Department of Industrial and Enterprise Systems Engineering

Graduate Student Handbook

2017-2018

ILLINOIS
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

Preface

This Graduate Handbook presents the requirements for the graduate degrees offered by the Department of Industrial and Enterprise Systems Engineering (ISE) and a description of the procedures to be followed towards completion of each degree. It also includes detailed information about the Department, its faculty, rules and regulations that apply to ISE graduate students, as well as some of the commonly encountered regulations of the Graduate College. ISE graduate students should consult the Graduate College Handbook and this manual when planning or revising their program of study. If there are any questions regarding the interpretation of any regulation or requirement in this manual, or about the graduate program involving matters not covered in this manual, please consult the ISE Graduate Programs Office (GPO). These policies are subject to change.

ISE Graduate Programs Office
111 Transportation Building

Academic Integrity

Academic integrity is essential for maintaining the quality of scholarship in the Department and for protecting those who depend on the results of research work performed by faculty and students in the Department. The faculty of the Department of Industrial and Enterprise Systems Engineering expects all students to maintain academic integrity in the classroom and research laboratory and to conduct their academic work in accordance with the highest ethical standards of the engineering profession. Students are expected to maintain academic integrity by refraining from academic dishonesty and conduct which supports others in academic dishonesty or which leads to suspicion of academic dishonesty. Violations of academic integrity will result in disciplinary actions ranging from failing grades on assignments and courses, to probation, suspension, or dismissal from the University.

Table of Contents

1.   Introduction

Welcome to the Department of Industrial and Enterprise Systems Engineering. All new ISE graduate students should report to the Graduate Programs Office (111 Transportation Building) during scheduled check-in hours to check-in. Please follow the advice and instructions given. If at any time you are unsure of what you need to do or have questions, seek assistance from this manual, the Graduate Programs Office, or the Graduate College. Assistance by the Graduate Programs office is available via email or in person during open advising hours: Monday-Friday; 1:00-3:00 pm (except holidays/vacation days).

All new graduate students in the MS and PhD programs must choose an academic advisor by the end of their first semester. The Advisor Agreement form can be found at https://my.ise.illinois.edu/. The advisor agreement is due on Reading Day of your first semester. Some ISE graduate students will enter the program with an advisor (as stated in their admission letter), these students are usually supported by a research assistantship by a faculty member. These students are still required to submit the advisor agreement by the above mentioned due date.

Office space is limited in ISE. All incoming graduate students will have access to 316 and 414 Transportation Building. MS students with a teaching assistantship and all PhD students may be assigned office space based on seniority (see ISE-G-OS-2.0). ISE highly recommends that graduate students use 414 TB, rather than 316 TB.

As a graduate student in ISE, you will be responsible for checking your mailbox regularly. Mailboxes are located in 7 Transportation Building. The mailboxes are NOT secure. If you are a teaching assistant, please do not ask students to submit homework in your department mailbox. All homework from your students should be submitted in class. These mailboxes are not for personal mail. Personal mail should be sent to your home address. Packages too large for your mailbox will be in 117 Transportation Building. Students will receive a notice in their mailbox or an email if a package arrives for them.

Email is the primary mode of communication at the University of Illinois. All graduate students are responsible for checking their email and responding in a timely manner. The University uses your @illinois email as the preferred method of contact. Official job offers and communications will arrive via email.

All graduate students must complete a self-evaluation and directory information annually. Watch for email notices from the GPO.

Some of the information provided here is also available on the Graduate College website. Please consult www.grad.illinois.edu/current-students for more information.

2.   The Department of Industrial and Enterprise Systems Engineering (ISE)

The Department of Industrial and Enterprise Systems Engineering was originally established in 1921, as the Department of General Engineering Drawing. In 1953, the name of the department was changed to the Department of General Engineering. In 2006, The Department acquired the Industrial Engineering Program from Mechanical and Industrial Engineering and formed the Department of Industrial and Enterprise Systems Engineering. ISE currently offers undergraduate degrees in Systems Engineering and Design (recently re-named from General Engineering) and Industrial Engineering, and graduate degrees in Systems and Entrepreneurial Engineering and Industrial Engineering. Industrial and Enterprise Systems Engineering offers degrees that provide a comprehensive technical education coupled with tools that a student needs to develop an understanding of the business environment faced by the practicing engineer. In addition, the requirement to study engineering design methods involving problems in several major fields provides students with relevant coursework for their entry into the work force. The graduate degrees in ISE are structured to emphasize technical and management skills. These skills are necessary to guide projects, people, and other resources of a modern technical-industrial enterprise in today's increasingly competitive professional positions in industry and government.

Opportunities exist for graduate study in a variety of fields including communication networks, control, decision analysis, genetic algorithms, operations research, optimization, nondestructive testing and evaluation, product development, robotics, scheduling, and structures. The faculty also participates in cross-disciplinary research in systems theory and design, environmentally conscious design, manufacturing, product/quality management, biomechanics, and manufacturing systems.

Graduate research in the Department is structured to emphasize a design-oriented, cross-disciplinary approach to problem solving. This emphasis fosters a unique learning environment, where students from different engineering disciplines (i.e. civil, computer science, electrical, industrial, mechanical, systems, and others) work to solve practical, systems-oriented engineering problems. In addition, research opportunities exist for collaboration across the College of Engineering, as well as the entire University, in cooperation with various departments and research laboratories.

3.   The College of Engineering

The College of Engineering was one of the original units when the University of Illinois was founded and is recognized as a major international center for research and instructional excellence. The College has more than 400 faculty members in 12 specialized departments. The College of Engineering has the most-cited engineering faculty in the world, according to Thomson Reuters. The College's enrollment is over 9,000 undergraduate students and over 3,000 graduate students. The College of Engineering has over 80,000 alumni, which includes the founders of YouTube, Yelp, Bloom Energy, Flex-n-Gate, Grainger Industrial Supply, Tesla Motors, and PayPal; six astronauts, the CEO of BP, and the owner of the Jacksonville Jaguars (IE grad).

4.   The University of Illinois at Urbana-Champaign

Since its founding in 1867, the University of Illinois has earned a reputation as a world-class leader in research, teaching, and public engagement. The University of Illinois at Urbana-Champaign is a comprehensive research institution offering undergraduate, graduate, and professional degrees in more than 150 fields of study. The University has over 3,000 faculty members, nearly 4,000 administrative and professional employees, and over 4,000 support staff members in 15 colleges and instructional units with over 33,000 undergraduate students and over 13,000 graduate and professional students. The original campus at Urbana-Champaign has been joined in recent decades by campuses at Chicago and Springfield; UIUC remains a land-grant institution for the State of Illinois, and as such takes very seriously its three-part mission of teaching, research, and public service. The campus is recognized for the high quality of its academic programs and for the outstanding facilities and resources it makes available to students. The University of Illinois Library, with over 13 million volumes and 24 million items and materials in all formats, languages, and subjects, is one of the largest academic libraries in the country. The Grainger Engineering Library Information Center, opened in 1994 with state-of-the-art information retrieval facilities – it assists students, scholars, and business professionals worldwide through electronic access to information and traditional library services. Grainger Library is the largest library in the U.S. dedicated to the study of engineering.

The University offers a wide variety of cultural and recreational activities. The Krannert Center for the Performing Arts has six halls and offers over three hundred performances annually of music, theater, opera, and dance. The State Farm Center and Memorial Stadium (with seating capacity of 16,500 and 60,670 respectively) are used for Big Ten basketball, football, popular concerts, and other productions. Campus Recreation includes the Activities and Recreation Center (ARC), one of the country's largest on-campus recreation centers, Campus Recreation Center East (CRCE), Ice Arena, Freer Hall, Complex Fields, Outdoor Center Fields, and Illini Grove.

5.   The Community

The twin cities of Urbana and Champaign offer the cultural advantages associated with the University community. Champaign-Urbana is about 140 miles south of Chicago, 120 miles west of Indianapolis, and 170 miles northeast

of St. Louis. The twin cities have extensive bike routes serving various parts of the campus and city and an excellent mass-transit system. Three interstate highways, 57, 72, and 74, intersect the Champaign-Urbana area, and air service from the University of Illinois Willard Airport connects the twin cities with Chicago and Dallas/Ft. Worth. Railroad and bus service also connect the Champaign-Urbana community with other areas of the country. Parkland College in Champaign offers hundreds of courses to approximately 19,000 students on its campus. The Champaign-Urbana area offers sailing, fishing, camping, and hiking within short traveling distances. There are five museums in the Urbana-Champaign area: Krannert Art Museum, the Spurlock Museum, the John Philip Sousa Museum, the Orpheum Children's Science Museum, and the Champaign County Historical Museum.

6.   Departmental Resources and Key People

Nearly all information is available on the University of Illinois website. Below are the office addresses, phone numbers, and emails of the main office and graduate personnel who you may come in contact with frequently.

ISE Departmental Phone Numbers/Email

Professor Ramavarapu Sreenivas	201E TB	217-333-7735	rsree@illinois.edu
Holly Kizer	111 TB	217-333-2346	tippy6@illinois.edu
Main Office	117 TB	217-333-2731	

Service	Personnel	Office	Phone	Email
Associate Head, Graduate Studies	Ramavarapu Sreenivas	201E TB	333-7735	rsree@illinois.edu
Business Office Liaison	Shawna Graddy	110 TB	244-8788	sgraddy@illinois.edu
Chief Graduate Advisor	Holly Kizer	111 TB	333-2346	tippy6@illinois.edu
Copier	Taylor Young	117 TB	333-2731	taylory@illinois.edu
Employment	Lori Frerichs	203C1 Engr Hall	333-3836	lafrichs@illinois.edu
Facilities Liaison	Shawna Graddy	110 TB	244-8788	sgraddy@illinois.edu
Graduate Office Space	Holly Kizer	111 TB	333-2346	tippy6@illinois.edu
Graduate Programs	Holly Kizer	111 TB	333-2346	tippy6@illinois.edu
Human Resources Liaison	Shawna Graddy	110 TB	244-8788	sgraddy@illinois.edu
ISSS Liaison	Holly Kizer	111 TB	333-2346	tippy6@illinois.edu
Keys	Taylor Young	117 TB	333-2731	taylory@illinois.edu
Operations/facilities	Shawna Graddy	110 TB	244-8788	sgraddy@illinois.edu
	Barb Bohlen	117 TB	244-2658	bohln@illinois.edu
Thesis Format Check	Holly Kizer	111 TB	333-2346	tippy6@illinois.edu
Course Schedule/ Maintainer	Peggy Regan	104 TB	333-0068	plregan@illinois.edu

7. University Resources

Frequently Used Campus Websites

Academic Deadlines	http://illinois.edu/calendar/list/4175
Academic Human Resources (for Graduate Assistantships)	http://www.ahr.illinois.edu/grads/index.html
Assistantship Clearinghouse	http://www.grad.illinois.edu/clearinghouse
Bookstore	http://bookstore.illinois.edu
Campus Recreation	http://www.campusrec.illinois.edu/
Center for Innovation in Teaching & Learning-Oral English Proficiency	http://www.cte.illinois.edu/testing/oral_eng/main.html
Class Schedule	https://courses.illinois.edu/
Computer Assistance (ISE computers)	engrit-help@illinois.edu
Computing Support	http://techservices.illinois.edu/
Counseling Center	http://www.counselingcenter.illinois.edu/
Dean of Students	http://www.odos.illinois.edu/
E-Bill	http://paymybill.uillinois.edu
E-Mail	http://techservices.illinois.edu/services/email-calendar-conferencing
Electronic Deposit Thesis/Dissertation	http://www.grad.illinois.edu/thesis
Emergency Dean	http://www.odos.illinois.edu/deanonduty/
Enrollment/Degree Verification	http://www.registrar.illinois.edu/enrollment-degree-verification
Fellowship Information	http://www.grad.illinois.edu/fellowships
Financial Assistance	http://www.grad.illinois.edu/prospective/financial
Graduate College	http://www.grad.illinois.edu/
Graduate College Calendar	http://illinois.edu/calendar/list/3284
Graduate College Underrepresented Domestic Applicants	http://www.grad.illinois.edu/eep/applicant
Graduate College Forms	http://www.grad.illinois.edu/forms
Graduate College Handbook	http://www.grad.illinois.edu/gradhandbook
Graduate Petitions and Record Requests	http://www.grad.illinois.edu/gsas/graduate-student-request-form
International Student and Scholar Services (ISSS)	http://www.isss.illinois.edu/
ISE Graduate Forms	http://ise.illinois.edu/graduate/resources.html or https://my.ise.illinois.edu/
ISE Preliminary/Final Exam Info	http://ise.illinois.edu/graduate/quals-prelims-final-exams.html
ISE Qualifying Exam Guide	http://ise.illinois.edu/graduate/docs/qual_guide_17.pdf
ISE Master Calendar	http://illinois.edu/calendar/list/3604
ISE Seminar Substitution Form	https://my.ise.illinois.edu/
Library IT Help Desk	http://www.library.illinois.edu/it/helpdesk/
Library Services	http://www.library.illinois.edu/services/
McKinley Heath Center	http://www.mckinley.illinois.edu/
My.ISE	https://my.ise.illinois.edu/

7. University Resources Continued

Parking	http://www.parking.illinois.edu/
Student Code	http://admin.illinois.edu/policy/code/
Student Financial Services and Cashier Operations	http://paymybill.uillinois.edu/
Student Insurance Office	https://www.uhcsr.com/illinois
Tenant Union	https://tenantunion.illinois.edu/
Transcripts	http://registrar.illinois.edu/transcripts
Tuition and Fees	http://registrar.illinois.edu/tuition-fees
University Housing	http://www.housing.illinois.edu/

8. ISE Graduate Programs Office (GPO)

The ISE Graduate Programs Office is located in 111 Transportation Building. Students with questions or problems should email the Graduate Programs Office or stop in during the posted open advising hours. Email will be returned within one business day unless on vacation/sick leave status. Students will only be seen during open advising hours or by appointment (please email for an appointment). Same-day appointments are not available.

9. ISE Graduate Programs

The Department of Industrial and Enterprise Systems Engineering offers graduate degree programs leading to the degrees of Master of Science in Systems and Entrepreneurial Engineering (MSSEE), Master of Science in Industrial Engineering (MSIE), Doctor of Philosophy in Systems and Entrepreneurial Engineering (PHDSEE), and Doctor of Philosophy in Industrial Engineering (PHDIE). The program code for these programs are:

10KS0127MS	Master of Science in Industrial Engineering (MSIE)
10KS3846MS	Master of Science in Systems and Entrepreneurial Engineering (MSSEE)
10KS0127PHD	Doctor of Philosophy in Industrial Engineering (PHDIE)
10KS3846PHD	Doctor of Philosophy in Systems and Entrepreneurial Engineering (PHDSEE)

ISE offers a concentration in Advanced Analytics, code 5539. Additional information is available in this handbook.

ISE also offers a professional master's degree in Financial Engineering. Information about the MSFE program can be found at http://msfe.illinois.edu/.

Goal

The goal of the ISE graduate programs is to train students to conduct independent research containing a strong component of interdisciplinary, systems-oriented research in both the technical and business aspects of engineering endeavors. The program offers an approach to industrial engineering and systems engineering, engineering design, and entrepreneurial engineering that cross disciplinary lines. The IE programs are based in advanced studies that focus on operations research, optimization, supply chain management, financial engineering, quality and reliability engineering, and production management, with the aim to advance modeling, simulation, analysis and decision making for complex engineering and economic systems. The SEE programs are founded on the premise of dual competency in both traditional engineering and systems integration engineering. The SEE

programs offer flexibility by permitting the student to select from a menu of advanced courses and take a wide range of electives to meet individual career goals. Graduates of these programs are prepared to enter academic and professional engineering positions in universities, industry, government, and private practice.

Learning how to write technical documents (including research papers, theses, and technical reports) is an important part of graduate school training, and the student may be asked to write one or more papers to report the research work. Since one measure of success in a research program is the publication of the results in an archival journal with rigorous review procedures, the faculty of ISE expects that the results of a PhD dissertation will be published in one or more journal articles. ISE faculty hope that most MS theses research work leads to research results that can be published in a journal article, but recognizes that MS theses are less extensive in scope than PhD dissertations. Nevertheless, MS theses are expected to be of the same quality as a publication.

Admission

Students are admitted to an ISE degree program with either full or limited status. The most common reasons for limited status admission are course deficiencies, low GPA, or lack of demonstrated English language proficiency. Students admitted with limited status must address deficiencies prior to being granted a degree.

Course Deficiencies

Students admitted on limited status with course deficiencies must remedy the deficiencies as outlined by the department in the admission letter.

Low GPA

Students admitted on limited status with a low GPA are put on academic probation for their first semester of the program. The student must obtain the minimum GPA required by the program to enter into good standing. The minimum GPA requirement for the MS and PhD in Industrial Engineering is 3.0. The minimum GPA requirement for the MS and PhD in Systems and Entrepreneurial Engineering is 3.25.

English Language Proficiency

Students admitted on limited status due to low English proficiency must take the English Placement Test upon arrival. Based on the results of the test, the student may be required to enroll in non-credit "English as a Second Language" courses and take a reduced academic load beginning the first semester at the University. Additional information regarding English Placement Testing is available at http://www.linguistics.illinois.edu/students/placement/. This placement testing is not associated with and is separate from the English proficiency required for international teaching assistants.

Advising

Professor R.S. Sreenivas and Holly Kizer are available as initial advisors for those students seeking assistance with course enrollment before and during their first semester. If you have accepted a research assistantship, the faculty member offering you the assistantship is your advisor. Students are expected to find a permanent advisor by Reading Day of their first semester.

The thesis or project advisor usually requires the student to take specific courses in order to obtain the necessary background for conducting research. It is imperative that students seek out faculty members with research interests similar to their own and explore possible thesis or project topics as early as possible in the course of their studies. The ISE Faculty and their research interests are available in the Faculty Research Areas of this handbook.

Academic Progress

Industrial Engineering graduate students must maintain a cumulative grade point average (GPA) of at least 3.00/4.00 and Systems and Entrepreneurial Engineering graduate students must maintain a cumulative GPA of at

least 3.25/4.00 to continue in their program. The cumulative GPA is computed on all courses taken for credit except thesis, courses taken for credit/no credit, S/U graded courses, and ESL courses.

A student who fails to maintain a cumulative GPA as stated is placed on probation. If the student's cumulative GPA is still deficient after one additional semester, he/she will be dismissed from the Graduate College. If a student is dismissed from the Graduate College because of a low overall graduate GPA, the graduate student petition process may be used to appeal this dismissal. The Graduate College will consider petitions containing strong program support and strong justification based on other factors pertinent to the program's determination of satisfactory academic progress.

Students are required to notify the ISE Graduate Programs Office regarding the following:

- Their selection or change of advisor via an Advisor Agreement Form (https://my.ise.illinois.edu/)

- Their selection or change of Thesis/Non-thesis option via an Advisor Agreement Form (https://my.ise.illinois.edu/)

- One semester in advance of expected semester of graduation

All international students must be registered for 12 credit hours each semester (Fall and Spring), or 8 credit hours if they are on a 25% or greater assistantship, to maintain compliance with visa requirements.

If at any time an international student drops below the required minimum number of hours the student has five business days to correct their status or they will be terminated for non-compliance with federal visa regulations.

In order to best serve the students, the Graduate College recommends that:

1) **International graduate students on a student visa performing adding/dropping activities after tenth day should do so by way of a Late Registration/Late Course change form sent to the Graduate College. This way the add/drop may be done at the same time and avoid placing the student out of status for any period of time.**

2) **If a student does drop a course through Self-Service and has a Late Registration/Late Course change form in process to add hours to their registration, please route these forms as quickly as possible. The form with the correction must be delivered to the Graduate College no later than 5pm on the third business day from when the student dropped below the required number of hours.**

3) **If the student drops a course online and receives the message from ISSS, it is imperative that they respond to ISSS immediately to take corrective action as appropriate.**

If you have any questions about this policy, please see the Graduate Programs Office or International Student and Scholar Services. Take the time to make sure you are dropping/adding courses correctly.

Graduate students are not required to register for the summer term unless the student's last term, the student I on a fellowship, or plans to take their preliminary or final exam.

Degree Programs

Required Coursework

All on-campus ISE graduate students are required to enroll in the IE or SE 590 seminar course every fall and spring semester. Systems and Entrepreneurial Engineering students must enroll in SE 590 and Industrial Engineering students must enroll in IE 590. Seminars will be offered throughout the semester at a regularly scheduled time (to be announced), and possibly at additional times. A graduate student must attend six seminars to receive a satisfactory grade in the course. Students with a course or teaching conflict are still required to attend six seminars each fall and spring semester. Seminar substitution forms are available at https://my.ise.illinois.edu/.

Time Limits

Students in the MS degree program must complete all degree requirements within five years of first registering in the Graduate College. ISE expects on-campus master's degree students to complete the requirements in two years. Students in the PhD degree program with no MS degree must complete the degree program in seven years and may earn their master's at any point in the program, or not at all. Students entering with a master's degree from another institution must complete all degree requirements within six years.

To request a time extension and acceptance of old course work, the graduate student must petition the Graduate College. This justification is needed for degree certification and the petition should be filed three months prior to the student's listed "Expected Graduation Term". Extensions are granted on a case-by-case basis for up to one year.

Annual Review

The Graduate College requires departments to perform annual reviews on all students. Students are required to submit a self-evaluation early in the spring term. The advisor will then be required to submit an evaluation of the student. The student has the opportunity to agree/disagree with the advisor's evaluation. The student can access the advisor's evaluation at my.ise.illinois.edu. Any students needing special attention will be handled on a case-by-case basis. An email will be sent to the students when the annual review is open, usually at the end of the fall or beginning of the spring term.

Special Programs

Students enrolled in the MS IE degree program may pursue the Advanced Analytics in Industrial & Enterprise Systems Engineering Concentration. The Advanced Analytics in ISE Concentration prepares students to relate the application of engineering approaches and methods to the analysis and management of engineering and business processes which are data-oriented. Student will be able to provide companies and organizations with the ability to convert the massive amounts of data received into useful information that can help shape the decisions companies and organizations make. Students must be enrolled in the Industrial Engineering MS (thesis or non-thesis) degree program. Enrollment in the concentration is optional. Students may enroll in the concentration by submitting a Graduate College Petition. Instructions are available from the Graduate Programs Office.

Students may pursue the joint MBA degree with the MS degree. The joint degree program allows students to pair their MS program with an MBA. The modified curriculum allows a student to complete both degrees in less time than if they were pursued independently. Students who are interested can apply to either program then apply for the joint degree program after they have been admitted to one of the programs or may apply to both programs simultaneously. A student must meet the admission requirements for both programs. Additional information is available at https://mba.illinois.edu/academics/joint-degrees/ and www.grad.illinois.edu/admissions/instructions/02d..

A Computation Science and Engineering (CSE) certificate and concentration is available. Students electing the CSE option are expected to satisfy all regular degree requirements for graduate study in ISE. A student will normally be able to satisfy the requirements for the CSE option by taking elective courses within the ISE graduate program. More information is available at http://cse.illinois.edu/education/certificate-programs/graduate-certificate-option/cse-option-industrial-and-enterprise.

The Medical Scholars Program is an MD/PhD program available to US citizens and permanent residents. All training is done on the Urbana-Champaign Campus. More information is available at https://www.med.illinois.edu/mdphd/.

Online Programs and Students

Beginning with the 2017-18 academic year, ISE offers or will be offering several new opportunities online for students. Students may enroll in an online Master of Science in Industrial Engineering degree, with or without an Advanced Analytics Concentration, enroll as a non-degree student and take ISE courses, or enroll as a non-degree

student in online courses and work toward and Advanced Analytics Certificate. **On-campus students may not enroll in online courses.**

MS Industrial Engineering Online Program

Admission requirements for our MS Industrial Engineering online program is the same as the admission requirements for the on-campus program. Admission information and materials may be requested via email to ise-grad@illinois.edu.

Registering for Online Courses as a Non-degree Student

A student may start online under non-degree status while seeking admission into the degree program or choose to take select courses as an online, non-degree student. There is no limit to the number of credit hours that can be taken as a non-degree student; however, if one chooses to pursue a degree, there is a limit to the number of credit hours that can be transferred to the degree program. The following conditions apply when completing courses as a non-degree student:

- A maximum of 12 credit hours may be transferred to a degree program, if the grade is a "B" or higher

- Starting as a non-degree student does not guarantee admission into the program

Online course availability, registration deadlines, and information is available at http://engineering.illinois.edu/online/.

Advanced Analytics Online Certificate Program

Non-degree students may pursue the Advanced Analytics Online Certificate by emailing Rhonda McElroy at rmcelroy@illinois.edu. The certificate requires 12 credit hours of Advanced Analytics Courses. Eight hours must be from the Advanced Analytics Core course list and four hours must be from the Advanced Analytics Secondary course list (or an additional four hours from the Core course list). A student must earn a "B" or better for the course to be used toward the certificate.

Advanced Analytics Core:		Advanced Analytics Secondary:	
IE 528	Computing for Data Analytics	IE 400	Design & Anlys of Experiments
IE 529	Stats of Big Data and Clustering	IE 410	Stochastic Processes & Applic
IE 530	Optimization for Data Analytics	IE 411	Optimization of Large Systems
IE 531	Algorithms for Data Analytics	IE 510	Applied Nonlinear Programming
IE 532	Analysis of Network Data	IE 511	Integer Programming
IE 533	Big Graphs and Social Networks	IE 521	Convex Optimization

MS IE Degree Program

Requirements for the Master of Science in Industrial Engineering can be found at catalog.illinois.edu/degree-programs/. For students in the non-thesis option, 4 hours of IE 597 are required (4 hours maximum allowed towards the M.S. degree), because each student must show evidence of the ability to do independent research. Students are pre-placed into the thesis or non-thesis option at the time of admission; however, the student may choose to switch. Students declare the thesis/non-thesis option during their first semester at the same time the advisor agreement is submitted. Several sample curricula are available to students, based on their research interest. See the Graduate Resources webpage for information.

Thesis Option

IE 599	Thesis Research (min-max applied toward the degree)	8
IE 590	Seminar (registration for 0 hours every term while in residence)	0
Elective Courses—chosen in consultation with advisor (subject to Other Requirements and Conditions below)		24
Total Hours		**32**

Other Requirements and Conditions (may overlap):

A minimum of 12 500-level credit hours applied toward the degree, 8 of which must be IE.

A maximum of 4 hours of IE 597 (or other approved independent study) may be applied toward the elective coursework requirement.

Minimum GPA:	3.0

Non-Thesis Option

IE 590	Seminar (registration for 0 hours every term while in residence)	0
IE 597	Independent Study	4
Elective courses—chosen in consultation with advisor (subject to Other Requirements and Conditions below)		32
Total Hours		**36**

Other Requirements and Conditions (may overlap):

A minimum of 12 500-level credit hours applied toward the degree, 8 of which must be IE.

The non-thesis option is for students terminating their studies with the M.S. degree.

For students in the non-thesis option, 4 hours of IE 597 are required (4 hours maximum allowed toward the M.S. degree), because each student must show evidence of the ability to do independent research.

Minimum GPA:	3.0

MS IE Degree Program-*Advanced Analytics in Industrial & Enterprise Systems Engineering Concentration*

Requirements for the Master of Science in Industrial Engineering, Advanced Analytics in Industrial & Enterprise Systems Engineering Concentration can be found at http://catalog.illinois.edu/graduate/concentrations/. For students in the non-thesis option, 4 hours of IE 597 are required (4 hours maximum allowed towards the M.S. degree), because each student must show evidence of the ability to do independent research. Students are pre-placed into the thesis or non-thesis option at the time of admission; however, the student may choose to switch. Students declare the thesis/non-thesis option during their first semester at the same time the advisor agreement is submitted. Several sample curricula are available to students, based on their research interest. See the Graduate Resources webpage for information.

Thesis Option

IE 599	Thesis Research (min-max applied toward the degree)	8
IE 590	Seminar (registration for 0 hours every term while in residence)	0
Advanced Analytics Concentration (B or better required)		12
	Advanced Analytics Core (8 hours) Advanced Analytics Secondary (4 hours or 4 additional hours from core list)	
Elective Courses—chosen in consultation with advisor (subject to Other Requirements and Conditions below)		12
Total Hours		**32**

Other Requirements and Conditions (may overlap):

A minimum of 12 500-level credit hours applied toward the degree, 8 of which must be IE.

A maximum of 4 hours of IE 597 (or other approved independent study) may be applied toward the elective coursework requirement.

Minimum GPA:	3.0

Non-Thesis Option

IE 590	Seminar (registration for 0 hours every term while in residence)	0
IE 597	Independent Study	4
Advanced Analytics Concentration (B or better required)		12
	Advanced Analytics Core (8 hours) Advanced Analytics Secondary (4 hours or 4 additional hours from core list)	
Elective courses—chosen in consultation with advisor (subject to Other Requirements and Conditions below)		12
Total Hours		**36**

Other Requirements and Conditions (may overlap):

A minimum of 12 500-level credit hours applied toward the degree, 8 of which must be IE.

The non-thesis option is for students terminating their studies with the M.S. degree.

For students in the non-thesis option, 4 hours of IE 597 are required (4 hours maximum allowed toward the M.S. degree), because each student must show evidence of the ability to do independent research.

Minimum GPA:	3.0

Advanced Analytics Core:

IE 528	Computing for Data Analytics	4 hours	Fall-even years
IE 529	Stats of Big Data and Clustering	4 hours	Every Fall
IE 530	Optimization for Data Analytics	4 hours	Spring-even years
IE 531	Algorithms for Data Analytics	4 hours	Every Spring
IE 532	Analysis of Network Data	4 hours	Fall-odd years
IE 533	Big Graphs and Social Networks	4 hours	Spring-odd years

Advanced Analytics Secondary:

IE 400	Design & Anlys of Experiments	4 hours	Every Fall
IE 410	Stochastic Processes & Applic	4 hours	Every Fall
IE 411	Optimization of Large Systems	4 hours	Every Fall
IE 510	Applied Nonlinear Programming	4 hours	Spring-even years
IE 511	Integer Programming	4 hours	Every Spring
IE 521	Convex Optimization	4 hours	Spring-odd years
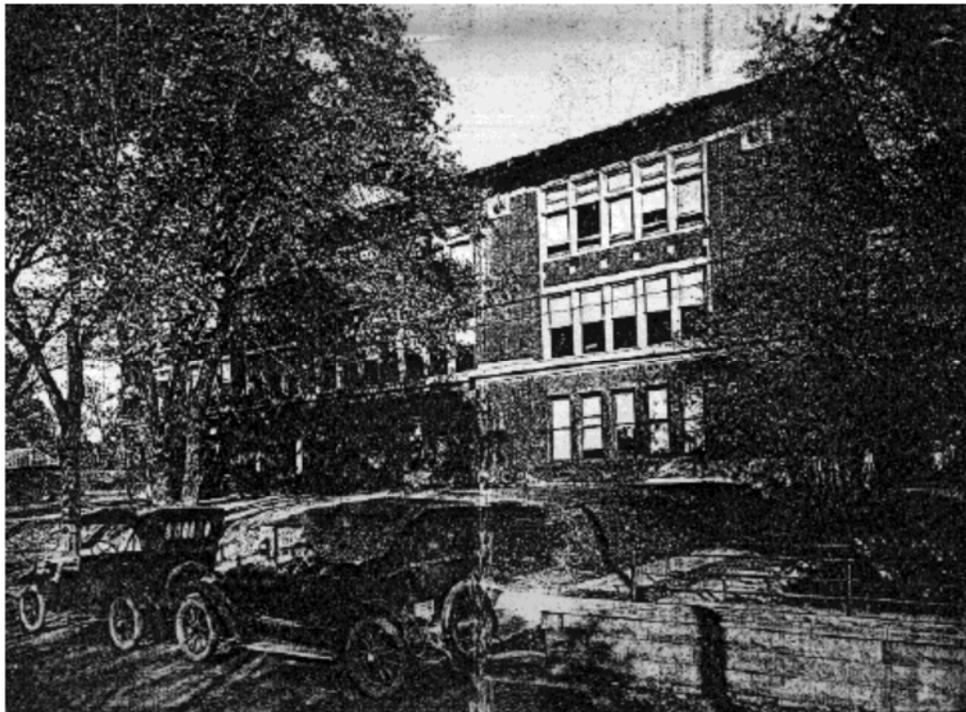
MS SEE Degree Program

Requirements for the Master of Science in Systems and Entrepreneurial Engineering can be found at catalog.illinois.edu/degree-programs/. The non-thesis option in SEE requires enrollment in SE 594 project course. Students are expected to submit a written report to their advisor. Students are pre-placed into the thesis or non-thesis option at the time of admission; however, the student may choose to switch. Students declare the thesis/non-thesis option during their first semester at the same time the advisor agreement is submitted. Several sample curricula are available to students, based on their research interest. See the Graduate Programs Office for information.

Thesis Option

SE 599	Thesis Research (min-max applied toward the degree)	4
SE 590	Seminar (registration for 0 hours every term while in residence)	0
SE courses at the 500-level		12
	Technical side of engineering (8 hours)	
	Business side of engineering (4 hours)	
Elective Courses—chosen in consultation with advisor (subject to Other Requirements and Conditions below)		16
Total Hours		**32**

Other Requirements and Conditions (may overlap):

For the thesis option, a maximum of 4 hours of SE 597 (or other approved independent study) may be applied toward the elective coursework requirement.

4 hours of the elective courses must be from a College of Engineering department, including ABE and CHBE.

A maximum of 4 CR-graded credit hours in non-SE courses may be applied toward the degree.

Minimum GPA:	3.25

Non-Thesis Option

SE 590	Seminar (registration for 0 hours every term while in residence)	0
SE 594	Project Design	8
SE courses at the 500-level		12
	Technical side of engineering (8 hours)	
	Business side of engineering (4 hours)	
Elective Courses—chosen in consultation with advisor (subject to Other Requirements and Conditions below)		16
Total Hours		**36**

Other Requirements and Conditions (may overlap):

4 hours of the elective courses must be from a College of Engineering department, including ABE and CHBE.

A maximum of 4 CR-graded credit hours in non-SE courses may be applied toward the degree.

Minimum GPA:	3.25

PHD General Requirements

Stage I

Stage I of the PhD program consists of 32 hours, generally represented by an MS degree or equivalent. To advance to Stage II, a student must pass the Qualifying Examination.

Stage II

Stage II of the PhD program consists of 32 hours of coursework beyond the M.S. degree. To advance to Stage III, a student must pass the Preliminary Examination.

Stage III

Stage III of the PhD program consists of a minimum of 32 hours of 599 thesis research credit, a written dissertation, and a final oral defense.

Qualifying Examination

(subject to change)

In general, students entering the program with a B.S. degree should take the Qualifying Examination (the Qual) before obtaining the M.S. degree. Students entering the Ph.D. program with a B.S. degree are encouraged to take their qualifying examinations no later than the **fifth semester** after beginning their graduate study. Students entering the Ph.D. program with an M.S. degree should take their qualifying examinations no later than their **third semester** of enrollment. Students will sign up for the qualifying exam in May for the following fall semester's exam. If a student is admitted in the spring semester, the student may petition to take the qualifying exam for the first time off-cycle (during the spring semester).

The Ph.D. degree requirements in Industrial Engineering and Systems and Entrepreneurial Engineering are structured to assure depth in the student's area of research, and at the same time, to assure breadth in engineering. Admission to Ph.D. candidacy is based on the faculty's evaluation of the student's research potential, scholastic competence as evidenced by grades, and satisfactory performance on the Qual.

To be permitted to take the Qual all students must meet the following requirements:

1. A signed MS/PhD Advisor Agreement Form must be on file in the ISE Graduate Programs Office.

2. 8 credit hours of 500-level coursework must be completed in IE and/or SE courses, other than the thesis credit courses (IE or SE 599).

3. A grade point average of at least 3.25 must have been attained on all graduate coursework completed.

The Qual has two components, a written examination, and an oral-examination.

A student who fails any portion of the Qual may repeat that portion of the exam in the subsequent semester. A student who fails the exam on the second attempt will not be allowed to continue in the Ph.D. program. A student who fails two or three of the one-hour written exams will not be allowed to take the oral qualifying exam until the following semester.

ISE Written Qualifying Examination

The ISE written qualifying exam will consist of three one-hour written examinations in a single three-hour time block. The variations in the choice-structure within each research concentration are explained. Each one-hour portion will cover material from 1 of 3 courses. The written exam will be held within three weeks of the start of the fall semester. This exam is open note, open book. Students may not bring calculators, cell phones, computers, tablets, or other electronic devices. A calculator will be provided. These exams will be graded as "pass/borderline/fail". The PhD candidate's advisor can view the graded exam, but the exam will not be made available to the student.

The faculty will ratify the results of the written qualifying exam at the monthly meeting following the written exam. A student who is "borderline" on a written exam can be provided a conditional pass with the proviso that he/she takes appropriate remedial course(s). A "fail" requires the student to repeat the written qualifying exam for that area.

The PhD candidate will select one research concentration from the following areas:

- **Decision and Control**

- **Design and Manufacturing**

- **Operations Research**

Based on the chosen research concentration, the student will be examined in that area as indicated. See each section below for the requirements for your concentration area:

Decision and Control

Candidates with a research concentration in Decision and Control will take three mandatory exams in the topics listed below:

1. Frequency-Doman Methods (SE 320: Introductory Control Systems)

2. State-Space Methods (SE 424: State Space Design for Control)

3. Nonlinear Systems (SE 520/ECE 528/ME 546: Analysis of Nonlinear Systems)

Design and Manufacturing

Candidates with a research concentration in Design and Manufacturing will take one of the three written examinations in the topics covered in the courses listed below:

1. SE 413: Engrg Design Optimization

2. IE 513: Optimal System Design

The remaining two written exams will be on the topics covered in any two courses listed below:

1. SE 530: Multiattribute Decision Making

2. SE 411: Reliability Engineering

3. SE 410: Component Design

4. SE 412: Nondestructive Evaluation

Operations Research

Candidates with a research concentration in Operations Research will take two of the three written examinations in the topics covered in the courses listed below:

1. IE 411: Optimization of Large Systems

2. IE 410: Stochastic Processes & Applic

The third exam will be on the material covered in one of these courses:

1. IE 510: Applied Nonlinear Programming

2. IE 511: Integer Programming

3. IE 512: Network Analysis of Systems

4. IE 521: Convex Optimization

ISE Oral Qualifying Examination

The second component of the qual is an oral examination. The 45-minute oral examination will be based primarily on a presentation made by the student to a three-person oral examination committee (OEC) within the candidate's research concentration. This examination will be conducted during the last three weeks of each semester.

The OEC will assign the student one journal paper to critically appraise during the oral exam in terms of:

- overall significance

- influence on the development of the field

- possible future research directions in the area of the paper, and

- connections to the student's research interests.

To avoid conflict of interest, no papers authored or co-authored by departmental faculty or affiliate faculty will be assigned for the oral examination. The presentation should be 25 minutes in length, leaving 20 minutes for questions. Questioning may range beyond the material in the assigned paper, and may include questions relating to the student's written examination problems.

Students should not expect to defend their research in the oral examination.

Breadth Requirement

The PhD candidate will also be required to take three courses that are outside his/her research concentration, as a part of the breadth-requirement. The student must communicate these courses to the Graduate Programs Office via the my.ise petition portal. The Graduate Programs Office will notify the student of the decision to accept or deny the courses chosen. It is recommended that the Breadth Requirement course approval be completed prior to enrollment in the chosen courses.

The Graduate Programs Office will verify the Breadth requirement before the candidate's PhD Preliminary Examination.

Preliminary and Final Examinations

Due to room scheduling limitations, ISE HIGHLY RECOMMENDS that you submit your room request well in advance of your exam. Suggested: 6 weeks

When planning for your graduation date, preliminary exam, and final exam, it's best to start with the date you intend to graduate and work your way backwards. Keep in mind that exams and deliverables are usually due a month or more before the intended month of graduation. To assist students with this issue, a PhD Planning Document is available on the my.ise portal.

The Examination Committee for Preliminary and Final Exams

The examination committee shall have a minimum of four faculty members from the University of Illinois at Urbana-Champaign with at least one member not from the home department of the candidate. Committee members from outside the University of Illinois at Urbana-Champaign are welcome, but would serve **in addition** to the four University of Illinois at Urbana-Champaign committee members.

Three of the committee members must be listed as Graduate Faculty members and two must be tenured. The committee should include faculty members from more than one area of specialization and at least two from the ISE Department. The Chair must be a member of the Graduate Faculty and may also be the Director of Dissertation Research. The Chair is responsible for convening the committee, conducting the examination, and submitting the Preliminary/Final Exam Result form to the GPO.

A Contingent Chair, if designated, must be a member of the Graduate Faculty. The Contingent Chair serves if the original chair is unable to serve for any reason. The Committee Chair, defending student, and at least one addi-

tional voting member of the committee must be physically present for the entire duration of the examination. If the committee has more than one chair, all chairs must be physically present; in these cases, no additional voting member is required to be physically present.

Only a faculty member of the Industrial and Enterprise Systems Engineering Department may serve as the chair or contingent chair of a preliminary or final examination committee. A Departmental Affiliate cannot serve as a chair or a contingent chair.

 The Director of Dissertation Research is responsible for guiding/advising the student in their thesis research as part of an ongoing research project.

If a proposed voting member is not on the Graduate Faculty, a letter of justification from the Committee Chair and a CV from the proposed member must accompany the Request for Appointment of Doctoral Examination Committee. This justification letter should include information about the proposed member's expertise in the area of research and association to the candidate. Non-voting members, such as an external reader, a member of the faculty who is off campus, or others who can make a significant contribution to the research, may be appointed. A letter of justification is not needed for a non-voting member. The Doctoral Exam Committee request cannot be forwarded to the Graduate College without justification and a CV.

Both voting and non-voting committee members may sign the Dissertation Approval Form that becomes a part of the dissertation document. Only the voting members of the committee sign the Preliminary/Final Exam Result Form.

If, for some reason, your examination committee has to be changed (committee member dropped or added, etc.), please inform the Graduate Programs Office immediately. A new Examination Committee form must be submitted to the Graduate College before the exam takes place.

Scheduling and Timing of the Preliminary and Final Examinations

Due to room scheduling limitations, ISE HIGHLY RECOMMENDS that you submit your room request well in advance of your exam. Suggested: 6 weeks

Scheduling the exam, securing the committee members, and reserving an appropriate room is the student's responsibility.

Preliminary Examination

- At least three (3) weeks prior to the proposed PRELIMINARY EXAMINATION date, the candidate must provide the Assistant Director of Graduate Studies with the Request for Appointment of Doctoral Examination Committee (ise.illinois.edu/graduate/ise-graduate-forms). *To arrange a conference room in the Transportation Building for the PRELIMINARY EXAMINATION, see 117 TB. Recommended rooms: 215 or 304 Transportation Building.*

- At least one (1) week prior to the proposed PRELIMINARY EXAMINATION date, the candidate must provide the committee and Assistant Director of Graduate Studies with the dissertation proposal.

Final Examination

- At least three (3) weeks prior to the proposed FINAL EXAMINATION date, the candidate must provide the Assistant Director of Graduate Studies with the Request for Appointment of Doctoral Examination Committee (ise.illinois.edu/graduate/ise-graduate-forms). *To arrange 303 Transportation Building (recommended) for the FINAL EXAMINATION, see 117 TB. To reserve any other room, see 104 TB. The final exam is open to the public. Final exams may NOT be held in 304 or 215 TB; a room with a minimum capacity of 25 is required.*

- At least two (2) weeks prior to the FINAL EXAMINATION date, the candidate must submit his/her dissertation to the committee.

THE DEPARTMENT OF INDUSTRIAL AND ENTERPRISE SYSTEMS ENGINEERING REQUIRES A MINIMUM OF SIX MONTHS BETWEEN THE PRELIMINARY AND FINAL EXMINATIONS

The Preliminary Exam

The Preliminary Examination is essentially an oral examination on a proposed dissertation topic and the student's academic preparation. The examination is taken upon completion of all required coursework for the PhD degree, or the semester in which the final unit of coursework is taken, but no sooner, and is administered by a committee which is appointed by the Graduate College in accordance with department requests. A student must be registered for the entire semester in which they take the Preliminary Examination.

The Dissertation Proposal

The written dissertation proposal shall be no more than 20 double spaced pages in length including introductory pages, figures, etc. It should include: statement of proposed research, its objectives and significance; a brief review of previous work on related research; and a short discussion of tentative methods of analysis and/or experimentation. There are no specific format requirements for the proposal. Individual advisor requirements override.

The Final Exam

The Final Examination consists of an oral defense of the dissertation and is administered by the doctoral committee. This examination is open to the public. The Graduate College does require that all doctoral candidates be registered for the entire academic term during which they take the final examination, regardless of when the thesis will be deposited or when the degree will be conferred. For this purpose only, "academic term" is defined as extending to and including the day before the first day of the following academic term. If enough thesis credits have been accumulated, registration for zero hours is acceptable.

The Dissertation

Detailed instructions for the preparation and completion of the dissertation are found online at the Graduate College Thesis Office website: http://www.grad.illinois.edu/thesis/format. The dissertation must be reviewed by the Assistant Director of Graduate Studies prior to submission to the Graduate College. Please submit your dissertation to the Assistant Director of Graduate Studies as a pdf at least one week prior to the Graduate College deadline. Check with the Graduate Coordinator, 111 TB, for other forms that must accompany the thesis and procedures.

The Thesis/Dissertation Approval form is given to your advisor and is part of the deposit. It is the student's responsibility to assure this form is returned to the Graduate Programs Office at least one week prior to the deposit deadline.

Following the Preliminary and Final Examinations

After completion of the examination, the Preliminary/Final Exam Result form, must be signed by each committee member and returned to the Assistant Director of Graduate Studies, 111 TB, by the advisor, for processing. Students may not be in possession of this form.

After the dissertation has been approved by the doctoral exam committee, the student or advisor must submit the Dissertation Approval Form to the Graduate Programs Office, no later than one week prior to the dissertation deposit deadline. The Department Head's signature will be obtained on the student's behalf. The form will be electronically submitted by the Assistant Director of Graduate Studies upon formatting approval of the dissertation.

PhD IE Degree Program

Requirements for the Doctor of Philosophy in Industrial Engineering can be found at catalog.illinois.edu/degree-programs/.

A Masters degree is not required for admission to the Ph.D. program.

Entering with approved M.S./M.A. degree

IE 599	Thesis Research (min-max applied toward the degree)	32
IE 590	Seminar (registration for 0 hours every term while in residence)	0
Elective Courses—chosen in consultation with advisor (subject to Other Requirements and Conditions below)		32
Total Hours		**64**

Other Requirements and Conditions (may overlap):

Minimum 500-level credit hours required overall: 16

A maximum of 4 hours of IE 597 (or other approved independent study) may be applied toward the elective course-work requirement.

4 hours of the elective courses must be from a College of Engineering department, including ABE and CHBE

A maximum of 4 CR-graded credit hours in non-IE courses may be applied toward the degree

Ph.D. exam and dissertation requirements:
    Qualifying Exam
    Preliminary Exam
    Final exam or dissertation defense
    Dissertation deposit

Minimum GPA: 3.0

Entering with approved B.S./B.A. degree

IE 599	Thesis Research (min-max applied toward the degree)	40
IE 590	Seminar (registration for 0 hours every term while in residence)	0
Elective Courses—chosen in consultation with advisor (subject to Other Requirements and Conditions below)		56
Total Hours		**96**

Other Requirements and Conditions (may overlap):

Minimum 500-level credit hours required overall: 24

A maximum of 4 hours of IE 597 (or other approved independent study) may be applied toward the elective course-work requirement.

4 hours of the elective courses must be from a College of Engineering department, including ABE and CHBE

A maximum of 4 CR-graded credit hours in non-IE courses may be applied toward the degree

Ph.D. exam and dissertation requirements:

    Qualifying Exam
    Preliminary Exam
    Final exam or dissertation defense
    Dissertation deposit

Minimum GPA: 3.0

PhD SEE Degree Program

Requirements for the Doctor of Philosophy in Systems and Entrepreneurial Engineering can be found at catalog.illinois.edu/degree-programs/.

A Masters degree is not required for admission to the Ph.D. program.

Entering with approved M.S./M.A. degree

SE 599	Thesis Research (min-max applied toward the degree)	32
SE 590	Seminar (registration for 0 hours every term while in residence)	0
Approved SE and IE courses		16
Elective Courses—chosen in consultation with advisor (subject to Other Requirements and Conditions below). Must be 500-level College of Engineering, including ABE and CHBE.		16
Total Hours		**64**

Other Requirements and Conditions (may overlap):

A maximum of 8 hours of SE 597 (or other approved independent study) may be applied toward the elective coursework requirement.

At least 64 hours of credit, which may include SE 599, must be earned in residence.

Ph.D. exam and dissertation requirements:
    Qualifying Exam
    Preliminary Exam
    Final exam or dissertation defense
    Dissertation deposit

Minimum GPA:	3.25

Entering with approved B.S./B.A. degree

Master's degree equivalent		32
SE 599	Thesis Research (min-max applied toward the degree)	32
SE 590	Seminar (registration for 0 hours every term while in residence)	0
Approved SE and IE courses		16
Elective Courses—chosen in consultation with advisor (subject to Other Requirements and Conditions below). Must be 500-level College of Engineering, including ABE and CHBE.		16
Total Hours		**96**

Other Requirements and Conditions (may overlap):

A maximum of 8 hours of SE 597 (or other approved independent study) may be applied toward the elective coursework requirement.

At least 64 hours of credit, which may include SE 599, must be earned in residence.

Ph.D. exam and dissertation requirements:
    Qualifying Exam
    Preliminary Exam
    Final exam or dissertation defense
    Dissertation deposit

Minimum GPA:	3.25

10. Registration

Graduate students may register for a maximum of 20 credit hours in each fall and spring semester and 12 hours in the summer term. To request an overload, a student must complete a graduate student petition, available on the Graduate College website.

International students must register for a minimum of 12 credit hours in each fall and spring semester unless they are on an assistantship of 25% or greater, in which case, the student must register for 8 credit hours minimum. Registration in the summer term for international students is not required unless it is the student's last semester. English as a Second Language (ESL) courses which are **required** via the ESL placement test will count as four hours toward total registered hours even if the registration is listed in the registration system as zero hours.

Students are allowed to audit courses by completing an Auditor's Permit. This form **must** be signed by the instructor and submitted to the Graduate College no later than the 10th day of instruction. A student is charged a $15 fee to audit a course if not enrolled for 12 hours or more. This form is located on the Graduate College website.

Deadlines for graduate students are different than those for undergraduate students. Graduate students have until the 10th day of instruction to add courses online. Your class schedule should be finalized at this time. Students wishing to drop below 12 hours in the fall or spring semester may do so by completing a Late Registration/Late Course Change form (international students must remain registered for 12 hours unless on an assistantship). If a student wishes to drop after the posted deadline, approval is required by the Graduate Programs Office. A "W" is recorded. Students who wish to add courses after the 10th day of instruction must complete a Late Registration/Late Course Change form and obtain approval from the course instructor and the Graduate Programs Office. This form is located on the Graduate College website.

Cancellation/Withdrawal

Cancellation of registration is only permitted if a student has not attended classes and has not used any University services. In order to cancel registration and avoid payment of tuition and fees, the student must complete a Withdrawal/Cancellation form (available on the Graduate College website) and submit it before 5:00 pm on the last business day before the first day of instruction of the term. Retroactive withdrawals are generally not permitted. Approval from the ISE Graduate Programs Office and International Student and Scholar Services (international students only) is required before submitting the form to the Graduate College.

A student who wishes to drop all courses after the cancellation deadline must withdraw from the University for the term. A student must complete the Withdrawal/Cancellation form as mentioned above.

11. Courses

Graduate students should meet with their advisor to determine courses the student should take to achieve their goals. Sample curricula for MS students are available on the Graduate Resources webpage. Graduate students may choose from courses offered throughout the University and are not restricted to IE and SE courses. Some courses may be closed to certain groups of students (for example, ISE restricts some of their 500-level courses to students in the Master of Science in Financial Engineering program). If a student has difficulty getting into an IE or SE course, the student should seek the assistance of the Undergraduate Programs Office in 104 Transportation Building. If a student has difficulty getting into courses from other departments, the student should seek the assistance of the staff in the department which offers the course.

Thesis Credit

Graduate students should enroll in thesis credit as required for their degree program. Industrial Engineering students should enroll in IE 599 and Systems and Entrepreneurial students should enroll in SE 599. Please note that the 599 courses which show up in the online class schedule are placeholder sections. Students may not register

in these placeholder sections. Each professor has their own SE 599 and IE 599 section. Graduate students should enroll in the section of their advisor. Students may email the Graduate Programs Office to obtain the CRN for their advisor's section. Upon registering, the student may change the number of credit hours enrolled by clicking on the hyperlinked credit hour. All thesis credit automatically rolls to DFR (deferred) at the end of the semester. Upon successful deposit of the thesis or dissertation, the 599 grade will be change to S (satisfactory) via paperwork submitted by the Graduate Programs Office.

Independent Study

Students may use 4 hours of approved independent study toward their total degree requirements as an elective. Students may enroll in additional independent study credit, but it cannot be used toward their degree program. To enroll in independent study a student must submit an Independent Study request, available in the my.ise portal, under the ISE Grad Student Toolbox. The student should have discussed the course description/outline and deliverables with the course instructor prior to submitting the form. This form requires the approval of the course instructor and the Graduate Programs Office. Once approved, the student will be given the CRN to register. After you register, double check the credit hours (this can be changed by clicking on the hyperlinked credit hours) and the section you are registered for by viewing the instructor of the course. If it doesn't appear to be correct, contact the Graduate Programs Office for confirmation.

Please note that the 497/597 courses which show up in the online class schedule are placeholder sections. Students may not register in these placeholder sections. Each professor has their own independent study sections. Graduate students should enroll in the section of their instructor.

Courses with S/U Grading (Satisfactory/Unsatisfactory)

Graduate students who enroll in courses with S/U grading cannot use the credit hours from the course toward their graduation requirements.

Incomplete/Deferred Grades (I/DFR)

An incomplete grade is an approved extension of time to complete the final examination or other requirements of a course. A deferred grade is used in courses extending over more than one semester. Occasionally students will earn one of these grades if the student did not complete the requirements of the course during the semester of enrollment. If a student earns this grade, the student has until Reading Day of the following semester (summer not included) to complete the requirements of the course. If the student does not complete the requirements of the course, the grade automatically rolls to an F. Thesis research courses (599) are not included in this rule.

Transfer Credit

There are two types of credit that a graduate student may wish to transfer. Graduate students may wish to transfer credit completed outside the Graduate College, or credit from one graduate degree to another, within the Graduate College at the University of Illinois.

See the Graduate College Handbook for information and regulations at http://www.grad.illinois.edu/gradhandbook/2/chapter3/transfer-credit.

12. College of Engineering Career Services

The College of Engineering Career Services (ECS) provides students with resources for internships, co-ops, and job opportunities. ECS assists students with résumé writing, cover letters, mock interviews, employment searches, and provide seminars throughout the year to assist students in their job search. Don't overlook this important resource! Additional information is available at http://ecs.engineering.illinois.edu/.

13. Depositing your Thesis or Dissertation

All students who are required to complete a thesis or dissertation must deposit their document electronically. The Graduate College website has instructional videos on how to complete the process on their website.

All theses must undergo a departmental formatting review. One week prior to the Graduate College deposit deadline, the student must submit their completed, final copy of the thesis/dissertation to the ISE Graduate Programs Office in pdf format along with the Thesis/Dissertation Approval (TDA) Form. **The document will not be reviewed until the signed TDA form is received.** The student will be notified of any changes via email. The student must resubmit the thesis/dissertation until all required changes are satisfactorily completed. Upon formatting approval, the TDA form will be submitted to the Graduate College. When the student receives permission from the ISE Graduate Programs Office, the student may then upload/deposit their thesis/dissertation to the Graduate College website. It is possible that the Graduate College may have additional changes for the student to complete. No changes (other than those required by the Graduate College) should be made to the document after approval has been granted to deposit by the Graduate Programs Office. If changes are made, the student must re-submit the document for formatting approval.

Students are expected to deposit their dissertation promptly following their final exam to preserve the currency of the research and the integrity of the document approved by the committee. Students must deposit their dissertation within three semesters (including the current semester). The deposit must be made by the published deadline for that semester. After this time, a new final examination may need to be conducted.

14. Graduation

All ISE graduate students must add themselves to the pending degree list in UI Integrate prior to the posted deadline by clicking the Graduation tab and applying to graduate (this process is separate from commencement). If a student is unable to add themselves due to dual degree, or changing degree programs, the student must notify the ISE Graduate Programs Office immediately.

Below are guides to graduation for the type of degree you are earning. A checklist is emailed to each student at the beginning of the semester of intended graduation. A personalized meeting is available upon request.

Step-by Step Guide to Graduation (MS with thesis)

1. Add yourself to the pending degree list in UI Self-Service as soon as possible, and before the deadline.

2. Optional-Sign up to attend commencement and rent regalia.

3. Update your diploma address in UI Self-Service.

4. At least one month before the thesis is due to the Graduate College (check the deadline at the Graduate College Website), file the thesis title page after review by the Graduate Programs Office.

5. One week before the thesis is due to the Graduate College, submit the Thesis Approval Form to the Graduate Programs Office. You should have all required signatures (your advisor) except the Department Head. The Graduate Programs Office will obtain the Department Head's signature and submit this document electronically upon formatting approval of the thesis.

6. One week before the thesis is due to the Graduate College, email the thesis, as a pdf, to the Graduate Programs Office for formatting review.

7. When approval is given to deposit by the Graduate Programs Office, you may deposit electronically. DO NOT DEPOSIT UNTIL GIVEN PERMISSION TO DO SO.

8. All 590 seminars must be completed by Reading Day.

9. Submit the online Exit Interview https://illinois.edu/sb/sec/356924 by Reading Day of your term of graduation.

10. Submit the Clearance Form (https://my.ise.illinois.edu/) to the Graduate Programs Office by the last day of final exams. If continuing for a PhD in the ISE department this form is waived.

11. Empty mailbox, locker, terminate parking space, return equipment, library books, etc. Turn in departmental keys (room and bldg. keys to 117 TB; filing cabinet keys to GPO), check out with personnel staff (vacation/sick leave, final pay, etc.); check student account and reconcile outstanding balances.

12. Student loan recipients are required to complete an exit interview (this is different than the department exit interview). http://paymybill.uillinois.edu/UIUCInterviews

13. You are already a member of the University of Illinois' Alumni Association. Explore your benefits at http://www.uiaa.org/illinois/

Step-by Step Guide to Graduation (MS non-thesis)

1. Add yourself to the pending degree list in UI Self-Service as soon as possible, and before the deadline.

2. Optional-Sign up to attend commencement and rent regalia.

3. Update your diploma address in UI Self-Service.

4. All 590 seminars must be completed by Reading Day.

5. Submit the online Exit Interview https://illinois.edu/sb/sec/356924 by Reading Day of your term of graduation.

6. Submit the Clearance Form (https://my.ise.illinois.edu/) to the Graduate Programs Office by the last day of final exams.

7. Empty mailbox, locker, terminate parking space, return equipment, library books, etc. Turn in departmental keys (room and bldg. keys to 117 TB; filing cabinet keys to GPO), check out with personnel staff (vacation/sick leave, final pay, etc.); check student account and reconcile outstanding balances.

8. Student loan recipients are required to complete an exit interview (this is different than the department exit interview). http://paymybill.uillinois.edu/UIUCInterviews

9. You are already a member of the University of Illinois' Alumni Association. Explore your benefits at http://www.uiaa.org/illinois/

Step-by Step Guide to Graduation (PhD)

1. Add yourself to the pending degree list in UI Self-Service as soon as possible.

2. Optional-Sign up to attend commencement and rent regalia.

3. Update your diploma address in UI Self-Service.

4. Check the Graduate College Calendar for the last day to take your final exam. Schedule your final exam with your committee on or before the last day to take your final exam. Reserve a room (303 Transportation Bldg. recommended) for your exam, at least six weeks in advance, by contacting the staff in the Main Office (117 TB).

5. Submit the Request for Doctoral Exam Committee at least three weeks prior to the date of your final exam.

6. Submit your dissertation to your Doctoral Exam Committee two weeks prior to your final exam.

7. One month before the thesis is due to the Graduate College (check the deadline at the Graduate College Website), file the thesis title page after review by the Graduate Programs Office.

8. The chair of your final exam committee is given the Dissertation Approval Form for signature. It is your responsibility to assure this form is received by the Graduate Programs Office. The dissertation will not be reviewed until this form is received. All required signatures (your committee) should be completed except the Department Head. The Graduate Programs Office will obtain the Department Head's signature and electronically submit this document upon formatting approval of your dissertation.

9. One week before the dissertation is due to the Graduate College, email the dissertation to the Graduate Programs Office for formatting review.

10. When approval is given to deposit by the Graduate Programs Office, you may deposit electronically. DO NOT DEPOSIT UNTIL GIVEN PERMISSION TO DO SO.

11. Submit IDEALS deposit agreement, Survey of Earned Doctorates (https://sed.norc.org/survey), AIDE Exit Survey (http://www.grad.illinois.edu/aide/exitsurvey), and one copy of each permission letter to reprint previously copyrighted material (if applicable) to the Graduate College by the due date. This date is the same date the dissertation is due.

12. Submit the online Exit Interview https://illinois.edu/sb/sec/356924 by Reading Day of your term of graduation.

13. Submit the Clearance Form (https://my.ise.illinois.edu/) to the Graduate Programs Office by the last day of final exams.

14. Empty mailbox, locker, terminate parking space, return equipment, library books, etc. Turn in departmental keys (room and bldg. keys to 117 TB; filing cabinet keys to GPO), check out with personnel staff (vacation/sick leave, final pay, etc.); check student account and reconcile outstanding balances.

15. Student loan recipients are required to complete an exit interview (this is different than the department exit interview). http://paymybill.uillinois.edu/UIUCInterviews

16. You are already a member of the University of Illinois' Alumni Association. Explore your benefits at http://www.uiaa.org/illinois/

15. Finances/Funding

Research and teaching assistantships provide students with funding in exchange for work done at the University. All ISE (excludes MSFE) students who receive an assistantship of 25% or greater will also receive a tuition waiver, health service fee waiver, 80% health insurance fee waiver, AFMFA fee waiver, Library/Technology fee waiver, and Service fee waiver (subject to change as determined by the Graduate College. See the Graduate College website for more information). Research assistantships are appointed by individual faculty members. Teaching assistantships are assigned by the Graduate Programs Office. Students with an assistantship of 25% or greater must register for a minimum of 8 credit hours for the fall or spring term. Students are not required to register in the summer term if they hold an assistantship unless it is their last semester.

The acceptance of an appointment requires the student to be on campus and available to their supervisor during the appointment dates outlined in the offer letter, with the exception of University holidays. A student must receive prior approval from their supervisor and the Graduate Programs Office if they will be away from their responsibilities. Failure to report to work may result in disciplinary action, termination, and/or non-reappointment of an assistantship.

Many fellowships are available at https://www.grad.illinois.edu/fellowship/.

Check the Graduate Assistanship Clearinghouse for job openings at http://www.grad.illinois.edu/clearinghouse

Students with waiver-generating fellowships must register for a minimum of 12 hours during the fall or spring semester in which the fellowship is granted. Students with a twelve-month fellowship appointment are required to register for at least four hours in an eight-week course during the summer.

If a student receives an assistantship of 25% or greater in the spring semester, the summer tuition, service fee, AFMFA fee, and the Library/Technology fee are waived. The health service fee and health insurance fee are not waived.

Teaching Assistants

Teaching assistantships and renewals (see policy ISE-G-TA-1.1) are competitively awarded based on student performance, academic progress, prior TA performance of the student, the Department's obligation to the student as determined by the original admission letter, and research accomplishments of the student. The number of teaching assistantships offered by the Department is dependent upon the available financial resources and need of the Department.

Teaching Assistantship Requirements:

- Must be admitted to the graduate program

- Must be in good academic standing (not on probation, not on Limited Status admission)

- Must have a passing spoken English proficiency score or English must be the native language

    24+ TOEFL Speaking
    8+ IELTS Speaking
    50+ TSE
    4CP+ EPI**

- Must attend Graduate Academy (only once)

- Must apply for a teaching assistantship position (Notification is sent out in November for Spring semester; April for Fall semester)

- Must be present and available to their supervisor during the appointment period (except official university holidays)

    August 16-December 31 for fall term

    January 1-May 15 for spring term

Ability to meet these requirements DOES NOT guarantee a teaching assistantship position.

Teaching assistantship preference is given to:

- Students enrolled in doctoral program

- Students actively involved in research

- Students pursuing the thesis option

- Students with high academic performance

MS students may hold a teaching assistantships for a maximum of 3 semesters. PhD students may hold a teaching assistantship for a maximum of 8 semesters. Advisor justification is required for a student to be appointed as a teaching assistantship in each additional semester beyond the above mentioned time length.

**Students who do not meet the English proficiency requirement may take the English Proficiency Interview offered by the Center for Innovation in Teaching and Learning. If a student passes with a 4CP (conditional pass), the student is eligible to be a teaching assistant, but requires the student to take an English as a Second Language course the semester of or the semester prior to holding the teaching assistantship. A score of 5 or higher is con-

sidered passing. Students interested in taking the EPI will sign up with the Graduate Programs Office. Watch for the email notice. The EPI is offered during the semester; therefore, a student who passes is not eligible to be a TA until the following semester.

Conference Funding

Two types of conference funding are available to ISE graduate students. Students may apply for and receive both types of funding for a single conference. The Graduate College awards Conference Travel Awards twice per year, not to exceed $350, for students presenting at professional conferences. The amount awarded is based on the distance between the University of Illinois Urbana campus and the student's conference destination. Students will receive an email from the Graduate Programs Office soliciting applications for this award in September and February.

ISE provides an ISE Conference Scholarship to enable ISE graduate students to make presentations at key conferences/exhibitions in their fields. This funding is available to graduate students on an individual basis. ISE graduate students must be in good academic standing. Students should apply for conference funding at least 1 1/2 months prior to the conference attending. If at any time the student decides they will not attend the conference, the student should notify the Graduate Programs Office immediately. The student's advisor is required to approve the conference funding request.

Graduate students awarded the ISE Conference Scholarship will receive $500 to attend the conference, deposited to their student account. ISE will award up to 20 scholarships each fiscal year. If the student owes money to the University, the University will take what is owed out of the scholarship money. This funding is a partial source of support and students should seek additional funding (if needed) from their advisor, the Graduate College, and other places. ISE does not expect to grant more than one award per graduate student per fiscal year, except in extraordinary circumstances.

All graduate students who accept conference funding support from ISE commit to presenting a synopsis of their work via a poster, a PowerPoint presentation, or other appropriate format at a departmental event to be determined each year. See Conference Funding Policy ISE-G-CF-3.0

16. Graduate Forms

Graduate students may use a Graduate Student Request Form to petition for an exception to a Graduate College policy or deadline, add/drop a minor or concentration, a curriculum change, re-entry, or transfer credit. This form is available on the Graduate College website. The Graduate College petition requires very specific information to be included in the petition/record request depending on the petition or record request type, below is a list of guidelines for submitting a student record request or petition.

All record requests/petitions require two signatures from the department, and in some cases, signatures of staff outside the department. Please inform your advisor and outside signatories (if applicable) of your intention to submit a record request or petition.

Future or Current Term Curriculum Change

- Effective Term
- Program Name and Code
MS SEE	10KS3846MS	PhD SEE	10KS3846PHD
MS IE	10KS0127MS	PhD IE	10KS0127PHD
MS IE Online	**PENDING**		
- Courses to transfer (course number, title, CRN, credit hours, and term)

Minor or Concentration

- Effective Term
- Program Name and Code or Minor and Code
    MS IE Advanced Analytics in Industrial & Enterprise Systems Engineering   **CODE 5539**
- Courses used toward minor/concentration (course number, title, CRN, credit hours, and term)

Re-entry

√   Required for international students if not registered for one spring or fall term. Required for domestic students if not registered for 3 terms.
- Term of re-entry
- Program of re-entry
- Program Code if new program
- Time extension, if needed
- International students must include: International Verification Form, Declaration & Certification of Finances, letter from department of financial support (if applicable.)

Time Extension-Expected Graduation Date (EGD)

- Specify length of time extension (max 1 year)
- Timeline for degree completion (Include dates/terms for milestones: Quals, prelim, final, and deposit dates)

Overloads (>20 hrs spring/fall OR > 12 hrs summer)

- Specify total number of hour requested
- Why needed
- Why capable of course load/history of heavy course loads?
- If after 10th day, attach Late Registration/Late Course Change Form

Transfer Credit-One graduate degree program to another

- **No limit on number of hours**
- Courses to transfer (must include course number, title, CRN, credit hours, and term)
- Degree program courses are to be transferred to
√   Request will be made to original department for statement that course(s) were not used toward any degree or transcripted certificate

Transfer Credit-General Information From Outside the Grad College

√   Limited to 12 hours
√   Not previously used toward a degree or transcripted certificate
√   From an accredited institution
√   "B" or better grade
√   Graduate level courses
√   Not applicable toward Stage II or II of doctoral degrees
√   Department determines "age" of coursework

Transfer Credit-Non-degree UIUC
- List Courses for Transfer (course number, title, CRN, credit hours, and term)
- Degree program courses are to be transferred to
√ 12 hours max, unless credit was earned within the Graduate College
√ "B" or better

Transfer Credit-From other accredited institution

- Indicate the course transfer is 400 or 500-level for each course
- Courses to transfer (all possible information)
- Specify total hours accepting (12 hrs max)
- Original, official transcript, less than 6 months old (sent directly to department or Graduate College)
- Letter from institution affirming courses not applied towards any awarded degree or certificate

Transfer Credit-UIUC Undergrad or Professional

- Change of Course Level Form-GC petition not required in most cases
- Petition required if grade below a "B" or > 12 hours
    - Why using < "B" grade
    - Why > 12 hours
    - Completed Change of Course Level Form

Retro Grade Mode Change (Standard; Credit/No Credit; Audit)

- Course Information (course number, title, CRN, credit hours, and term)
- Why deadline missed
- Audit Only:
    - Instructor's Signature and statement that student never participated or completed assignments or exams (obtained by dept)
    - Completed Audit Form

Extension for Incompletes or Non-thesis DFR's

- Course Information (course number, title, CRN, credit hours, and term)
- Plan for completion (if extension for incomplete)
- Instructor's signature and statement of support (obtained by dept)
- Length of extension (limited to one term)

Retroactive Course Add or Increase in Credit Hours

- Course Information (course number, title, CRN, credit hours, and term)
- Why deadline missed?
- Instructor's signature and statement that student completed academic work appropriate for credit hours (obtained by dept)
- Supplemental Grade Report Form (obtained by dept)

Retroactive Course Drop or Decrease in Credit Hours

- Course Information (course number, title, CRN, credit hours, and term)
- Why deadline missed?
- Why Exception?
- Instructor signature & statement including last date of attendance, participation, assignments completed (obtained by dept)
- **Decrease Hours only: Supplemental Grade Report Form (obtained by dept.)**

Retroactive Withdrawal/Cancellation

- Last date of attendance or participation
- Why deadline missed? Why exception?
- Withdrawal/Cancellation Form (International students must obtain ISSS signature)
- Medical documentation if applicable

Retroactive Registration Corrections

√ **Must be for same number of hours in same term**
- Course Information (course number, title, CRN, credit hours, and term)
- Instructor signature(s) and statements (obtained by dept)
- **Supplemental Grade Report Form (obtained by dept)**

Reinstatement after Dismissal for Low Cumulative GPA

- For what term?
- Cause of academic difficulty
- Plan for raising GPA in one term (If not mathematically possible, must acknowledge, and put a plan and expectations in petition; petition still required each term)
- Medical or other documentation

Thesis, Dissertation, Committee Policy

- What is requested
- Why deadline missed?
- Letter from Dept. Head if requesting to deposit after one year after defense (if applicable)

Other Graduate College forms are available at http://www.grad.illinois.edu/forms. Not all of these forms are necessarily for use by graduate students.

Internal, ISE graduate forms are available on the my.ise.illinois.edu website or the ISE website. These forms include independent study, ISE internal petition, seminar substitution, thesis advisor agreement, and a request for doctoral examination committee. All approvals will be obtained by the Graduate Programs Office.

17. Faculty Research Areas

J. T. Allison	Ph.D. Mechanical Engineering University of Michigan at Ann Arbor	Multidisciplinary `design optimization, integrated physical/control system design, system architecture and topology optimization; applications in renewable energy, robotics, aerospace and automotive systems, structures, and material design.
C. L. Beck	Ph.D., Electrical Engineering California Institute of Technology	Control systems, modeling and model reduction for the purpose of control, systems theory, combinatorial optimization, clustering and data aggregation.

K. Chandrasekaran	Ph.D., Algorithms, Combinatorics & Optimization Georgia Institute of Technology	Integer programming, combinatorial optimization, probabilistic methods and analysis, randomized algorithms.
X. Chen	Ph.D., Operations Research Massachusetts Institute of Technology	Operations research/management, inventory and supply chain management, dynamic pricing and revenue management, optimization and optimal control.
A. Chronopoulou	Ph.D., Statistics Purdue University	Financial engineering, stochastic modeling and simulation, stochastic systems with long memory, statistical inference for stochastic processes.
S. R. Etesami	Ph.D., Electrical and Computer Engineering University of Illinois at Urbana-Champaign	Social and distributed networks, algorithmic game theory, smart grids, machine learning, algorithm design, and computational complexity.
L. Feng	Ph.D., Industrial Engineering & Mgt. Sciences Northwestern University	Stochastic modeling, operations research, financial engineering.
J. Garg	Ph.D., Computer Science and Engineering Indian Institute of Technology at Bombay	Computational aspects of economics and game theory, combinatorial optimization, design and analysis of algorithms, and mathematical programming
N. He	Ph.D. Industrial & Systems Engineering Georgia Institute of Technology	Large-scale optimization and machine learning, optimization under uncertainty, nonparametric statistical inference.
T. Kesavadas	Ph.D., Industrial & Systems Engineering The Pennsylvania State University	Medical robotics and simulation, virtual reality in design, haptics and human computer interaction.
H. Kim	Ph.D., Mechanical Engineering University of Michigan at Ann Arbor	Multidisciplinary design optimization (MDO), large-scale decision making, sustainable systems and green design, energy systems engineering, predictive design analytics for complex systems, life cycle design.
N. Kiyavash	Ph.D., Electrical and Computer Engineering University of Illinois at Urbana-Champaign	Information theory, statistical signal processing, graphical models with applications in computer, communication and multimedia.
G. Krishnan	Ph.D., Mechanical Engineering University of Michigan at Ann Arbor	Design and manufacturing of compliant systems, microsystems, soft adaptable robots, and rehabilitation robotic devices, automated conceptual synthesis, topology optimization and shape-size optimization of mechanical components.
Y. Li	Ph.D., Aerospace Engineering	Discovery and applications of advanced engineering material systems through multiscale, modeling, and experiments.
L. Marla	Ph.D., Transportation Systems Massachusetts Institute of Technology	Large-scale optimization, robust network design under uncertainty, data-driven optimization, transportation and logistics networks, aviation, emergency medical systems.
R. Nagi	Ph.D., Mechanical Engineering University of Maryland at College Park	Facilities design, production systems, applied/military operations research, information fusion.
S. Oh	Ph.D. Electrical Engineering Stanford University	Statistical inference, graphical models, applications to social computation, privacy.
H. Reis	Ph.D., Mechanical Engineering Massachusetts Institute of Technology	Nondestructive testing and evaluation, structural health monitoring, prognosis of structural components, structural damage detection and assessment, advanced sensors, advanced composites.

J. Sirignano	Ph.D., Management Science & Engineering Stanford University	Machine learning, optimization, stochastic modeling, financial engineering.
R. Sowers	Ph.D., Applied Mathematics University of Maryland at College Park	Dynamics of financial systems and financial interactions. Dimensional reduction of stochastic systems, scaling and big data.
R. S. Sreenivas	Ph.D., Electrical & Computer Engineering Carnegie Mellon University	Modeling analysis, control and performance evaluation of discrete-event/discrete-state (DEDS) systems.
D. Stipanović	Ph.D., Electrical Engineering Santa Clara University	Controls, differential games, large-scale systems.
A. Stolyar	Ph.D., Mathematics USSR Academy of Science	Stochastic Processes and Queueing Networks; Stochastic Modeling of Communication, Information and Service Systems.
R. Sun	Ph.D., Electrical Engineering University of Minnesota	Large-scale optimization, machine learning, signal processing, information theory and wireless communication
D. L. Thurston	Ph.D., Civil Engineering Massachusetts Institute of Technology	Multiattribute decision-making under uncertainty and risk, environmentally conscious design and manufacturing.
P. Wang	Ph.D., Mechanical Engineering Massachusetts Institute of Technology	Design of resilient complex systems, data analytics for system resilience and sustainability analysis, and uncertainty quantification and management.
Q. Wang	Ph.D., Engineering & Public Policy Carnegie Mellon University	Control and optimization of manufacturing and service systems, pricing, inventory, and revenue management; modeling and analysis of public policies, applied economic analysis of communication networks.

18. Academic Leave of Absence Policy/Absent Without Leave

Graduate students in degree-seeking programs are entitled to a total of two terms (fall and/or spring semesters) of academic leave. A student is required to document their request for leave and meet eligibility requirements. Students must meet with their advisor and the Graduate Programs Office before the first day of classes of the term of non-enrollment to apply for and receive approval for an Academic Leave of Absence.

There are two categories of Academic Leaves of Absence:

- **Personal Academic Leaves of Absence** may be requested for a variety of reasons, including but not limited to leave for health reasons, personal reasons, active military service, or to take care of dependents or family members. Students who are on an approved Personal Academic Leave of Absence must use the leave for personal reasons and not to make progress on the degree. In addition, students on Personal Academic Leaves of Absence should not expect faculty to provide feedback on academic work, including proposals or drafts of theses.

- **Academic Progress Leaves of Absence** may be requested for instances of academic activity such as study abroad, when the student registers at another institution, or fieldwork when the student is not using UIUC resources including faculty time, nor receiving financial support paid through the University. Students who are on an approved Academic Progress Leave of Absence do use the leave to make progress toward completion of the degree, but must not use campus resources. Expectations of progress to be made during the leave should be documented in the student's academic file.

Student status does not change during the period of an approved leave of absence. Standing that was in place at the time of the leave is not changed at the time of return, as long as the conditions of the approved leave are met.

The Graduate College policy on time to degree applies and must be addressed in the record of the approved leave. If by requesting a leave, the student is going to go beyond the degree program's approved time to degree during the leave, then the student also needs to request a time extension for the degree through the Graduate College petition process at the time of the request for Academic Leave.

Students with an approved Academic Leave of Absence must ensure that they have cancelled their registration for the term during which the leave will occur before the first day of classes.

Faculty are not required to provide feedback for work by students who are not enrolled, for example, feedback on thesis chapters or grading work turned in as a requirement to change an incomplete grade.

Procedure to Request an Academic Leave

Requests must be approved by the Department prior to the first day of classes of the intended semester of leave. To request a formal academic leave the student must complete the following before the first day of classes of the term of non-enrollment:

- Complete the written Request for Academic Leave of Absence form (available on the Graduate College Website).

- If necessary, complete a petition to request an extension of time to degree.

- International students must meet with an ISSS advisor and obtain a signature on the Request for Academic Leave of Absence form.

- Meet with her/his adviser and Assistant Director of Graduate Studies, either by phone or in person, to review the request.

Return from Approved Academic Leave of Absence

Domestic Students-Domestic students must notify the Department of their intent to return so that the Departments may review and confirm their academic status at the time of return. If a domestic student has not been enrolled for three consecutive terms including summer, the student must complete and receive approval on a Graduate College Application for Re-entry. The approved Academic Leave of Absence form must be attached to the Application for Re-entry to document the approved leave terms and for the return to enrolled student status.

International Students-International students must notify the Department of their intent to return so that the Department may review and confirm their academic status at the time of return. Due to student visa requirements, all international students taking leave outside the U.S must complete and receive approval on a Graduate College Application for Re-entry. The approved Academic Leave of Absence form must be attached to the Application for Re-entry to document the approved leave terms and for the return to enrolled student status. International students taking leave outside the U.S. should begin this process **at least three months in advance** to allow for document processing and visa issuance, if required.

Absent Without Leave Policy

Degree-seeking graduate students are required to request a formal Academic Leave of Absence before non-enrollment for one or more terms, (fall or spring semesters, not summer). There are potentially negative consequences for failing to request an Academic Leave of Absence. Students who do not enroll and do not meet with the Department and document their status with an approved Academic Leave of Absence before a period of non-enrollment begins are considered Absent Without Leave. The Department may put an advising hold on a student who is absent without leave. A student who is absent without leave may be prevented from re-enrolling, may

have additional degree requirements to complete if allowed to return, or may be subject to new degree require-ments.

Additional information regarding this policy is available at http://www.grad.illinois.edu/leavepolicies. Students are responsible for understanding the consequences of taking an approved Academic Leave of Absence and the Absent Without Leave Policy.

19. Registration In Absentia

In absentia is a registration type designed for students who wish or need to remain registered, but plan to be studying or doing research for at least one semester at least 50 miles away from campus. In absentia registration is not permitted for students enrolled in courses meeting on campus. Students may register in absentia for any number of credit hours. There is no decrease in tuition rates, but the University recognizes that such students do not access the full range of campus services and resources while away. Students registered in absentia are only assessed the general fee. This fee provides students with access to their University email and access to library services. Students registered in absentia should make other arrangements for health insurance.

To register In Absentia, the student must submit the "In Absentia" Registration Request Form, available on the Graduate College website. In absentia requests are only accepted for the current/upcoming term and must be submitted by the 10th day of classes. Students must be registered for ALL course prior to submitting the request.

Appropriate uses for "In Absentia" registration include: internship, research at another institution, etc.

20. Transferring In or Out of an ISE Graduate Program

Graduate students may transfer to a new department after spending at least one semester in their program of admission.

Students who wish to transfer to one of the ISE degree programs should meet with the Assistant Director of Graduate Studies, for a transfer form and instructions. Potential transfer students from outside of ISE must com-plete a transfer request form and provide a new statement of purpose, resume, and any BS or MS transcripts from other institutions. The transfer form is a form internal to ISE only. If approved, the student is required to submit a Graduate College Petition to officially transfer. Students are encouraged to speak with individual faculty members they are interested in working with. Each transfer applicant is reviewed by the Graduate Committee; therefore, students are encouraged to submit all paperwork at least three months in advance of the intended semester of transfer.

Students who wish to transfer out of the ISE department must contact the department they wish to transfer to and follow their guidelines for transferring.

21. Grievance Policy

In the event a graduate student has a conflict or problem with any faculty or staff, every effort should be made to resolve the issue informally, without invoking formal grievance procedures. In the event it is not possible to re-solve a problem informally, a graduate student may elect to file a formal grievance. See the Graduate College Grievance Policies website. http://www.grad.illinois.edu/gradhandbook/2/chapter9/academic-conflict.

22. ISE Graduate Programs Policies

Policies for graduate students are on the following pages. Additional policies will be added as needed. The cur-rent policies include:

- Conference Funding Policy ISE-G-CF-3.0

- Graduate Student Office Space Policy ISE-G-OS-2.0

- TA Assignment Policy ISE-G-TA-1.1

Any questions regarding these policies can be directed to the Graduate Programs Office.

Any suggestions for content may be submitted to ise-grad@illinois.edu