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DEPARTMENT OF INDUSTRIAL AND SYSTEMS ENGINEERING, UW-MADISON

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Subject:	Departmental Policies Governing the PhD Degree in Industrial and Systems Engineering and PhD Minor Requirements for Non-IE Majors
Date Issued:	October 18, 2019
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Written by:	ISyE Academic Affairs Cluster
Approved by:	ISyE faculty members at December 15, 2017 department meeting
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1. Purpose:

The purpose of the following document is to define the five steps to becoming a PhD: Completing a Minor, satisfying breadth requirements, passing the Qualifying Examination Requirement, passing the Preliminary Examination, and passing the Final Oral Examination.

2. Scope:

This procedure applies to both full-time and part-time Industrial and Systems Engineering (ISyE) graduate students and faculty, and addresses the departmental policies, which apply in addition to the regulations of the Graduate School, with which all graduate students should be thoroughly familiar. The applicable Graduate School regulations may be found in the Graduate School Academic Guidelines, which are available from the Graduate School, or at <http://grad.wisc.edu/acadpolicy/>. The departmental area committees may also have particular rules for their students.

3. Related Procedures and Other Documentation:

<u>Procedure No.</u>	<u>Description of Procedure</u>
ISyE P 08.1	Department Policy for Qualifying Examination Requirements in Industrial and Systems Engineering
ISyE P 11.1	Criteria for Satisfactory Academic Progress as a Graduate Student in Industrial and Systems Engineering

Other Documents

Graduate School Academic Guidelines: <http://grad.wisc.edu/acadpolicy/>

4. Procedure:

- 4.1 To get admitted and stay in the PhD program, the student must secure a PhD advisor (or co-advisors). The advisor(s) play a critical role in the student's academic progress. The student needs to work with the advisor(s) closely during the whole period of his/her PhD

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program.

MINOR

- 4.2 Every student seeking a PhD degree must choose between an Option A minor and an Option B minor.

NOTE 1: Refer to <http://www.wisc.edu/grad/catalog/degrees.html#minor> for additional details on minor degrees.

- 4.2.1 A student choosing the Option A minor must select a department other than ISyE for this minor, and must satisfy the requirements of the department offering the minor.
- 4.2.2 A student choosing the Option B minor must complete a minimum of nine credits of courses from one or more than one department. An ISyE course may not be used for the Option B minor, except that a course cross-listed with ISyE may be used if the home department for such course is not ISyE. In addition, the student's advisor must approve the set of courses being used to satisfy the Option B minor.
- 4.3 PhD Minor Requirements for Non-ISyE PhD Students

A PhD candidate from another department taking an Option A minor in ISyE must complete a minimum of nine credits of ISyE courses numbered 300 or above. A minimum GPA of 3.20 is required for this set of courses. A course with a grade of C or lower cannot be used to satisfy the minor requirement. Students may transfer up to three credits from another university to satisfy the minor requirement, subject to the approval of the Industrial and Systems Engineering Academic Affairs (AA) Cluster.

BREADTH REQUIREMENT

- 4.4 The breadth requirement is to make the PhD student achieve minimum competence in multiple areas of industrial and systems engineering. It consists of taking at least two courses (six credits) from a list of ISyE courses and attaining a grade of B or above in both courses.
- The list of courses that can satisfy the breadth requirement are provided by area groups from among those numbered 300 or above.
 - The list of courses must be approved by the ISyE AA Cluster and can be found at the Student Services Office.
 - The courses selected by the student must be approved by the student's advisor and must be in at least two areas that are different from the area group in which the student's qualifying exam is taken.
 - Courses the student has taken before entering the PhD program will be counted toward this breadth requirement.

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- Any transfer credits could also be counted toward this breadth requirement upon the approval by the area group(s) corresponding to the transferred course(s) and the ISyE AA Cluster.

PhD Coursework and Experience Expectations

- 4.5 PhD training results from a series of academic experiences, included but not limited to classroom courses, independent study, guided research, teaching training, and independent research. All students must complete the minimum number of credits required by the Graduate School; at least 50% of these must be at the graduate level. ISyE students must attend a research colloquium series for at least two semesters. Expectations for publication, teaching experience, proposal development, and industry practicums should be communicated to the student by their faculty advisor.

EXAMINATIONS

NOTE 2: There are three major examinations in a PhD program: qualifying, preliminary, and final. In addition, there may be one or more examinations to be passed as part of the minor program.

NOTE 3: A student is considered to be a PhD candidate (a dissertator) only after finishing their regular course work minor, passing their Qualifying Exam Requirement, completing the breadth requirement, and passing their preliminary exam.

Qualifying Examination Requirement

- 4.6 Each student wishing to be a PhD student in the ISyE Department must satisfy the Department's Qualifying Examination Requirement as defined in **ISyE P 08.1 (Department Policy for Qualifying Examination Requirement in Industrial and Systems Engineering)**

Preliminary Examination

- 4.7 The preliminary examination is designed to test whether the student has attained the appropriate depth and breadth of knowledge in the student's field of study. Before taking the preliminary examination, the student must satisfy the qualifying exam requirement and the breadth requirement. The scope and content of this examination are determined by the student's preliminary examination committee. The student should work with his/her advisor(s) to form the examination committee. Including the advisor(s), the committee should have at least four faculty members among whom at least two should have tenure home in ISyE. Exceptions to this requirement must be requested to the Academic Affairs Cluster at least two months before the exam. In most cases, the preliminary exam committee will also be a subset of the dissertation committee that will supervise the student's PhD program until finishing. The examination may be combined with the presentation of the student's preliminary proposal for the dissertation. The preliminary exam must be completed within 4 years of joining the ISyE graduate

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program, and within 3 years of passing the qualifying exam. Exceptions could be granted by the Academic Affairs Cluster through a petition process.

Final Oral Examination

- 4.8 The final oral examination consists of the presentation and defense of the PhD dissertation to the dissertation committee. The dissertation committee must consist of at least 4 members and meet the requirements set forth by the Graduate School, including for example, that the committee must have members from at least two UW-Madison graduate programs. In addition, the committee must include at least two faculty members with tenure home in ISyE. Exceptions to this requirement must be requested to the Academic Affairs Cluster at least two months before the defense. The defense is conducted under the Graduate School rules. *This must be completed either within two years after passing the Preliminary Examination or by the end of the 6th year in the graduate program, whichever is later. Exceptions to this limit may be granted by appeal to the Academic Affairs cluster.*

NOTE 4: See **ISyE P 11.1** regarding the Criteria for Satisfactory Academic Progress as a Graduate Student in ISyE.

FOREIGN LANGUAGE

- 4.9 The ISyE Department has no foreign language requirement for the PhD degree.

AREA OF SPECIALIZATION REQUIREMENTS

- 4.10 A student pursuing a PhD should contact the chairperson for their intended area groups for any additional PhD requirements.

End of Procedure