

**Fall 2024**  
**IE Graduate Student Handbook**  
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# 1. APPLYING TO OUR GRADUATE PROGRAM

## Deadlines

Information on applying to any of our graduate programs can be accessed from our department's website [www.ime.psu.edu](http://www.ime.psu.edu). The graduate admission process is managed by LionPATH. Application deadlines for admission are as follows:

Degree	Admission Deadlines
M.S., Ph.D., Fall Semester	December 15 of previous year
M.S., Ph.D., Spring Semester	September 1 of previous year
MEng (online), Fall Semester	July 15 (approximately 1 month prior to start of semester)
MEng (online), Spring Semester	December 1 (approximately 1 month prior to start of semester)
MEng (online), Summer Semester	March 15 (approximately 1 month prior to start of semester)

Your application must be fully complete before you can be considered for admission.

# 2. TRANSITIONING TO OUR GRADUATE PROGRAM AFTER ADMITTANCE

## After Being Admitted:

After the department admits you and you accept, you will:

- receive a letter in GRADS (Status Page) from the Office of Graduate Enrollment Services informing you of your admission and current status. International students will be informed of the Directorate of International Student and Scholar Advising (ISSA) process. *(Receipt of this letter: February timeframe for fall entrance or October timeframe for Spring entrance)*
- receive email from IME Graduate Team regarding orientation date(s) and course scheduling information. *(Receipt of this letter: June timeframe for fall entrance or November timeframe for spring entrance)*
- be able to schedule courses and access PSU email account AFTER you receive the formal admission letter from the Office of Graduate Enrollment Services. For international students this will be a second letter after ISSA has confirmed financial guarantee and visa. *(Receipt of this letter: Domestic—February timeframe/International: Varies for fall entrance or Domestic—October timeframe/International: Varies for spring entrance)*

## Before you arrive:

- Be sure that you regularly review your status page in GRADS (<http://gradschool.psu.edu/existing-application/>) and provide any requested documentation as soon as possible.

## When you arrive:

- Take advantage of the many new student orientation activities. There is a great deal of information provided at each orientation. We highly recommend that you attend all

appropriate orientation events; IE Department Orientation for new students is mandatory.

- Fall Semester Orientations typically begin two weeks before the start of classes.
- Spring Semester Orientations typically begin one week before the start of classes.

### **Selecting a Research Advisor**

Your M.S. or Ph.D. research advisor is typically selected during your first semester in your graduate program. You will be expected to meet with the Graduate Program Coordinator early in your first semester. During the meeting, you will discuss advisor options.

### **Transferring Academic Credits**

In some cases, a student may be able to transfer graduate credits from a previous degree obtained at Penn State or other institutions to fulfill some M.S. or Ph.D. degree requirements. Transferring credits is done after a student arrives in consultation with the IE Department Graduate Program Coordinator.

### **Special Information for International Graduate Students**

The United States Department of Homeland Security (DHS) allows a duration of not more than three years for a master's degree and not more than six years for a doctorate, after the B.S. degree. Students entering a Ph.D. program with a master's degree are allowed not more than four years to complete the degree. Extensions can be made by the DHS, with approval from the student's academic adviser and Penn State International Student and Scholar Advising (ISSA) <https://global.psu.edu/article/advising>.

All international graduate students should become familiar with ISSA. This office is designed specifically for the special needs of international students, including their visas. Each semester, ISSA conducts a mandatory orientation program for new students. This orientation provides an opportunity for students to become familiar with campus, provides an opportunity to obtain a social security number, telephone service, etc., and provides information about shopping, apartments, school registration for children.

All international students on F-1 or J-1 visas must be registered as full-time students during both fall and spring semesters in order to maintain a proper visa status. The minimum load for full-time students is nine credits per semester. A student must get written approval from ISSA for registering less than nine credits in a semester, with the consent of the academic advisor. This could happen when the student is working on his/her thesis or dissertation, after completing all required course work.

### **Health Insurance (Residential Students Only)**

U.S. and International students must provide proof of health insurance coverage that meets a set of requirements, or students must purchase the health insurance through Penn State SHIP. Health insurance enrollment procedures, coverages, and costs change each year.

At the present time Graduate Assistants, Graduate Fellows, and Graduate Trainees are automatically enrolled in the Penn State Student Insurance Plan (SHIP) each fall semester for medical, dental, and vision coverage. Students may choose to decline this coverage or add

additional dependents by making changes to their selection in Workday by going to <https://worklion.psu.edu/>.

For detailed information regarding health insurance, please visit <http://www.studentaffairs.psu.edu/health-wellness/health-insurance>.

### **3. ACADEMIC POLICIES FOR ALL GRADUATE STUDENTS**

#### **Registration/GPA Requirements**

All graduate students must be continuously enrolled during fall and spring semesters, until graduation, even after completing all credit requirements for the degree. There are additional enrollment requirements for international students. (Refer to the Penn State Graduate Degree Programs Bulletin (<https://bulletins.psu.edu/graduate/>) and other sections in this document for more information.)

#### **SARI Requirements**

All residential and on-line graduate students at the university are required to undertake training in Scholarship and Research Integrity (SARI) and receive SARI certification. This SARI training has both on-line and in the classroom components. It should be completed by the end of the first year of study. See Appendix A for detailed SARI requirements.

#### **Details on Transferring Academic Credits**

In some cases, a student may be able to transfer credits from Penn State or other institutions. A maximum of 10 course credits from prior graduate coursework may be transferred toward a Penn State M.S. or MEng degree. A maximum of 24 course credits can be transferred from the student's master's degree toward IE Department Ph.D. degree requirements. The department Graduate Program Coordinator must approve all credit transfers. The course syllabus, a copy of its catalog description, and the transcript are required to transfer the credits of that course. The necessary course transfer forms are available from the IE Graduate Program Office. This transfer authority is within the department; transfer credits will not appear on your Penn State transcript.

#### Transfer Credit Restrictions

- Credits earned to complete a previous master's degree cannot be used for a second master's degree at Penn State. However, if a master's degree was not completed at another institution, then some credits may transfer toward a master's degree at Penn State.
- Three credit courses from institutions with academic quarters are counted as two semester credits at Penn State.
- Credits earned in any course that substantially duplicate a Penn State Industrial Engineering (IE)-required undergraduate course cannot be transferred.
- Transfer credits must have been earned within the previous five years.
- Credits can be transferred only for courses with a grade of B or better. "Pass" grades cannot be transferred unless the institution can substantiate that a Pass grade is equivalent to at least a "B" grade.

- Up to 15 credits of Penn State Non-Degree Graduate Credits may transfer as IE Degree Graduate Credits
- Approved Penn State Undergraduate Credits to IE Degree Graduate Credits (6 credits maximum; needs undergraduate program adviser verification that credits were not required for B.S. degree)

### **Graduate Courses and Course Prerequisites**

A list of IE Department Graduate Courses (500 level courses) is available on the department's website. A more detailed course description for each of the classes is shown in Penn State LionPATH. In addition to these 500 level courses, students can enroll in certain 400 level courses to satisfy degree requirements. See Appendix B for a list of acceptable 400 level courses for IE graduate degree credit. Note that IE 596: Individual Studies credits cannot be applied towards degree coursework credits.

There are prerequisites to many graduate courses identified in LionPATH. These pre-requisites are for graduate student guidance only. You may enroll in a graduate class even though you have not completed the specific prerequisite courses listed. If you have any concerns about whether you have the appropriate background to succeed in these courses, please contact the course instructor. Students may also enroll in IE Department on-line classes to meet M.S. degree coursework requirements. However, international students can only enroll in 3 credits on-line courses during a semester.

### **Curricular Practical Training and Optional Practical Training for International Students**

International students who have been in F-1 status for at least one academic year are eligible for Curricular Practical Training (CPT), which is temporary employment in their field of study for purposes of gaining practical experience. There are several types of Optional Practical Training (OPT), including:

- Post-Completion OPT is the most common type of OPT; It begins after the completion of a student's degree program.
- Pre-Completion OPT is for work opportunities during the degree program for which CPT is not an option. This can include summer (as long as the student will return for fall semester) or during the academic year.

Students who pursue CPT are encouraged to use the summer term for their internship. There are many restrictions on applying for OPT and CPT. Students should be in direct contact with a ISSA advisor early in the process to ensure eligibility and to receive on-time OPT or CPT approval. <https://global.psu.edu/category/employment>

### **Termination from the Graduate Program**

Graduate students who have achieved a GPA of less than 2.0 during their initial semester will be recommended to the Graduate School for termination from the graduate program due to unsatisfactory scholarship. Students may appeal this decision as described in the Graduate School policy related to termination of graduate program due to unsatisfactory scholarship.

## 4. INDUSTRIAL ENGINEERING DEGREE PROGRAMS

### MASTER OF SCIENCE (THESIS and NON-THESIS TRACKS)

All M.S. students must be continuously registered for at least one credit during fall and spring semesters, until graduation, even after completing all credit requirements for the degree. This is a college and department requirement. There are no other departmental or university minimum registration requirements, except for international students. (Please refer to specific information for international graduate students in this document and at <https://global.psu.edu/article/enrollment-requirements>.)

#### M.S. Coursework Requirements

A minimum of 32 credits, including two credits of IE Colloquium, are required to complete an M.S. degree in Industrial Engineering. A minimum GPA of 3.00 is required for graduation. M.S. students may select either the thesis or non-thesis degree track. All degree status changes, including degree-track changes, must be approved by the student's research advisor. The course requirements for an M.S. degree (Non-Thesis Track and Thesis Track) in Industrial Engineering are shown here.

#### M.S.--Non-Thesis Track-27 Course Credits

IE 505 Linear Programming (3 credits)

IE 511 Experimental Design in Engineering (3 credits)

21 additional course credits with the following restrictions:

- Minimum of 9 credits must be IE 500 level course credits
- Minimum of 12 credits must be 500 level course credits
- Minimum of 12 credits must be IE course credits

Research Credits (3 credits)

- IE 596

IE 590 Colloquium (2 credits)

**NOTE:** OR 590 may be substituted for 1 credit of IE 590

**Total Credits for M.S. –Non-Thesis Track: 32**

#### M.S.--Thesis Track-24 Course Credits

IE 505 Linear Programming (3 credits)

IE 511 Experimental Design in Engineering (3 credits)

18 additional course credits with the following restrictions:

- Minimum of 3 credits must be IE 500 level course credits
- Minimum of 6 credits must be 500 level course credits
- Minimum of 9 credits must be IE course credits

Research Credits (6 credits)

- IE 600

IE 590 Colloquium (2 credits)

**NOTE:** OR 590 may be substituted for 1 credit of IE 590

**Total Credits for M.S.—Thesis Track: 32**

## Notes:

- Students seeking a dual-title degree title in IE and Operations Research may substitute one credit of OR 590 for one of the two required credits of IE 590.
- IE 590 does not count as a course credit.
- Only 400 level courses from the IE departmental approved list can be taken for graduate credit. (See Appendix B )
- Certain courses taught by other departments duplicate course topics in IE courses. Students may not count the IE course and the corresponding duplicate course from another department toward their degree requirements. (See Appendix B)
- IE 596 (Individual Studies) credits cannot be applied toward course requirements.
- Students enrolled in the dual-title IE-OR degree must complete more specific coursework requirements as part of the minimum course credits for their dual-title M.S. <https://www.or.psu.edu/masters-degree/>

## SARI Requirements

SARI requirements should be completed by the end of the first year of study. See Appendix A for detailed SARI requirements.

## M.S. Non-Thesis Track - Paper Requirements

The M.S. paper must demonstrate the capability of the student to integrate and apply concepts and techniques learned in the courses to solve an engineering problem. The scope of the culminating project resulting in this paper must be specified by the student's research adviser who is selected by the student during the first semester of coursework.

The electronic copy of the approved culminating research paper must be submitted to the IE Department by the paper deadline which is typically near the midpoint of the final semester. This scholarly paper will be made publicly available through the IE Department. The format of the final paper can follow the [thesis formatting guidelines](#) specified by the Graduate School, or use IE Department M.S. Paper guidelines as described in Appendix C. At least one faculty reader other than the student's adviser must read and approve the paper, in addition to final approval by the IE Graduate Program Coordinator. The adviser must be a member of the graduate faculty from the IE Department; however, the reader can be a faculty member from within the department or graduate faculty member outside the department. Additional IE-OR Dual Title paper requirements are described at <https://www.or.psu.edu/masters-degree/>.

## M.S. Thesis Track – Thesis Requirements

The content of the M.S. thesis should be of quality sufficient for publication in a refereed journal. The thesis should follow the format specified by the Graduate School. The adviser must be a member of the IE Department Graduate Faculty; however, the reader can be a Graduate Faculty Member from either within the IE Department or outside the Department. The approval of the Department Head or the Graduate Program Coordinator is also required. Additional IE-OR Dual Title thesis requirements are described at <https://www.or.psu.edu/masters-degree/>.

The review and approval of M.S. thesis is initiated by the student on the Graduate School Thesis Submission website <https://gradschool.psu.edu/completing-your-degree/thesis-and-dissertation-information/>. Final submission and departmental approval deadlines for M.S. thesis must be completed as per current deadlines well before the end of the semester.



Deadlines to submit final M.S. thesis website <https://gradschool.psu.edu/completing-your-degree/thesis-and-dissertation-information/thesis-dissertation-performance-and-oral-presentation-deadlines-calendar/>.

Failure to meet these deadlines will delay the official awarding of your degree.

### **Obtaining an Operations Research Dual Degree During Your M.S.**

Students enrolled in Operations Research Dual Title degree program as part of their M.S. program should refer to the Operations Research Dual Title degree requirements for additional coursework and research paper/thesis approval requirements, <http://www.or.psu.edu/>.

### **Typical M.S. Time Sequence**

Most M.S. non-thesis track and M.S. thesis track students complete their degree requirements in 3 or 4 semesters. However, it is possible to complete M.S. degree requirements in one calendar year as follows:

#### **Non-Thesis**

1<sup>st</sup> Semester: 12 credits coursework, 1 credit IE 590, 1 credit IE 596 (Individual Studies)  
2<sup>nd</sup> Semester: 12 credits coursework, 1 credit IE 590, 1 credit IE 596 (Individual Studies)  
Summer: 3 credits coursework, 1 credit IE 596 (Individual Studies)

#### **Thesis**

1<sup>st</sup> Semester: 12 credits coursework, 1 credit IE 590, 1 credit IE 600 (Research)  
2<sup>nd</sup> Semester: 12 credits coursework, 1 credit IE 590, 1 credit IE 600 (Research)  
Summer: 4 credits IE 600 (Research)

### **MASTER OF ENGINEERING IN INDUSTRIAL ENGINEERING (ON-LINE)**

The Master of Engineering in Industrial Engineering is offered online through Penn State World Campus in partnership with the Penn State College of Engineering.

Students must complete 30 course credits at the 400-, 500-, or 800-level, of which 21 course credits must be earned at Penn State (i.e., only 9 credits can be transferred from other institutions). In addition:

- All students must successfully complete three credits of IE 894: Capstone Design.
- At least 18 credits must be in 500-level or higher courses (including IE 894).
- At least 15 credits must be in 500-level or higher IE courses (including IE 894).
- At least 21 credits of the 30 credits must be IE courses (including IE 894).

The Master of Engineering in Industrial Engineering has limited formal course requirements; the program tailored specifically to suit the student's needs and educational goals. The list of IE 400- and 500- level courses can be found here: [Courses - Industrial Engineering Master's Degree Online - Penn State World Campus \(psu.edu\)](#).

Students may select from a list of elective courses maintained by the program. This list may change over time in response to market demand. Students may also use the graduate certificate courses in Additive Manufacturing and Design, Supply Chain Management, and Engineering Leadership and Innovation Management.

For a full overview of the M ENG program, please visit: [Industrial Engineering Master's Degree \(M.Eng.\) Online - Penn State World Campus \(psu.edu\)](https://www.psu.edu/graduate/programs/industrial-engineering/master-of-science-in-engineering).

Students may, with approval of the coordinator of the MEng program, substitute up to 6 credits of IE-focused non-IE courses toward the 21 IE course credit requirements. All other conditions must be met.

## DOCTOR OF PHILOSOPHY

### Course Requirements

A minimum of 49 credits consisting of 45 credits of course work and four credits of IE 590: Colloquium are required beyond the B.S. to complete a Ph.D. in Industrial Engineering, in addition to the research and dissertation work. The colloquium credit requirements are reduced from 4 credits to 3 credits for students entering with an M.S. Degree. In addition to course requirements of the Graduate School, all degree requirements as set forth in the [Graduate Degree Programs Bulletin](#), must be satisfied. The department course requirements are as follows:

#### Requirements for a Ph.D. Degree in Industrial Engineering

Course	Credits	Title
Course work	45 credits minimum	Course work
IE 590	4 credits minimum or 3 credits minimum for students with a prior M.S. degree	IE Colloquium
IE 600/601	At least 3 credits per academic year (pre-comprehensive) with assigned advisor	Thesis Research

### Coursework Restrictions

IE Course Credits:	36 credits minimum
IE Course Credits at 500 level:	30 credits minimum
Non-IE Course Credits:	9 credits minimum
Non-IE Course Credits at 500 levels:	3 credits minimum

### NOTES:

- IE 596 (Individual Studies) credits cannot be applied toward course requirements.
- A maximum of 24 course credits can be departmentally transferred from the student's M.S. degree toward IE Ph.D. course requirements. The courses transferred will not

appear on your Penn State transcript. Detailed procedures for course transfer are available from the IE Graduate Program Office.

- Not all IE 400 level elective courses can be taken for graduate credit. Please refer to the list in Appendix B. Students may not count duplicate courses from another department toward their IE coursework requirements. (See Appendix B)
- Up to two OR 590 OR Colloquium credits can be substituted for the required IE 590 (IE Colloquium) credits.
- Students enrolled in the dual-title IE-OR degree must complete more specific coursework requirements as part of the minimum 45 course credits for their Ph.D. <https://www.or.psu.edu/masters-degree/>.

### **SARI Requirements**

SARI requirements should be completed by the end of the first year of study. See Appendix A for detailed SARI requirements. Students who have previously completed SARI requirements as part of an earlier Penn State graduate degree, do not need to repeat SARI.

### **Typical Time Sequence**

The time required to complete a Ph.D. varies, depending on whether the student enters with a B.S. or M.S., and many other factors. The following shows a typical sequence for the purpose of illustration, it is assumed that a student has a half-time assistantship and takes 12 credits per semester.

- \* Year 1: Begin graduate study; select adviser; form Ph.D. Committee
- \* Before year 2: Complete Ph.D. Degree Qualifying Examination
- \* Year 3: Comprehensive Examination dissertation proposal
- \* Year 4: Final defense completed

This time sequence should be reduced by approximately one year for students beginning the Ph.D. program with a prior M.S. It is very important for students to identify an area of interest and adviser soon after beginning the program.

### **GPA Requirements**

A minimum overall GPA of 3.00 is required for final graduation. Additional GPA requirement exists for students to take the Ph.D. Qualifying Exam (see Appendix)

### **Registration/Residency Requirements**

There are three registration requirements that a doctoral student must fulfill:

*Continuous Registration Requirement:* After a student passes the comprehensive examination, the student must register for at least 1 credit per semester (Spring and Fall) until graduation, even after completing all the credit requirements. After passing the comprehensive examination and after completing all course requirements, students can register for non-credit IE 601 (on-campus) or IE 611 (off-campus) every semester, until graduation;

*Residency Requirements:* Between admission to the Ph.D. program and completion of the Ph.D., a student must spend at least two consecutive semesters (summer sessions are not included) as a full-time student (registering for at least 9 credits), engaged in academic work at the University Park campus. These could be a spring-fall or a fall-spring semester sequence;

*Exam Credit Registration Requirement:* A student must be registered for at least 1 credit in the semesters in which the student schedules the Qualifying Examination, the comprehensive examination, and the final oral examination (including summer). Scheduling each of the comprehensive and the final oral examinations must be done at least three weeks before the date of the respective examination.

### **Transitioning from M.S. to Ph.D.**

If you are an M.S. student and wish to continue your studies as a Ph.D. student, you may apply for Ph.D. studies. In general, these “Change of Major/Degree” applications should be submitted by the same application close deadlines that apply to new student applicants.

<https://gradschool.psu.edu/graduate-admissions/how-to-apply/current-students/>.

### **M.S. Along the way for Ph.D. Students**

Students who enroll directly into our Ph.D. program, after completing their B.S. degree, are eligible to get an M.S. degree along the way. Students wishing to pursue a master’s-along-the-way should submit a written request to the IME Graduate Office. Such requests will be submitted to Graduate Enrollment Services and an additional record will be created in LionPATH for the MS degree.

It is highly recommended that students wishing to add the MS along the way have it added in their first semester of enrollment in the Ph.D. program. Students may enroll in a master’s-along-the-way after the first semester in the Ph.D. program, but a master’s-along-the-way cannot be added after the Comprehensive Examination has been passed. Also, students must be enrolled in the master’s-along-the-way no later than the semester prior to the semester in which the master’s degree will be conferred.

When you have completed the requirements for the M.S. degree and are prepared to submit the final thesis or paper, you will need to apply for M.S. graduation through LionPATH.

## **Qualifying Examination**

The Qualifying Examination is designed to assess a student’s general suitability to Ph.D. studies. Its primary purpose is to screen out individuals who would likely struggle and fail to complete the Ph.D., but should also provide insights into weaknesses in the student’s background in industrial engineering that will need to be remedied before completion of the Ph.D.

The qualifying exam must entail:

1. Formation of a minimum of a 3-person qualifying examination committee consisting of the following individuals:
  - a. the student's major professor and Ph.D. advisor;
  - b. at least one other member of the graduate faculty of Penn State's Industrial and Manufacturing Engineering (IME) department; and
  - c. one other member who holds a Ph.D. in industrial engineering or related field and who is a member of Penn State's graduate faculty (i.e., this member can be, but need not be, IME graduate faculty).
2. Selection of a committee chair from among the members of the committee who are IME faculty but are not the student's major professor and advisor.

Completion of the first attempt at the qualifying examination must occur within 3 full (non-summer) semesters of the start of the student's Ph.D. program.

The student may:

1. have one external (non-IME) Penn State graduate faculty member of the qualifying examination committee<sup>1</sup>; and
2. be provided a second opportunity to pass the exam if the first results in a failure.

The committee is formed by submission of the "qualifying examination request form" to IME's graduate program. The format and content of the examination is determined by the qualifying examination committee but should consist of both a written and oral examination designed to assess the student's ability to synthesize past work in an area relevant to their future studies and determine potential research questions. The student's answers to the written questions should be submitted in a timeframe specified by the committee. Feedback from faculty will include both reasons the student has failed the examination, should that be the case, and recommendations for additional preparation needed by the student before advancing to candidacy<sup>2</sup>, such as additional coursework to cover deficiencies in the student's background.

Note 1: External members must be approved by request to the IME graduate program.

Note 2: A student becomes a "Ph.D. candidate" after the student completes the Qualifying Examination.

## Ph.D. Comprehensive Examination

### Doctoral Committee for Your Comprehensive Examination or Final Defense

The doctoral committee of a student includes the student's adviser (or co-advisers) and must consist of at least four members from the Penn State Graduate Faculty. The adviser or at least one co-adviser must be a member of the graduate faculty of the department. At least one of those four members must be from outside the Department of Industrial Engineering. At least two of the four members (or at least an equal number if the committee is larger) shall be from the graduate faculty in IME. The chair of the committee is the student's adviser in most cases. The committee will direct the student's doctoral program—including the comprehensive exam, (proposal defense), and final defense—and must be formally approved by the Graduate School. The specific makeup of a student's doctoral committee is described at

<http://gradschool.psu.edu/graduate-education-policies/gcac/gcac-600/gcac-602-phd->

[committee-formation/](#). The student should see the department's graduate program staff assistant when he/she is ready to form the committee. Committees should be formed before the end of a student's first year of Ph.D. study.

*A student's Comprehensive Exam can be scheduled at any time after a student passes the Qualifying Exam.*

### **Comprehensive Examination Requirements**

It is strongly recommended that students schedule their Comprehensive Exam soon after the completion of their Qualifying Exam and their research topic has been identified.

In order to schedule the Comprehensive Exam, a student must: (1) be registered for the semester, including summer, for at least one credit, (2) have no missing or deferred grades, (3) have at least a 3.0 grade point average on their Penn State transcript.

The final defense of the student's dissertation defense cannot be scheduled until his/her adviser or all co-advisers have reviewed the Comprehensive Exam document prepared by the student. Both the content and style should be correct and appropriate and approved by the research advisor(s) before it is submitted to the members of the committee.

There should be at least three weeks between the delivery of the final draft of the Comprehensive Exam document to the committee members and the Comprehensive Exam. The Graduate School requires at least two weeks' notice for scheduling the final defense. Students should notify the graduate program staff assistant sufficiently in advance of the Comprehensive exam date so that the necessary paperwork can be prepared in a timely manner.

Important note: The comprehensive examination may be held fully in-person, fully remote, or hybrid with some individuals participating in-person while others participate remotely. Student preference for delivery mode should be strongly considered, but the student and adviser must agree on the mode. If the student and adviser cannot agree on the mode, the Graduate Program Head will make the final decision. Either the student or adviser can appeal the decision of the Graduate Program Head to the Associate Dean for Education.

### **Final Defense**

It is strongly recommended that students defend their dissertations within 12 months after passing the comprehensive examination.

In order to schedule the Final Defense, a student must: (1) be registered for the semester, including summer, for at least one credit, (2) have no missing or deferred grades, (3) have at least a 3.0 grade point average, (4) have passed the Qualifying Examination within the past eight years. When a period of more than six years has elapsed between the passing of the comprehensive examination and the completion of the program, the student is required to pass a second comprehensive examination before the final defense oral examination will be scheduled.

The student is responsible for assuring the completion of the draft of the dissertation and for adequate consultation with members of the doctoral committee well in advance of the final defense.

The Graduate School requires at least two weeks' notice for scheduling the final defense. Students should notify the graduate program staff assistant sufficiently in advance of the dissertation defense date so that the necessary paperwork can be prepared in a timely manner.

There should be at least three weeks between the delivery of the final draft of the dissertation to the committee members and the final defense. All faculty within the Harold and Inge Marcus Department of Industrial and Manufacturing Engineering will be notified of the time, date, and location of the dissertation defense once it is scheduled. This defense is also open to the public.

**Important Note:** The final oral examination may be held fully in-person, fully remote, or hybrid with some individuals participating in-person while others participate remotely. Student preference for delivery mode should be strongly considered, but the student and adviser must agree on the mode. If the student and adviser cannot agree on the mode, the Graduate Program Head will make the final decision. Either the student or adviser can appeal the decision of the Graduate Program Head to the Associate Dean for Education.

A doctoral student is required to complete the program, including acceptance of the doctoral dissertation or the passing of the final performance, within eight years after the date of successful completion of the Qualifying Examination. Extensions may be granted by the director of Graduate Enrollment Services in appropriate circumstances.

### **Dissertation Requirements**

Early in the final semester, prior to Ph.D. completion, a draft of portions of the dissertation must be submitted to the Graduate School for format review and approval.

<http://gradschool.psu.edu/current-students/etd/format-review/>

The Ph.D. dissertation must be of sufficiently high quality to be publishable in refereed journals. The Ph.D. final dissertation must be approved and signed by the Students Committee and the Department Head. The final approved electronic copy of the dissertation along with the completed signatory page must be submitted to the Graduate School by the specified deadline in order to graduate in a semester.

### **Operations Research Dual Degree or Operations Research Minor Option During Your Ph.D.**

Students enrolled in Operations Research Dual Title degree program or the Operations Research Minor as part of their Ph.D. program should refer to the Operations Research Dual Title degree requirements for additional coursework and research approval requirements,

<http://www.or.psu.edu/>.

## **5. Graduate Student Funding Opportunities**

### **Overview**

Graduate students are supported by Assistantships, Fellowships, and other stipend-only awards. Fellowship recipients are expected to carry a load of at least 12 course credits per semester (four 3-credit courses), as they are not required to work during the semester in which they are offered the fellowship. They may also take additional credits consisting of colloquium or research. Half-time graduate assistants are expected to work 20 hours/week and to carry 12

credits per semester, consisting of three 3-credit courses (until the student completes his/her course work), two credits of thesis research, and one credit of I E Colloquium.

Penn State College of Engineering and Departmental Fellowships As all of the following programs are highly competitive, students will need top grades and test scores to obtain funding from one of these sources. There are also targeted opportunities for top incoming students and incoming minority students. These are administered through the Fellowships and Awards Office. The department nominates students for these fellowships. Both full and partial fellowships are available for top students.

External Fellowships Most external fellowships require students to apply directly to the Fellowship sponsor. The IE Department will provide support to students applying for external fellowships.

### **Assistantships**

The department awards a limited number of assistantships. Both teaching and research assistantships are available. Students accepting teaching assistantships offered by the department are placed in a pool from which the department's instructional needs will be met. Every effort will be made to match students with their choice of assignments, but this cannot always be guaranteed. Research assistants are hired by faculty members based on the candidate's need and qualifications. It should be noted that offers for graduate assistantships are not made until admission has been granted by the Graduate School.

International applicants who are supported as a teaching assistantship must take the American English Oral Communicative Proficiency Test offered by Penn State, after their arrival on campus and obtain a minimum score of 250 in the test. Only students authorized by the department are permitted to take the AEOCPT at Penn State. Find more information at <https://aplmg.la.psu.edu/programs/about-the-aecopt/>.

A typical teaching assistant is responsible for carrying out laboratory teaching, grading, or other classroom support activities. A half-time teaching or research assistant is required to work 20 hours per week. Employment begins one week before the first day of classes and ends one week after classes are completed (or until after all final grades have been handed in by the instructor.)

Multi-year funding commitments to the student will state the intended funding time period along with the funding offered. Satisfactory progress must be made in the respective degree programs for continuation of funding.

### **Fellowships**

There are often eligibility requirements for fellowships. Some require U.S. Citizenship or Permanent Resident Status while others are open to international students. Students must apply for external fellowships directly through the funding agency, not through Penn State. There are also fellowships available from the Graduate School, the College of Engineering, and the Marcus Department. A student cannot directly apply for these fellowships, rather they must be nominated by the department.



## 6. TRANSITIONING FROM YOUR DEGREE PROGRAM (YOUR FINAL SEMESTER)

### **Deadlines! Deadlines! Deadlines!**

A student who plans to graduate in a semester must officially file his/her intent to graduate on LionPATH, at the beginning of the semester. Students who fail to do this will not be able to graduate in that semester. The final version of a master's thesis or dissertation should be delivered to the research advisor sufficiently in advance of the deadline for the delivery to their committee, the Graduate School and the department. M.S. thesis and Ph.D. students must complete their final documents, obtain final signatures of the advisor, committee, and the Department Head or the Graduate Program Coordinator and submit the final electronic copy of the thesis to the Graduate School with the signed Approval Page by the specified deadline in order to graduate in a semester. Students seeking the M.S. degree with non-thesis track must submit their final papers signed by their advisor and reader to the department at least four weeks before the end of their terminal semester.

If a student cannot meet the Graduate School and department early deadlines for submitting the thesis or dissertation in a given semester, he/she can still complete other requirements for the degree and request for a letter from the Graduate School certifying that all other requirements for the degree have been satisfied, even though the official graduate date will be the following semester.

## 7. GENERAL INFORMATION FOR ALL GRADUATE STUDENTS

### **Student Organizations**

- American Foundry Society (AFS) The AFS chapter is for students in industrial engineering, metal science and engineering, and other departments who are interested in metal casting.
- American Society for Quality (ASQ), ASQ has been a leader in identifying, communicating, and promoting the use of quality concepts, principles, and technologies.
- Engineering Graduate Student Council (EGSC) The purpose of the EGSC is to promote and enhance graduate studies within the College of Engineering through professional development activities, and to provide a forum for communication between graduate students, faculty, and administration within the College of Engineering.  
<https://www.egsc.psu.edu/upcoming-events/>
- Engineering Undergraduate Council (EUC) EUC allows for the bridge between the administration, faculty, and students of the College of Engineering at The Pennsylvania State University. <https://www.esm.psu.edu/academics/resources/student-organizations.aspx>
- Human Factors and Ergonomics Society (HFES) HFES is an interdisciplinary organization of professionals involved in the human factors field.
- Industrial Engineering Graduate Association (IEGA) IEGA was founded to serve the academic and social needs of graduate students in the Harold and Inge Marcus Department of Industrial and Manufacturing Engineering at Penn State. All current graduate students in the department are automatically members of IEGA.

- Institute of Industrial and Systems Engineers (IISE) IISE is the professional society devoted to serving the needs of industrial and systems engineering professionals.
- Institute for Operations Research and the Management Sciences (INFORMS) INFORMS serves the scientific and professional needs of operations research and management science (OR/MS) investigators, scientists, students, educators, and managers.
- National Organization for Business and Engineering (NOBE) NOBE is comprised of undergraduate engineering students interested in complementing their engineering knowledge with important aspects of business.
- Society of Manufacturing Engineers (SME) SME is an international professional society dedicated to serving its members and the manufacturing community through the advancement of professionalism, knowledge, and learning.

### **Faculty and Student Responsibilities**

The IE department faculty has developed a set of expectations and responsibilities for faculty and students pertaining to classroom teaching. A similar list was prepared by the Student Advisory Committee in consultation with the students. Both faculty and student representatives met to discuss these items and prepare a final list of responsibilities and expectations for both.

#### **Responsibilities of the Faculty**

- \*To be prepared for every class.
- \*To develop a comprehensive syllabus covering topics to be studied, examination schedules, policies, office hours, etc. for distribution during the first week of class.
- \* To treat students and staff with respect and courtesy.
- \* To administer courses in a fair manner and in accordance with University policy.
- \* To assign meaningful homework.
- \* To provide meaningful feedback on graded material in a timely manner.
- \* To post and hold sufficient office hours, so as to be accessible to most students, and be available during those times.
- \* To do everything possible to enhance and enforce academic integrity.
- \* To develop fair assessment instruments which will be impartially and fairly utilized.
- \* To cover the prescribed topics in each course.
- \* To encourage student professional growth and participation in preparation for future careers.
- \* To provide an atmosphere conducive to learning.
- \* To instruct, as needed, on the use and safety of equipment.
- \* To provide informed advice on academic matters (such as course selection, scheduling, etc.)
- \* To inform students when classes or office hours cannot be met.
- \* Display enthusiasm in courses taught and be concerned about student learning.

#### **Responsibilities of the Student**

- \* To attend every class unless extenuating circumstances occur (such as illness, emergencies, etc.)
- \* To treat faculty and staff with respect and courtesy
- \* To come to class prepared to actively listen and participate (having completed reading and other assignments)
- \* To exhibit academic integrity
- \* To respect other students and faculty in class through appropriate conduct (such as on-time attendance, attentions to class activities, etc.)

- \* To put forth an honest effort to understand material and prepare specific questions for faculty or teaching assistants when problems arise
- \* To provide prior information and documentation for situations meriting special attention (such as illness, athletic team travel, etc.)
- \* To meet with their advisor regularly to ensure that all academic requirements are met
- \* To follow the stated policies of each course
- \* To plan for their professional development and future
- \* To review prerequisite material as needed
- \* To properly and safely use and care for all department facilities and equipment
- \* To equally participate in all group labs, assignments, and projects
- \* To take SRTEs seriously and provide a fair assessment of course and faculty
- \* Display enthusiasm for courses with a real concern for learning

### **Useful websites**

All in one mobile app for Penn State: <https://mobile.psu.edu/>

**Alert System app:** <https://psualert.psu.edu/psualert>

Graduate Student Ombudsperson Program: <https://gradschool.psu.edu/graduate-student-life/graduate-student-ombudsperson-program/>

## **8. CORONAVIRUS RESOURCES**

Coronavirus Information:

[https://virusinfo.psu.edu/?utm\\_campaign=banner?utm\\_campaign=banner](https://virusinfo.psu.edu/?utm_campaign=banner?utm_campaign=banner)

PennState Global Resources and Information related to the COVID-19 pandemic:

<https://sites.psu.edu/globalprogramsinfo/>

## **APPENDICES**

## APPENDIX A

### SCHOLARSHIP AND RESEARCH INTEGRITY CERTIFICATION REQUIREMENTS (SARI) (Residential and on-line students)

All scholars, from graduate students to senior investigators, confront ethical issues in their professional activities. Each year, thousands of Penn State investigators conduct research with integrity that would withstand the highest levels of scrutiny. Unfortunately, however, each year some Penn State personnel are involved in research misconduct allegations, inquiries, and investigations. Misconduct allegations have involved research personnel of every rank, and some findings have been serious enough to lead to recommendations of dismissal from the university.

Many cases involve situations where the responsible or ethical course of action was not clear to the investigator. Advance discussion of core principles and possible scenarios can help inform choices frequently made under pressure, helping to eliminate poor decisions.

The Scholarship and Research Integrity (SARI) program provides graduate students with opportunities to identify, examine, and discuss ethical issues relevant to their disciplines.

The SARI@PSU program is composed of two parts: an online training component (Part 1), and an interactive, discussion-based component (Part 2). The online training provides a common language and understanding of the history and principles of the responsible conduct of research. The discussion-based component provides an opportunity for in-depth exploration of important issues unique to each field of study.

**IE graduate students must complete all SARI requirements by the end of their first year of study.**

**Satisfying Part 1 Requirement:** Please go to <http://citi.psu.edu/> and use the following instructions:

- \* Select “University Park, Commonwealth, and other non-Hershey personnel”
- \* Select “Add a Course or Update Learner Groups”
- \* Select “I need to take RCR training to satisfy SARI@PSU training requirements”
- \* Select “Graduate”
- \* Select “Responsible conduct of research (RCR) course....”

CITI Program RCE course models	
Required Modules	Elective Modules (one required)
Authorship	Research, Ethics, and Society
Collaborative Research	Environmental and Social Dimensions of Engineering Research
Data Management	Using Animal Subjects in Research
Mentoring	Research involving Human Subjects
Peer Review	Export Controls and National Security
Research Misconduct	
Plagiarism	

**NOTE:** After successful completion of 80% or higher, you will receive a CITI transcript that you will submit to [imegradoffice@psu.edu](mailto:imegradoffice@psu.edu) once all SARI requirements have been fulfilled.

**Satisfying Part 2 Requirement:**

After logging into <http://canvas.psu.edu/>, you will be able to view the available SARI video segments. A score of 80 points is considered a passing score on the associated quiz. You will need to complete a total of 5 hours of video segments. Request your certificate at the completion of the module (keep for your SARI records). If you can't view videos after logging into Canvas, email [imegradoffice@psu.edu](mailto:imegradoffice@psu.edu).

NOTE: As a substitute for 2 of the 5 Part 2 hours, you may attend an Office of Research Protections (ORP) SARI workshop. Maximum ORP credit towards Part 2 is 2 hours. Available ORP workshops are emailed to you at the start of each semester.

**Submitting Completed SARI:**

Email [imegradoffice@psu.edu](mailto:imegradoffice@psu.edu) with your Part 1 (CITI) transcript and Part 2 completion certificates. The graduate office will confirm SARI completion and update your LionPATH SARI Milestones. The graduate office will email you a confirming email once updates have been made.

## **Appendix B**

### **Approved 400 Level Courses Students May Take for Graduate Credit**

#### **Non-IE Courses**

ACC 4XX  
AFAM 497  
ARCH 481/EDSGN 497 (Digital Design Media – Virtual Reality)  
BME 419  
CSE 410, 431W, 441W, CSE 456, CSE 458  
ECON 402, ECON 483  
EMCH 461  
ENGR 497 (Special Topics: Design 4 Justice)  
ENVSE 470  
FDSC 430  
FIN 4XX  
MGMT 427  
MKTG 437  
STAT 460, STAT 463, STAT 464  
EGEE 497 (Fuel Cells)  
MATSE 425, MATSE 450  
MATH 416, MATH 451, MATH 456, MATH 485, MATH 486  
PHIL/STS 432 (Medical and Health Care Ethics) \*if student interest is in health systems  
IST 462, IST 497 (IST Consulting and Project Management) IST 413  
PSYCH 421, PSYCH 422, PSYCH 423, PSYCH 456, PSYCH 452, PSYCH 413  
MIS 431, 479  
ME 497 (Fuel Cell Engines)  
SCM 400, 404, 405, 406, 421, 450  
WP 416/497 (Wood Industries Management Development)

#### **IE Courses**

IE 402, IE 427, IE 428, IE 432, IE 435, IE 454, IE 456, IE 466, IE 468, IE 469, IE 478, IE 479  
IE 497 (Micro/Nano Fabrication)  
IE 497 (Data Envelopment Analysis)

#### **Restrictions on IE 500 Level Courses**

##### **500 Level Courses Not Accepted Toward IE Degree**

IE 596 or other 596 Independent Study Courses without prior approval

##### **500 Level Courses That Duplicate IE 500 Courses**

The following 500 level courses can only count as IE degree credit if students do not take the corresponding IE 500 level courses listed.

STAT 503/If IE 511 is not taken

SCM 545/If IE 522 is not taken

##### **IE Cross-Listed Courses**

The following 500 level courses are cross-listed with IE 500 courses. Students may enroll in either the IE or the cross-listed courses for IE course credit.

IE 561/EDSGN 561

**Note:** On-line courses at Penn State as well as residential courses can be used to satisfy degree requirements. However, international residential students are only allowed to take 3 credits of on-line course work per semester and must be registered for 6 residential credits.



## Appendix C

### Alternate IE Department M.S. Non-Thesis Track Paper Guidelines

Upon consent of your M.S. paper advisor, IME M.S. papers may be prepared and submitted according to the following guidelines instead of submitting it in traditional thesis format.

- The content, length, and structure of the paper is expected to be acceptable for publication in a peer-reviewed professional journal or conference proceedings. Examples of papers that would not meet this standard would be a technical report to a sponsor, or a paper submitted to a conference not requiring a full-paper peer-review process.
- In the case of a multiple-author paper, the degree candidate must be the first author, and the paper must be primarily the work of the degree candidate. If there are coauthors other than the degree candidate and his/her faculty advisor, then a brief summary of the contributions of each coauthor and an estimate of each coauthor's percentage of effort must be included as an addendum to the departmental signature page. In general, the combined contribution of co-authors other than the advisor should be less than 33%.
- If the paper has already been published or has been accepted for publication, then the actual journal- or conference-formatted paper or manuscript should be submitted. Documentation must be provided to show that the paper has been published or has been accepted for publication. The role of the reader in this case is primarily to confirm that the target journal/proceedings meets the criteria outlined above, and that the documentation is in order.
- If the paper has been submitted for publication but has not yet been accepted, or has not yet been submitted, then the actual journal-formatted manuscript should be submitted. Documentation should be provided if the manuscript is under consideration for publication and if reviewer comments are available, reviewer comments should be provided. The reader in this case will effectively have the role of a peer reviewer, and will judge whether the manuscript is, in principle, suitable for journal or refereed conference publication.

## Appendix D

### Program Requirements for the Dual Degree (M.S., and Ph.D.) And Minor in Operations Research (Ph.D.)

To qualify for a dual-title degree, students must satisfy the requirements of the IE graduate program in which you are enrolled and the appropriate OR Dual Degree requirements. Students must enroll in OR 590 Colloquium for at least 1 credit in each year enrolled in the program and in residence. The maximum number of OR 590 credits for a Master student is 2, and for a Ph.D. student is 4.

#### Master Dual-title degree

##### **Course Requirements**

For the Master dual-title degree in OR, the minimum requirements are:

- 6 credits in stochastic/statistical methods, including a minimum of 3 credits in stochastic processes and 3 credits in statistical methods.
- 6 credits in optimization, including 3 credits in linear programming.
- 3 credits in computational methods.
- 3 credits in applications/specialization.

The minimum number of credits for Master students is **18 credits** of OR approved classes, if a thesis is required for the completion of the program. All Master students that choose a non-thesis track are required to take a minimum of **24 credits**. It is the prerogative of the graduate major program to assign the 6 additional credits to one or more of the following categories: stochastic/statistical methods, optimization, computational methods, or applications.

A minimum of 9 credits must be in the 500 series. Particular courses may satisfy both the graduate major program requirements and those in the OR program. A list of courses that will satisfy the OR course requirements can be found in the graduate program office and in the OR Website (<http://www.or.psu.edu/or-program-course-catalog/>).

##### **Thesis Requirements**

If a thesis is required for the completion of the student's master program, the supervisor must be a member of the Graduate Faculty recommended by the chair of the program granting the degree and approved by the OR committee as qualified to supervise thesis work in operations research. The reader of the thesis must be an OR faculty member external to the student's major program.

#### Ph.D. Dual-title degree

Students in the dual-title program are required to write and orally defend a dissertation on a topic that is approved in advance by their doctoral committee and reflects their original research

and education in both their primary graduate program and OR. Upon completion of the doctoral dissertation, the candidate must pass a final oral examination (the dissertation defense) to earn the Ph.D. degree. The dissertation must be accepted by the doctoral committee, the head of the graduate program, and the Graduate School.

### **Course Requirements**

The minimum requirements for the Ph.D. dual-title degree in Operations Research are:

- 9 credits in stochastic/statistical methods, including a minimum of 3 credits in each of the areas of statistical methods and stochastic processes
- 9 credits in optimization, including a minimum of 3 credits in linear programming
- 6 credits in computational methods, including a minimum of 3 credits in simulation
- 6 credits in computational methods, including a minimum of 3 credits in simulation
- 12 credits in applications/specialization

The minimum number of credits for Ph.D. students is **36 credits** of OR approved classes, with a minimum of 18 credits in the 500 series. Particular courses may satisfy both the graduate major program requirements and those in the OR program. A list of courses that will satisfy these requirements can be found in the graduate program office and in the OR Website (<http://www.or.psu.edu/or-program-course-catalog/>).

### **Qualifying Examination**

The qualifying examination committee for the dual-title Ph.D. degree must include at least one Graduate Faculty member from the Operations Research program. Faculty members who hold appointments in both programs' Graduate Faculty may serve in a combined role. There will be a single qualifying examination, containing elements of both the primary graduate degree program and Operations Research. Dual-title graduate degree students may require an additional semester to fulfill requirements for both areas of study and, therefore, the qualifying examination may be delayed one semester beyond the normal period allowable (<https://www.or.psu.edu/ph-d-degree-2/>)

### **Doctoral Committee**

In addition to the general Graduate Council requirements for doctoral committees, the chair and at least two members of the doctoral committee of an OR dual-title Ph.D. student must be members of the OR Graduate Faculty. One of these two members should be the external member in the student's doctoral committee. Faculty members who hold appointments in both programs' Graduate Faculty may serve in a combined role. The OR representatives on the student's doctoral committee will develop questions for and participate in the evaluation of the comprehensive examination.

### **Ph.D. Minor in OR**

A Ph.D. minor program in Operations Research is available for doctoral students who find it advantageous to include advanced quantitative methods of systems analysis in their programs of study and have been approved to do so by their doctoral committees. To qualify for a minor in

Operations Research, students must satisfy the requirements of their graduate major programs, meet the same admissions prerequisites as the Master dual-title degree students, and meet the course requirements listed below.

Official requests to add the minor to a doctoral candidate's academic record must be submitted to Graduate Enrollment Services prior to establishment of the doctoral committee and prior to scheduling the comprehensive examination.

### **Coursework Requirements**

The minimum requirements for the Ph.D. degree with a minor in Operations Research are:

- 6 credits in Stochastic/Statistical Methods including a minimum of 3 credits in each of the areas of statistical methods and stochastic processes.
- 6 credits in Optimization.
- 3 credits in Computational Methods.

The minimum number of credits for Ph.D. students with a minor in OR is **15 credits** of OR approved classes, with a minimum of 6 in the 500 series.

### **Doctoral Committee**

The doctoral committee for a student seeking a minor in Operations Research must have at least one member who is part of the OR faculty (<http://www.or.psu.edu/faculty/>).

For additional information please contact: Dr. José Ventura, Chair of Operations Research, Leonhard Building, 814-863-2358

## Appendix E

### PH.D. DEGREE CHECKLIST

- ☐ **Accept admission to Ph.D. program**
  - \* Graduate Program Coordinator will provide initial advising until you are able to determine your area of research and find an adviser.
- ☐ **Schedule courses**
  - \* The College of Engineering requires that all **funded** Ph.D. Students register for 12 credits.
- ☐ **Transfer credits**
  - \* A maximum of 24 course credits out of the minimum required 45 course credits can be transferred from the student's M.S. degree.
- ☐ **Determine the number of credits required to complete your degree**
  - \* Plan your classes strategically. Depending on the focus area that you are planning to select, you may be required to take certain courses before taking the exam. (OR, OSA, MFG, HF)
  - \* Some courses are not offered every semester. Some may typically only be offered in fall semesters while others may only be offered in spring semesters.
- ☐ **Officially select an advisor**
  - \* By the end of your first semester, you must determine your research advisor. The selection of an adviser is through mutual agreement between you and the faculty member.
- ☐ **Complete SARI requirements**
- ☐ **Qualifying Exam**
  - \* Students planning to take the Qualifying Examination in Spring semester must make their intentions known, to the Graduate Program Staff Assistant, by the second week in November and those planning to take it in Fall semester, by the middle of July. The Graduate School requires that qualifying exam be done within 3 semesters of admission. This exam also includes English Proficiency evaluation.
- ☐ **Appoint Ph.D. Committee**
  - \* See Graduate Staff Assistant to obtain Doctoral Committee Appointment Form and Instructions.
- ☐ **Familiarize yourself with the Thesis/Dissertation Guide**
  - \* <https://gradschool.psu.edu/completing-your-degree/thesis-and-dissertation-information/>
- ☐ **Submit dissertation proposal to committee**
  - \* The student should submit his /her dissertation proposal to the committee, well in advance of the comprehensive examination, to allow committee input.
- ☐ **Schedule Comprehensive Exam**
  - \* The Comprehensive Exam must be formally scheduled with the Graduate School at least two weeks prior to the date of the examination. See Graduate Staff Assistant to book conference room and to complete the necessary exam paperwork. It is recommended that students complete the Comprehensive Exam within 6 semesters.
- ☐ **Pass Comprehensive Exam**
  - \* The Graduate Staff Assistant will report the results to the Graduate School.

- ☐ Register for IE 601
  - \* After passing the comprehensive exam, you can register for IE 601 which will give you full-time status at a cheaper tuition rate.
  - \* Must contact Graduate Staff Assistant to register for IE 601.
- ☐ Check Thesis Office Calendar for deadlines
  - \* <http://www.gradschool.psu.edu/current-students/etd/thesisdissertationperformance-calendar/>
    - Activate Intent to Graduate
    - Submit Dissertation for format review.
- ☐ Deliver draft of dissertation to Advisor for review
  - \* The Graduate School requires that you allow at least three months between the comprehensive exam and the final oral exam.
- ☐ Deliver draft of dissertation to all committee members for review
  - \* This should be done at least 3 weeks prior to scheduling the final defense.
  - \* This is also the time to discuss possible dates for your oral exam and find a date agreeable to all committee members.
- ☐ Schedule Final Oral Defense
  - \* The Final Oral Exam must be formally scheduled with the Graduate School at least two weeks prior to the date of the examination. See the Graduate Staff Assistant to book a conference room and to complete the necessary exam paperwork.
- ☐ Pass Final Oral
  - \* The Graduate Staff Assistant will report the results to the Graduate School.
  - \* **Note: Students visas for international students expire 28 days after passing the oral defense.**
- ☐ Collect signatures on doctoral signatory page
  - \* Make all final corrections and submit a copy of the final document, along with doctoral signatory page, to each committee member. Please allow sufficient time for review of corrections and to collect signatures.
- ☐ Submit final dissertation to the eTD site
  - \* Refer to Thesis/Dissertation Calendar and etd submission information.  
<https://gradschool.psu.edu/completing-your-degree/thesis-and-dissertation-information/how-to-submit-a-doctoral-dissertation/>
- ☐ Refer to Commencement link for graduation instructions.  
<http://commencement.psu.edu/>
  - ☐ **CONGRATULATIONS!**