://www.clemson.edu/graduate/students/deadlines.html>. In addition, guidance on the formatting and submission process of theses and dissertations can be found at: <http://www.clemson.edu/graduate/students/theses-and-dissertations/index.html>.

Use the following checklist for M.S. deadlines within the Department.

<b>Tasks</b>	<b>When to Complete</b>
Decide on thesis or non-thesis option	Before the end of your second semester
<b>THESIS ONLY:</b> Appoint a thesis Advisory Committee	Within the first 12 months

Submit Plan of Study/Graduate Degree Curriculum ( <a href="#">Online GS2</a> )	after your second semester
Satisfy any prescribed language requirement	if required, deadline set by Graduate Program Coordinator
<b>THESIS ONLY:</b> Successfully complete your thesis proposal presentation	Must complete no less than 6 months prior to the thesis final defense
<b>THESIS ONLY:</b> Submit completed thesis to research advisor and arrange for final examination by the advisory committee.	at least 10 days prior final examination date
<b>THESIS ONLY:</b> Complete Final Examination (Form GS7)	At least 1 week prior to that date that thesis is due to the University
Order diploma and apply for graduation ( <a href="#">through iROAR</a> )	at the beginning of the semester you plan to graduate
Order cap, gown from University Bookstore.	check with University Bookstore for semester deadlines
<b>THESIS ONLY:</b> Review <a href="#">thesis submission guidelines and procedures</a> , and make sure you submit your properly formatted manuscript prior to the deadline.	See <a href="#">graduate school deadlines</a> by anticipated graduation semester

## 6 THE MASTER OF ENGINEERING DEGREE

The Master of Engineering (MEng) degree is a terminal master’s degree developed exclusively for working professionals seeking advanced education while remaining a full time employee. The MEng is a coursework-only degree delivered exclusively online. The program consists of 10 courses that the students take in lockstep fashion over a 30-month period; one course at a time, three courses per year. New cohorts begin in May of each year and no other entry is allowed. The MEng coordinator is Dr. William G. Ferrell, Jr.

### 6.1 Courses

The program consists of 10 classes:

IE 8500	Foundations of Supply Chain and Logistics
IE 8510	Descriptive Analytics
IE 8520	Prescriptive Analytics
IE 8530	Foundations of Quality
IE 8540	Supply Chain and Logistics Modeling I
IE 8550	Supply Chain and Logistics Modeling II
MGT 8560	Business Fundamentals for Supply Chain Management
IE 8570	Health, Safety and the Environment
IE 8580	Case Studies in Supply Chain and Logistics
IE 8590	Capstone Design Project

Students in the MEng program cannot enroll in courses associated with the M.S./Ph.D. program.

### 6.2 Process and Procedures

#### 6.2.1 Schedule of courses

Classes will be offered in the following sequence with “May” representing the semester between May through August, “August” representing the semester between August through December and “January” representing the semester between January through May.

Year	Semester	starting month	course
Year 1	May		IE 8500
	August		IE 8510
Year 2	January		IE 8520
	May		IE 8570
	August		IE 8530
Year 3	January		IE 8540
	May		MGT 8560
	August		IE 8550
Year 4	January		IE 8580
	May		IE 8590

### 6.2.2 Appeals process

Appeals for waivers to any of these policies and procedures are made to the MEng Committee. Students should outline the nature of their appeal and the desired outcome in writing, and submit the document to the MEng Coordinator. A meeting of the Graduate Committee will be held and the decision will be communicated to the student in writing.

## 6.3 Applying to the Program

### 6.3.1 Applying to the MEng program at Clemson

Directions on how to apply can be found at

[http://www.clemson.edu/cecas/departments/ie/academics/grad-programs/m-eng/cost\\_admissions.html](http://www.clemson.edu/cecas/departments/ie/academics/grad-programs/m-eng/cost_admissions.html)

### 6.3.2 Admission requirements

Minimum requirements to be considered for admission to the MEng program are:

1. An undergraduate degree from a 4-year university.
2. Three (3) years creditable experience after the undergraduate degree has been obtained.
3. Letter of recommendation from a supervisor indicating you are person who is highly motivated, organized and is a top candidate for this program.
4. Either calculus courses taught for engineering or a business calculus course plus a statistics course. Topics that should be covered in these classes can be found on the Master of Engineering website.

### 6.3.3 Transfer credits

The MEng has some unique features and is also a degree that is taught in lockstep fashion so each course utilized information taught in all previous courses. As such, students are not permitted to transfer courses from other Universities.

### 6.3.4 Costs

For current tuition and fees, see [www.grad.clemson.edu/Financial.php](http://www.grad.clemson.edu/Financial.php).