

*DOCTOR OF PHILOSOPHY
PROGRAM
GUIDE*



PURDUE
UNIVERSITY®

School of Industrial Engineering

Introduction	4
Curriculum Details	4
1. Ph.D. Admission	5
1.1 Required Supporting Documents	5
1.2 Doctoral Degree Program Recommendations	5
1.3 Application Deadlines	5
1.4 Additional Information	6
1.4.1 Funding Opportunities.....	6
1.4.3 Successful applicants to the Ph.D. program usually have these qualities	6
2. Degree Requirements.....	7
2.1 General University Requirements	7
2.1.1 Satisfactory academic progress	7
2.2 IE School Requirements.....	8
2.2.1 Ph.D. students are required to:	8
2.3 Advisory Committee.....	10
2.4 Plan of Study.....	11
2.4.1 Plan of Study Check List For Students with MS	11
2.4.2 Plan of Study Check List For Students withOUT MS	14
2.4.3 Process for Requesting transferred Course Consideration.....	16
2.4.4 Filing Change to Plan of Study	17
3 Registration	18
3.1 Students' Responsibilities	18
3.2 Major Professors' Responsibilities	18
3.3 Full Time and Part Time Enrollment.....	20
3.4 Registration for candidacy.....	20
4 Preliminary Examination	20
4.1 Before Oral Preliminary Examination	21
4.2 Schedule your Preliminary Examination	21
4.3 When the Preliminary Examination Committee Decision is Favorable,.....	21

4.4	<i>When the Preliminary Examination Committee Decision is Unfavorable,</i>	22
5	<i>Dissertation & Final Examination</i>	22
5.1	<i>To Request Final Examination</i>	22
5.2	<i>Schedule your Final Examination</i>	22
5.3	<i>Dissertation Seminar</i>	23
5.4	<i>Final Examination</i>	23
5.5	<i>After the Final Examination</i>	23
6.	<i>Timely Completion of Degree Requirements</i>	24
7.	<i>Completion Process for Ph.D.</i>	24
<i>Appendix A: Graduate Student Responsible Conduct of Research (RCR)</i>		26
<i>Appendix B: How to create a new Plan of Study (POS)</i>		28
	<i>Plan of Study Log-in</i>	28
	<i>Graduate Plan of Study Generator Page</i>	30
	<i>Required Sections</i>	31
	<i>Student and Degree Information</i>	31
	<i>Research Area and Concentration</i>	32
	<i>Course Work</i>	33
	<i>Courses Currently Enrolled or Previously Completed at Purdue Grad. Program</i>	33
	<i>Future Course Enrollment Plan</i>	34
	<i>Purdue Combined Degree Courses</i>	34
	<i>Advisory Committee</i>	34
	<i>Comments and Supplemental Notes</i>	35
	<i>Supplemental Note for Ph.D. WITH M.S. Degree</i>	35
	<i>Supplemental Note for Ph.D. WITHOUT M.S. Degree</i>	35
	<i>Preview and Checklist Before Submitting the Draft</i>	36
	<i>Other Information</i>	37
<i>Appendix C: How to File Change to Plan of Study (CPOS)</i>		38
	<i>Log-in and Update</i>	38

<i>Preview and Checklist</i>	38
APPENDIX D: Purdue Polytechnic Institute Courses on Grad. Plans of Study	39
Appendix E: Form 23	40
Appendix F: Form IE69800/69900	41
Appendix G: PhD Timeline Worksheet	42
Appendix H: Annual Review – School of Industrial Engineering	43
<i>Annual Progress Report for Doctoral Candidates and Pre-Candidates</i>	43
<i>Annual Progress Report for Doctoral CandidateS</i>	44
The following section is completed by the student.....	44
The following section is to be completed by the advisor(s)	47

INTRODUCTION

The Ph.D. program in Industrial Engineering is designed to educate leading researchers and educators in industrial engineering, as well as government and industry leaders across a breadth of domains. The material presented in this guide is intended to serve as supplemental information to the document, titled “Policies and Procedures for Administrating Graduate Student Programs (henceforth referred to as Graduate School Policy).”¹

CURRICULUM DETAILS

Courses offered in the following topic areas:

- Human Factors
- Manufacturing
- Production Systems
- Operational Research

¹ The document can be found at

https://catalog.purdue.edu/content.php?catoid=10&navoid=12788&_ga=2.162588988.1205437959.1600703518-1997254963.1598367030, as of September 23, 2020.

The Industrial Engineering Program offers a wide range of flexibility in course options. After you begin your studies at Purdue, a faculty advisor (major professor) will help you create a Plan of Study (POS) to best fit your educational needs and career goals. Every POS varies based on student interest, time, and course load. The PhD program is a residential-only program.

1. PH.D. ADMISSION

Applicants to the program must satisfy all of the admission requirements designated by Graduate School (see Graduate School Policy, Section III).

1.1 REQUIRED SUPPORTING DOCUMENTS

- [Transcripts](#)
- [Recommendation Letters](#)
- [Statement of Purpose](#)
- [Resume](#)
- [Diversity Essay](#) (Only completed by graduates of U.S. high schools)
- [Graduate Record Examination \(GRE\)](#)
 - Aptitude Section only (GRE General Test)
- [English Proficiency \(Non-native English-speaking international applicants: choose a test below\)](#)
 - Only if the applicant’s native language is other than English; or,
 - The applicant does not hold a baccalaureate degree from a college or university of recognized standing that is located in the U.S.A.

1.2 DOCTORAL DEGREE PROGRAM RECOMMENDATIONS

- Master's Degree Completion (recommended) with Grade Point Average: 3.4/4.0 or equivalent

1.3 APPLICATION DEADLINES

Table 1: Application Deadlines

	Fall	Spring	Summer
Priority consideration for funding support	December 15	September 1	No Entry
Final deadline	January 5	September 1	No Entry

1.4 ADDITIONAL INFORMATION

1.4.1 FUNDING OPPORTUNITIES

- Multi-year fellowships, teaching assistantships, and research assistantships are available on a competitive basis, with higher priority given to top PhD applicants who have demonstrated research ability through publication and/or a Master's thesis.
- To be considered for funding, students must apply by December 15 for the following fall semester and September 1 for the following spring semester. There is no separate application for funding consideration.
- The School is committed to making competitive offers and reasonable stipend levels for all funded graduate students.
- Fellowship students **must** maintain a minimum 3.0 grade point average and enroll as a full-time student -- 8 credit hours or more for the fall and spring semester and 6 credit hours or more for the summer term.
- Students with an assistantship must register at least six credit hours in the fall and spring semester to retain their funding. However, a minimum of 3 credit hours is allowed for the summer term and a graduating (a graduation candidacy declared) term.
- If a student holds a Research Assistant position, a research credit hour must be taken as a part of their registration requirements.

1.4.3 SUCCESSFUL APPLICANTS TO THE PH.D. PROGRAM USUALLY HAVE THESE QUALITIES

- Cumulative GPA of 3.4/4.0 or better during their previous graduate work;
- GRE minimum scores:
 - Verbal: 151
 - Quantitative: 155
 - Analytical: 3.5
- TOEFL: Internet-Based Test (IBT) minimum scores:
 - Overall: 88
 - Reading: 20
 - Listening: 20
 - Speaking: 20
 - Writing: 20
- IELTS (Academic Module): minimum scores:
 - Overall: 7.5
 - Reading: 6.5
 - Listening: 6.0
 - Speaking: 6.0
 - Writing: 6.0

2. DEGREE REQUIREMENTS

2.1 GENERAL UNIVERSITY REQUIREMENTS

To receive a Ph.D. degree, doctoral students are required to:

- Have an approved plan of study filed with the Graduate School (see Graduate School Policy, Section VII, B);
- Have at least 90 total graduate credit hours in their program (see Graduate School Policy, Section VI, B)

The 90 total credit hours may include regular course credits, research credits, and up to 30 credits earned from one (and only one) previous master's degree. At least one third of the total credit hours used to satisfy degree requirements must be earned while registered as a doctoral student at Purdue.

- Obtain a cumulative GPA of 3.0 or better on all courses taken at Purdue beyond the master's degree;
- Have at least two continuous regular (non-summer) semesters of full-time study on the campus of Purdue University; and
- At least two academic terms of registration devoted to research and writing must elapse between the preliminary and final doctoral examinations.
 - For example, a student who schedules and passes their preliminary examination in a Spring semester can schedule their final examination beginning in the spring semester of the following year.

2.1.1 SATISFACTORY ACADEMIC PROGRESS

After two consecutive "U" grades are received in research credits (IE 69900), a departmental review and assessment is required. Following the receipt of two consecutive "U" grades, a graduate student can be dismissed or can be allowed to continue with conditions.

The Purdue University Graduate School's *Policies and Procedures for Administering Graduate Student Programs* (Section VI.) addresses the receipt of two consecutive "U" grades in research as such:

"A graduate student also is expected to earn S grades for research registration. Two consecutive sessions of U grades for research registration mandate that the department take formal action and inform the student, in writing, and the Graduate School with regard to discontinuation or conditions for continuation of the student's graduate study. In any event, the student's progress should be reviewed each session by the student's department. The student's progress also may be reviewed by the Graduate School. Should the student fail to perform in either coursework or research on a level acceptable to the advisory committee, the departmental graduate committee, or the dean of the Graduate School, he or she may be asked to discontinue graduate study at Purdue."

Second, additional language in Section VI of the policy manual addresses graduate students who have received an "U" grade in research this past semester (but not two consecutive "U" grades):

"If a student is assigned U grade, prior to the start of classes the next session, the departmental/program representative must develop and communicate to the student, a plan for satisfactory continuation. The student is responsible for meeting with the departmental/program representative to discuss this

plan. Both the student and the departmental/program representative must acknowledge the corrective plan.”

2.2 IE SCHOOL REQUIREMENTS

2.2.1 PH.D. STUDENTS ARE REQUIRED TO:

- Complete prerequisites equivalent to
 - Mathematics through multivariate calculus, differential equations, and linear algebra (MA 26100, MA 26500, & MA 26600)
 - Applied probability and engineering statistics (IE 23000 & IE 33000 or STAT 51100)
 - Basic techniques of operations research (IE 33500 & IE 33600)
 - Proficiency in computer programming (CS 15800 or CS 15900)

If students were missing any of the course requirements for admission, then the student may be admitted on the condition that they take these courses during the first semester. The student can meet this requirement by taking the prerequisites as Pass-Fail.
- Obtain a C or better in every course listed on the plan of study, and a B or better in all core area courses (see below).
- Submit a formal written research proposal;
- Pass a preliminary examination based on the formal written research proposal; and
- Successfully present a one-hour seminar, and defend a dissertation in a final oral examination, meeting all requirements of Industrial Engineering and the Graduate School.

Additionally, students must establish a breadth of knowledge in the field of industrial engineering through coursework. The topics where knowledge must be obtained include Engineering Economics/Decisions, Human Factors and Cognitive Engineering, Manufacturing Processes and Production Systems, and Optimization and Stochastic Processes. Any core area course in the Plan of Study must be completed with a grade of B or better, per the requirements as specified in Table 3²:

Table 2: Core Area Selective Courses

Engineering Economics/Decisions (3 cr.)	IE 54500 or IE 54600
Human Factors and Cognitive Engineering (3 cr.)	IE 55600, IE 55800, IE 55900, IE 57700, or IE 57800

² This requirement can be satisfied by taking courses as part of any previous degree program or be taken as part of the Ph.D. plan of study. In certain cases, a student may have completed comparable core courses at other universities or by taking similar courses at Purdue. These students should consult with the Graduate Program Administrator for the current procedure to obtain a waiver to this requirement.

Manufacturing Processes and Production Systems (3 cr.)	IE 56600, IE 57000, IE 57900, IE 58800, or IE 59000 (Nanomanufacturing ³)
Optimization and Stochastic Processes	IE 53500, IE 53600, IE 53700, IE 53800, IE 58000, or IE 58100

Students must establish sufficient advanced knowledge through earning at least 6 credit hours of IE 60000-level coursework; **excluding** IE 69000 (individual project), IE 69700 (seminar), IE 69800 (research MS thesis), and IE 69900 (research PhD thesis).

Students must also establish knowledge within complementary field(s) of study by including courses from at least one related field of study (e.g., statistics, psychology, mathematics, mechanical engineering, etc.).

Coursework selected beyond these requirements will vary from student to student, and should be selected to support overall development as a scholar of industrial engineering and their research. In summary, the coursework must be selected to form a unified program of study. IE 69900 (research PhD thesis) credit hours count toward the 90 credits required, but do not appear on the plan of study (outlined in Section 2.3).

Table 3: Program Requirements Summary Table4

	Ph.D. with Previous M.S. Degree	Ph.D. without Previous M.S. Degree
M.S. Credits (applied)	Up to 30	0
Course Credits (Minimum)	24	45
Research and Other Credits (Minimum)	36	45
Total Credits	90	90
Other Requirements	<ul style="list-style-type: none"> • At least one course in each core area • Two 60000-level courses • At least 6 credits in a related area • Preliminary Examination • Final Examination 	<ul style="list-style-type: none"> • At least one course in each core area • At least 18 total course credits from the core areas • At least two courses from two different core areas • Two 60000-level courses • At least 6 credits in a related area

³ Permanent course number for IE 59000 – Nanomanufacturing is pending.

⁴ Approved by the faculty on 23 November 2015

		<ul style="list-style-type: none"> • Preliminary Examination • Final Examination
--	--	--

2.3 ADVISORY COMMITTEE

Ph.D. students are required to identify an Advisory Committee. The Advisory Committee is required to:

- Consist of at least four members, at least three of whom must be members of the regular graduate faculty⁵;
- The committee chair must be from the School of Industrial Engineering;
- The committee can include one major professor or two co-major professors, who is/are the chair or co-chairs of the advisory committee;
- Include at least one member other than the major professor from the School of Industrial Engineering;
- Include at least one member from outside the field of industrial engineering. Faculty with a courtesy appointment in the School of Industrial Engineering are classified as outside members. Committee members may also come from outside of Purdue, as necessary. This process is outlined in Figure 4.

All Ph.D. students are admitted with an initial major professor. The major professor is the primary mentor to the student throughout their graduate program, as well as the Chairperson of the Advisory Committee. As such, the relationship between major professor and student must be mutually acceptable in order to ensure a meaningful and productive graduate experience.

To facilitate the selection of an Advisory Committee, students should discuss their educational objectives with their major professor. The major professor will likely recommend prospective members of the faculty for the Advisory Committee. Students should similarly discuss their educational objectives with the recommended faculty, as well as others, to ensure that the relationships will be mutually beneficial. The Advisory Committee should be established as soon as possible given that the POS must be submitted by the end of the second semester (as noted in Section 2.3).

⁵ Members of the Purdue’s regular graduate faculty are tenure-track faculty members at Purdue University who have been nominated by the head of a specific graduate program and an academic dean for appointment to the regular graduate faculty. They are permitted to teach graduate-level courses, to serve on graduate student advisory committees, and to chair or co-chair master’s and Ph.D. committees. Faculty or industry experts from outside of Purdue University can hold special appointment to the Purdue’s graduate faculty. (See Graduate School Policy, Section E for more details.)

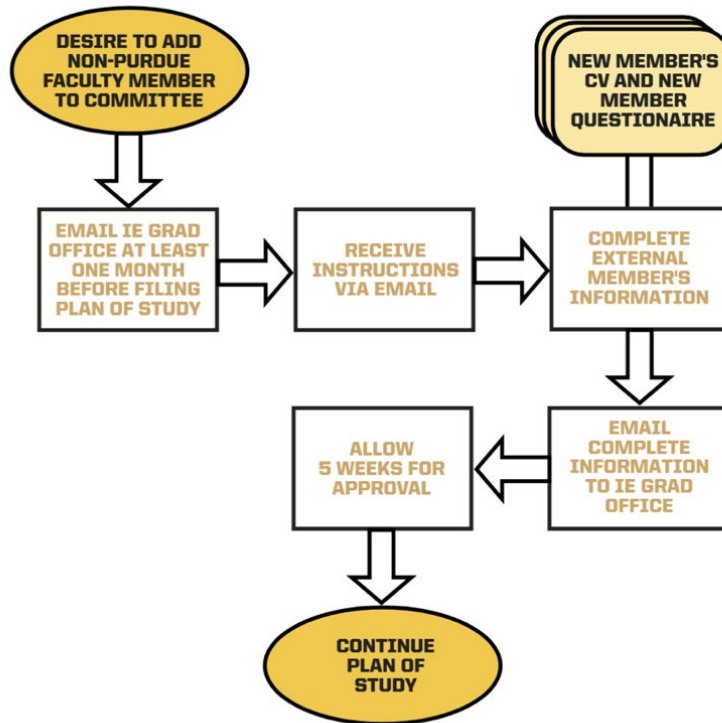


FIGURE 4: PROCESS TO ADD AN EXTERNAL COMMITTEE MEMBER

2.4 PLAN OF STUDY

A plan of study (POS) is a summary of the course work plan that defines each student’s academic program and serves as a contract between the student, student’s advisory committee, student’s graduate program, and Purdue University’s Graduate School. The POS should be worked out under the supervision of the major professor and members of the Advisory Committee. The School of Industrial Engineering requires all graduate students to submit a POS for approval by the end of their second semester, and have an approved Plan of Study prior to preliminary examination.

2.4.1 PLAN OF STUDY CHECK LIST FOR STUDENTS WITH MS

- At least one-third of the total credit hours applied to satisfy degree requirements **must** be earned while registered for doctoral study at Purdue University;
- Include credit hours earned at Purdue University toward PhD degree (see Table 3.);

- Meet all core course requirements (see Table 2);
- Include courses from at least one related field of study outside the area of industrial engineering (see Section 2.2.1);
- Include at least 6 credit hours of IE 60000-level courses taken at Purdue University;
- If applicable;
 - Include up to 30 credit hours from one previous master's degree or professional doctoral degree from any accredited institution at the discretion of the student's graduate program.
 - These courses must have an earned letter grade
 - PLEASE CONSULT WITH YOUR MAJOR PROFESSOR(S) FOR CURRENT GUIDANCE ON HOW TO SATISFY THIS REQUIREMENT.**
- Supplemental Note:
 - "I am a PhD student **WITH** a Master's degree. The Plan of Study includes at least **24 COURSE CREDITS** not used toward any other degree. This Plan of Study includes at least one course each in:
 - Engineering economics/decisions **[LIST COURSE IDENTIFIER]**
 - Human factors/cognitive engineering **[LIST COURSE IDENTIFIER]**
 - Manufacturing processes/production **[LIST COURSE IDENTIFIER]**
 - Optimization/stochastic processes **[LIST COURSE IDENTIFIER]**
 - In addition, this Plan of Study includes:
 - Six credit hours of coursework **[LIST COURSE IDENTIFIERS]** in the related area **[SPECIFY THE NAME OF THE RELATED AREA]** and
 - Two 600-level courses **[LIST COURSE IDENTIFIERS]**."

If you modify this supplemental note in any way other than filling in the italicized options, your Plan of Study will be returned to you for corrections. A sample plan of study for a student with a Master's Degree is provided in Figure 1.

Graduate Plan of Study

Status Submitted 04/24/2018
 Modified: [View History](#) or [View Change Request](#)
Student SILVER, TWINBIE 0098765432
Student Email silvert2@purdue.edu
Degree Campus West Lafayette (Main Campus) PWL
Admitted Program INDUSTRIAL ENGINEERING IE
Degree Title DOCTOR OF PHILOSOPHY PHD
Program Indust Engr-PHD IE-PHD
Date Degree Expected MAY 2020
Concentration NONE
Research Area HUMAN-CENTERED SMART SERVICE SYSTEM DESIGN FRAMEWORK TO IMPROVE SERVICE QUALITY

Supplemental Notes:

[Add A Supplemental Note](#) [View All Notes](#)

CITI COMPLETE	PUBLIC	CHERYL L. BARNHART	09/06/2017
HF CORE AREA COURSE	PUBLIC	STEVEN J. LANDRY	06/18/2018
MS DEGREE-NATIONAL TSING HUA UNIVERSITY	PUBLIC	TRIENNA L. WALKER	07/03/2018
NO LONGER ADVISOR OF RECORD	PURDUE	VINCENT G. DUFFY	08/29/2018

Items in purple are completed. / Items in green are incomplete. Courses: ** Grades posted here are as of the end of the semester that they were taken. Late grade changes or title changes may not be reflected. If you see a discrepancy, contact the Graduate School.

Area	Courses Title	Subj. Abbr.	Course No.	Credit Hours	Regis. Type	Grade	B or better	Transfer From	Date Completed To Be Completed
PRIMARY	ENGR ECONOMIC ANLY	IE	54500	3	RE	A	YES	-	Fall 2014
PRIMARY	DES CONT PROD MFG SYS	IE	57900	3	RE	A	YES	-	Fall 2014
PRIMARY	SYSTEMS SIMULATION	IE	58000	3	RE	A+	YES	-	Fall 2015
PRIMARY	ADVAN DECISION THEORY	IE	64600	3	RE	A-	YES	-	Spring 2016
PRIMARY	HEALTHCARE DELIVERY SYSTEMS	IE	69000	3	RE	A	YES	-	Spring 2016
PRIMARY	ADVANCED WORK DESIGN	IE	65600	3	RE	A	YES	-	Spring 2018
RELATED	DATA MINING	CS	57300	3	RE	A-	YES	-	Spring 2015
RELATED	HUMAN INFOR PROCESSING	PSY	63700	3	RE	A	YES	-	Spring 2015

Graduate course tallies:

Purdue POS GPA: 3.93
 Primary Area Credit Hours : 18
 Related Area Credit Hours : 6
 Total Master's Credits Allowed on this Ph.D. Plan: 15

Language Requirement : None

Comments Regarding Exceptions or Requirements:

Statement	I am a PhD student with a Master degree. The Plan of Study includes at least 24 course credits not used toward any other degrees. This Plan of Study includes at least one course each in engineering economics/decisions (IE545), human factors/cognitive engineering (PSYC637), manufacturing processes/production (IE579), and optimization/stochastic processes (IE580). In addition, this Plan of Study includes 6 credit hours of coursework (PSYC637, CS573) in the related area human computer interaction and information engineering and two 600-level courses (IE690, IE646).	This note last updated by TWINBIE SILVER on 04/24/2018	Move to Supp Notes
-----------	--	--	--------------------

Pass/No Pass Courses: None

Advisory Committee Information and Approval Status

50	MARK R. LEHTO (CO-CHAIR)	R1	C2928	APPROVED by Mark R. Lehto 03/28/2019 12:24:07	IE	Behavioral Decision Making
50	ZACHARY J. HASS (CO-CHAIR)	R1	C10252	APPROVED by Zachary J. Hass 03/07/2019 14:24:23	NRS	Statistical Evaluation for Healthcare Engineering
50	BRANDON J. PITTS	R1	C10084	APPROVED by Brandon J. Pitts 05/09/2018 13:50:01	IE	HUMAN FACTORS
50	SANDRA S. LIU	R1	C5536	APPROVED by Sandra S. Liu 04/25/2018 19:28:51	CSCI	CONSUMER SCIENCE

Additional Authorization

FIGURE 1A: SAMPLE PHD PLAN OF STUDY WITH MASTERS, PART 1

Additional Authorization

Level	Authorization	Required Signature	Status
70	Student	Twinbie Silver	SUBMITTED 04/24/2018 13:10:56
60	Plan of Study Coordinator	<u>Cheryl L. Barnhart</u>	APPROVED by Cheryl L. Barnhart 04/25/2018 08:14:00
20	Graduate Program Authorization Industrial Engineering	Steven J. Landry	APPROVED by Steven J. Landry 06/18/2018 09:47:34
10	Processor	<u>Trienna L. Walker</u>	PROCESSED by Trienna L. Walker 07/03/2018 09:33:11
0	Graduate School Authorization	<u>Jessica M. Taylor</u>	APPROVED by Jessica M. Taylor 07/26/2018 11:02:28

[View Registration \(new window\)](#)

[Update Research Area, Date Degree Expected, Language Requirements](#)

[Update Course Information](#)

FIGURE 1B: PHD PLAN OF STUDY WITH MASTERS, PART 2

2.4.2 PLAN OF STUDY CHECK LIST FOR STUDENTS WITHOUT MS

- At least one-third of the total credit hours applied to satisfy degree requirements **must** be earned while registered for doctoral study at Purdue University;
- Include credit hours earned at Purdue University toward PhD degree (see Table 3.);
 - Meet all core course requirements (see Table 2);
 - Include courses from at least one related field of study outside the area of industrial engineering (see Section 2.2.1);
- Include at least 6 credit hours of IE 60000-level courses taken at Purdue University;
- Supplemental Note
 - "I am a PhD student **WITHOUT** a Master's degree. The Plan of Study includes at least **45 COURSE CREDITS** not used toward any other degree. This Plan of Study includes at least one course in each category- **and** one additional course in two of the four areas below:
 - Engineering economics/decisions **[LIST COURSE IDENTIFIER(S)]**
 - Human factors/cognitive engineering **[LIST COURSE IDENTIFIER(S)]**
 - Manufacturing processes/production **[LIST COURSE IDENTIFIER(S)]**
 - Optimization/stochastic processes **[LIST COURSE IDENTIFIER(S)]**
 - In addition, this Plan of Study includes:
 - Six credit hours of coursework **[LIST COURSE IDENTIFIERS]** in the related area **[SPECIFY THE NAME OF THE RELATED AREA]** and
 - Two 600-level courses **[LIST COURSE IDENTIFIERS]**."

If you modify this supplemental note in any way other than filling in the italicized options, your Plan of Study will be returned to you for corrections. A sample plan of study for a student with a Master's Degree is provided in Figure 2.

Graduate Plan of Study

Status	Submitted 11/05/2018	
	Modified: View History or View Change Request	
Student	SILVER, TWINSA	0012345678
Student Email	silvertw1@purdue.edu	
Degree Campus	West Lafayette (Main Campus)	PWL
Admitted Program	INDUSTRIAL ENGINEERING	IE
Degree Title	DOCTOR OF PHILOSOPHY	PHD
Program	Indust Engr-PHD	IE-PHD
Date Degree Expected	DEC 2020	
Concentration	NONE	
Research Area	OPERATIONS RESEARCH	

Supplemental Notes:

[Add A Supplemental Note](#) [View All Notes](#)

CITI NOT COMPLETE	PUBLIC	CHERYL L. BARNHART	10/18/2018
RCR COMPLETE	PUBLIC	ANITA PARK Edit/Del	07/02/2020

Items in purple are completed. / Items in green are incomplete. Courses: ** Grades posted here are as of the end of the semester that they were taken. Late grade changes or title changes may not be reflected. If you see a discrepancy, contact the Graduate School.

Area	Courses Title	Subj. Abbr.	Course No.	Credit Hours	Regis. Type	Grade	B or better	Transfer From	Date Completed To Be Completed
PRIMARY	LINEAR PROGRAMMING	IE	53500	3	RE	B+	YES	-	Fall 2016
PRIMARY	NATURE-INSPIRED COMPUTATION	IE	59000	3	RE	A+	YES	-	Fall 2016
PRIMARY	SIMULATION DES & ANLYS	IE	58100	3	RE	B+	YES	-	Spring 2017
PRIMARY	ENERGY SYSTEMS MANAGEMENT	IE	69000	3	RE	A	YES	-	Spring 2018
PRIMARY	ENGR ECONOMIC ONLY	IE	54500	3	RE	B	YES	-	Fall 2018
PRIMARY	STOCHASTIC NETWORK ANALYSIS	IE	69000	3	RE	A	-	-	Fall 2018
PRIMARY	JOB DESIGN	IE	55600	3	RE	A+	YES	-	Spring 2019
PRIMARY	MFG PROCESS ENGR	IE	57000	3	RE	A-	-	-	Fall 2019
RELATED	REAL ANALYSIS	MA	50400	3	RE	B-	YES	-	Spring 2017
RELATED	ALGORITHMS IN TRANSP	CE	66100	3	RE	B+	-	-	Fall 2017
RELATED	LINEAR ALGEBRA APPL	MA	51100	3	RE	B-	YES	-	Fall 2017
RELATED	ELEM STOCHASTIC PROC	STAT	53200	3	RE	B+	-	-	Fall 2017
RELATED	GRAPH THEORY	MA	57500	3	RE	B	YES	-	Spring 2018

Graduate course tallies:
 Purdue POS GPA: 3.41
 Primary Area Credit Hours : 24
 Related Area Credit Hours : 15
 Total Master's Credits Allowed on this Ph.D. Plan: 0

Language Requirement : None

Comments Regarding Exceptions or Requirements:

I am a PhD student without a Master's degree. The Plan of Study includes at least 39 course credits not used toward any other degree. This Plan of Study includes at least one course each in engineering economics/decisions (IE545), human factors/cognitive engineering (IE556), manufacturing processes/production (IE575), and optimization/stochastic processes (IE581). In addition, this Plan of Study includes 6 credit hours of coursework (MA504, MA575) in the related area of Mathematics and two 600-level courses IE 690 Stochastic Network Analysis, and IE 690 Energy Systems Management.	This note last updated by SILVER, TWINSA on 08/17/2018	Move to Supp Notes
--	--	--------------------

Pass/No Pass Courses: None

Advisory Committee Information and Approval Status

50	ROSHANAK NATEGHI (CHAIR)	R1	C9591	APPROVED by Roshanak Nateghi 11/12/2018 09:46:49	IE
----	--------------------------	----	-------	--	----

FIGURE 2A: PHD PLAN OF STUDY WITHOUT MASTERS, PART 1

Advisory Committee Information and Approval Status

50	ROSHANAK NATEGHI (CHAIR)	R1	C9591	APPROVED by Roshanak Nateghi 11/12/2018 09:46:49	IE	
50	CHRISTOPHER J. QUINN	R1	C9356	APPROVED by Christopher J. Quinn 11/07/2018 20:42:54	IE	
50	DANIEL A. DELAURENTIS	R1	C6236	APPROVED by Daniel A. Delaurentis 11/12/2018 11:13:10	AAEN	
50	P. SURESH C. RAO	R1	C5117	APPROVED by P. Suresh C. Rao 11/15/2018 11:31:30	CIVL	

Additional Authorization

Level	Authorization	Required Signature	Status
70	Student	Twinsa Silver	SUBMITTED 11/05/2018 12:26:54
60	Plan of Study Coordinator	Cheryl L. Barnhart	APPROVED by Cheryl L. Barnhart / Anita Park 11/07/2018 17:53:43
20	Graduate Program Authorization Industrial Engineering	Steven J. Landry	APPROVED by Steven J. Landry / Patrick A. Brunese 11/15/2018 16:39:02
10	Processor	Trienna L. Walker / Sally L. Smith	PROCESSED by Trienna L. Walker / Sally L. Smith 11/16/2018 07:46:54
0	Graduate School Authorization	Nicole M. Barr / Sally L. Smith	APPROVED by Nicole M. Barr / Sally L. Smith 11/16/2018 07:47:31

[View Registration \(new window\)](#)

[Update Research Area, Date Degree Expected, Language Requirements](#)

[Update Course Information](#)

FIGURE 2B: PHD PLAN OF STUDY WITHOUT MASTERS, PART 2

2.4.3 PROCESS FOR REQUESTING TRANSFERRED COURSE CONSIDERATION

Subject to the restrictions stated below, credits earned for graduate study at other universities (both domestic and international) may be applied toward the degree:

- Only credit hours associated with graduate courses for which grades of B- or better
- Up to 12 credit hours of graduate courses taken as a non-degree and not applied to a degree elsewhere

If you have courses that satisfy above conditions, see Figure 3 for the transferred course request process.

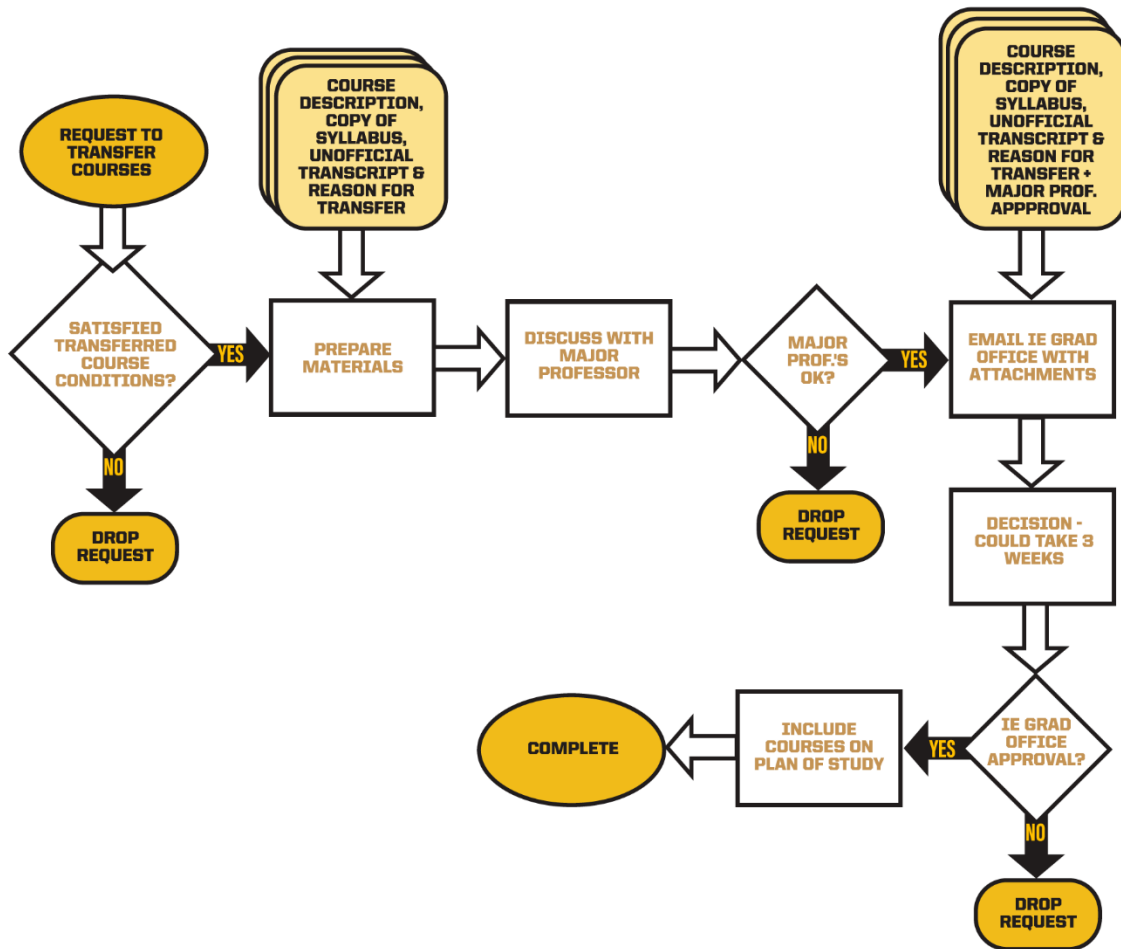


FIGURE 3: PROCESS TO REQUEST TRANSFER COURSE APPROVAL

2.4.4 FILING CHANGE TO PLAN OF STUDY

Minor changes in the official POS may be made at a later date by filing a Change to Plan of Study (CPOS), however each iteration requires the approval of the Advisory Committee, the IE Graduate Program Office, and the Graduate School. CPOSs are not subject to the Plan of Study Deadline, but must be submitted and approved before the end of the session of expected graduation.

3. REGISTRATION

3.1 STUDENTS' RESPONSIBILITIES

- Review and get approval of major professor for all course registrations, including research credit hours.
- Register for the necessary prerequisite and core courses along with those courses leading to advance study in the specific area of interest to the student in the first year.
- Complete the registration each semester, and if applicable, summer term, with the IE Graduate Program Office by following the school registration process. (See Fig.5) The IE Graduate Program Office will communicate the timeline to all students each semester, to initiate the registration period.
 - The registration period for *Fall* terms opens in mid-March.
 - The registration period for *Spring* opens in mid-October.
 - The registration period for *Summer* opens in mid-January.
- Comply with registration requirements established by the Graduate School, bursar, and registrar, including maintaining appropriate registration status (full or part time). International students must also comply with requirements from the Office of International Students and Scholars.
- Discuss with major professor and acknowledge a written set of minimum expectations (for example: data set, draft of chapter, sampling plan, IRB, lit review, manuscript, objectives of proposal) before the end of the 2nd week of each session of registration for IE69900.

3.2 MAJOR PROFESSORS' RESPONSIBILITIES

- Establish and communicate clear expectations regarding student commitment and effort dedicated to the student's graduate program.
- Guide the students' research experience and to understand and constructively critique the students' research accomplishments.
- Review students' course registration requests, including research credit hours. The registration of a graduate student should reflect the nature and amount of the student's study and research activities as accurately as possible.
- Discuss with student and submit to myPurdue a written set of minimum expectations (for example: data set, draft of chapter, sampling plan, IRB, lit review, manuscript, objectives of proposal) before the end of the 2nd week of each session of registration for IE 69900.
 - The expectations and deliverables should be proportional to the number of registered credits (greater expectations = more credits).
 - IE 69800/69900 Research Form (Appendix A) is strongly recommended to document Agreement on Deliverables for Research Credits.

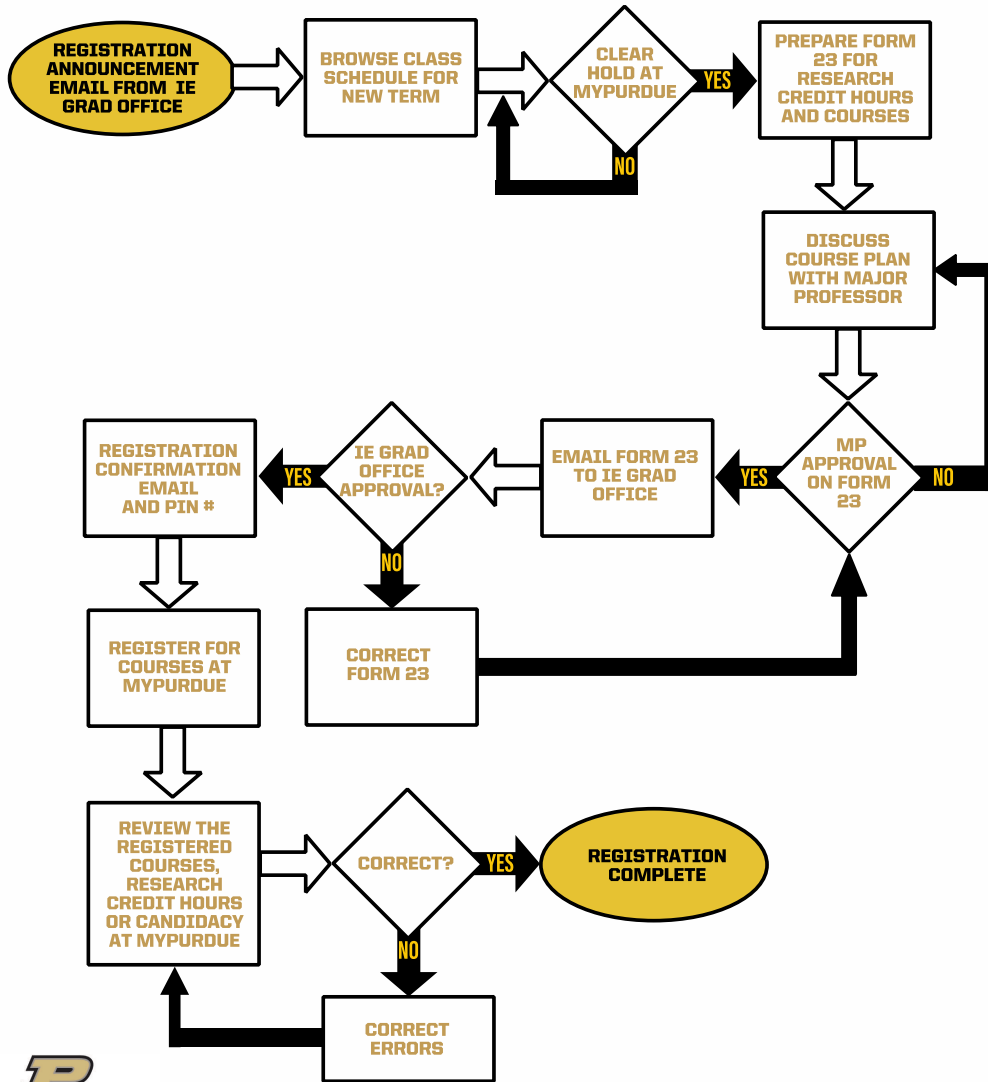


FIGURE 5: GRADUATE REGISTRATION PROCESS

3.3 FULL TIME AND PART TIME ENROLLMENT

Table 3: Full versus Part-Time Enrollment

	Full-Time	Part-Time
Fall/Spring Min-Max	8 - 18 credit hours	1 – 7 credit hours
Summer Min-Max	6 – 9 credit hours	1 – 5 credit hours

A minimum of three credit hours are required to be eligible to hold assistantship during any sessions.

3.4 REGISTRATION FOR CANDIDACY

Candidacy registration is required for students in the term they intend to graduate. These are not courses, but are registration placeholders used by university offices to plan for commencement and degree awarding processes.

Options for graduation candidates include the following:

- **CAND 99100**
 - Students with an assistantship, must also register for a minimum of 3 credit hours.
 - Students without an assistantship must register for at least one credit of research in the session in which they defend the dissertation unless they are approved for CAND 99200 or 99300 registration.
- **CAND 99200 - Degree Only**
 - Student **MUST** have completed final examination to register for CAND 99200
 - Must have earned 90 credit hours
 - May not register for additional credits
 - May only use this code once during your degree program
- **CAND 99300 - Examination Only**
 - Must have earned 90 credit hours
 - May not register for additional credits
 - May only use this code once during your degree program

4. PRELIMINARY EXAMINATION

The purpose of the preliminary examination is to test the adequacy of a student’s background related to the general area of concentration, and to determine if the student is adequately prepared to formulate and undertake an acceptable dissertation topic. The preliminary examination is mainly based on a formal research proposal prepared by the student.

4.1 BEFORE ORAL PRELIMINARY EXAMINATION

Before scheduling the oral preliminary examination, students are required to:

- Submit a formal plan of study for approval with the Graduate School before scheduling the oral preliminary examination (see Section 2.3);
- Submit a Request for Appointment of Examining Committee (Graduate School Form 8), signed by the major professor and the head of the graduate program, must be received by the Graduate School at least two weeks prior to the proposed examination date; and
 - Preliminary Examination Committee need not be identical to the Advisory Committee.
 - This committee is held to the same composition requirements as the Advisory Committee.
 - The student need not have completed coursework with the members of The Preliminary Examination Committee.
- Submit a copy of a formal research proposal document to each member of the Preliminary Examination Committee at least three weeks prior to the scheduled preliminary examination. This document must conform to the regulations outlined by the Graduate School in “A Manual for the Preparation of Graduate Theses,” at <https://www.purdue.edu/gradschool/research/thesis/index.html>

4.2 SCHEDULE YOUR PRELIMINARY EXAMINATION

Schedule with the [IE Graduate Program Office](#) **at least three weeks prior** to the proposed date of the exam.

- Send the request via email including:
 - Date and time of your examination
 - An email containing all documentation that shows the committee’s agreement on examination date and time (e.g., email copy or Doodle screenshot)
 - Dissertation title
- The IE Graduate Program Office will handle the room reservation and Form 8.
- To view deadlines administered by the Graduate School, see the [Graduate School Deadline Calendar](#).
- In order to obtain all signatures related to completion of the preliminary examination in a timely manner, the preliminary examination must be completed **at least one week prior** to the deadline established by the Graduate School.

4.3 WHEN THE PRELIMINARY EXAMINATION COMMITTEE DECISION IS FAVORABLE,

- The Preliminary Examination Committee will report the examination as “satisfactory” by completing the Report of Preliminary Examination (Graduate School Form 10) immediately following the examination; and
- The student is then admitted to candidacy for the Ph.D. degree.
- Candidates are then allowed to progress through the program towards degree conferment, after a minimum of two additional terms of enrollment. Appendix B outlines the remaining requirements and steps to graduation.

4.4 WHEN THE PRELIMINARY EXAMINATION COMMITTEE DECISION IS UNFAVORABLE,

- The Preliminary Examination Committee will report the examination as “unsatisfactory” by completing the Report of Preliminary Examination (Graduate School Form 10) immediately following the examination;
- The Preliminary Examination Committee may recommend that the student be permitted to request a second examination by submitting a new request (Graduate School Form 8), but the student must wait at least until the following term (including summer term) to repeat the examination; and
- Students who fail the preliminary examination on a second time will not be permitted to continue in the Ph.D. program beyond the end of the term in which they are registered at the time of the examination. However, if eligible, they may be allowed to change their degree objective to a master’s degree.

5. DISSERTATION & FINAL EXAMINATION

The research must be a significant, unique contribution to the field of industrial engineering, and should provide an important scholarly experience for the student. The subject matter of the dissertation should lead to one or more peer-reviewed journal publications. In addition, the Ph.D. dissertation must meet all the requirements of the Graduate School (see Graduate School Policy, Section VII. C).

5.1 TO REQUEST FINAL EXAMINATION

Before requesting the Final Examination, the following conditions must first be fulfilled:

- At least two academic terms of registration devoted to research and writing must elapse between the preliminary and final doctoral examinations.
- If needed, Change to Plan of Study must be completed and fully approved at least one week prior to the start of the term in which the final exam will be taken;
- Student must be registered for the term in which the final exam will be taken;
- Student must declare graduation candidacy unless the thesis won’t be deposited until the following semester (see section 4.4);
- Submit a Request for Appointment of Examining Committee (Graduate School Form 8), signed by the major professor and the head of the graduate program.
 - This must be received by the IE Graduate Program Office at least three weeks prior to the proposed examination date; and
 - Final Examination Committee must be identical to the Advisory Committee.
- Submit a formal dissertation document to each member of the Final Examination Committee at least three weeks prior to the scheduled oral final examination. This document must conform with the regulations outlined in “A Manual for the Preparation of Graduate Theses,” which can be found at <https://www.purdue.edu/gradschool/research/thesis/index.html>
- A PhD Seminar must be presented to the public before the final oral examination.
- Work through the planning worksheet (Appendix B) to ensure compliance with the Graduate School timeline and requirements.

5.2 SCHEDULE YOUR FINAL EXAMINATION

Schedule with the [IE Graduate Program Office](#) **at least three weeks prior** to the proposed date of the exam.

- Send the request via email including:
 - Date and time of your examination
 - Date and time of your seminar (preferably on the same day)
 - An email containing all documentation that shows the committee's agreement on examination date and time (e.g., email copy or Doodle screenshot)
 - Dissertation title for the examination
 - Dissertation title and abstract (300-400 words) for the seminar flyer
 - Copy of dissertation draft in PDF
- The IE Graduate Program Office will handle the room reservation and Graduate School Form 8.
- To view deadlines administered by the Graduate School, see the [Graduate School Deadline Calendar](#).
- IE graduate students must take the final examination **at least one week prior** to the Graduate School's deadline in order to obtain signatures by the deadline. If you wait until the actual deadline, you will not be able to obtain the signatures in time. (Planning worksheet available in Appendix B.)
- **Contact the [IE Graduate Program Office](#) directly if you need the Head's signature (Graduate School Forms 8 & 11). **DO NOT contact the IE Head.****

5.3 DISSERTATION SEMINAR

As part of the Ph.D. requirements, each student is required to present a one-hour seminar on their research results to the School of Industrial Engineering community. It is required that:

- The seminar be given prior to the final examination period; and
- Prior to the seminar the IE Graduate Program Office distributes a memorandum containing the title and abstract of the dissertation, student's name, committee members, date, time and place of the examination to the industrial engineering faculty and community.

5.4 FINAL EXAMINATION

The final examination must:

- Occur no sooner than two terms after admission to candidacy;
- Have an examining committee appointed to review the research. The appointment of the Final Examination Committee will follow the procedures set forth by the Graduate School;
- Be announced at least two weeks in advance to the industrial engineering faculty and community;
- Include an oral examination in defense of the dissertation, which provides a demonstration to the examining committee all the capabilities for which the Doctor of Philosophy degree is awarded; and
- Be open to the entire university community. Questions are only permitted from the members of the examining committee.

5.5 AFTER THE FINAL EXAMINATION

Your advisory committee will initiate and complete the electronic Report of the Final Examination (Graduate School Form 11).

The student will initiate the Electronic Thesis Acceptance Form (ETAF) required by The Graduate School Thesis and Dissertation Office. For more information on ETAF and thesis dissertation deposit, see [Thesis and Dissertation Office](#). **Contact the IE Graduate Program Office directly if you need the Head's signature on the ETAF form. DO NOT contact the IE Head.**

The student **must** also submit a **handbound, printed copy** of your dissertation to the School of Industrial Engineering Graduate Office. For printing and binding information, see [Purdue Print and Digital Services](#).

6. TIMELY COMPLETION OF DEGREE REQUIREMENTS

The total elapsed time of a Ph.D. program from admission to passing the final examination shall be no more than eight calendar years. A doctoral candidate who has not completed all requirements for the degree by the end of the semester occurring five calendar years from the time of passing the preliminary examination must be re-admitted to candidacy by re-taking and passing another preliminary examination.

7. COMPLETION PROCESS FOR PH.D.

This Completion Process information is merely designed as a guide to provide general information. Please consult with your major professor(s) for current guidance on how to satisfy your degree requirement.

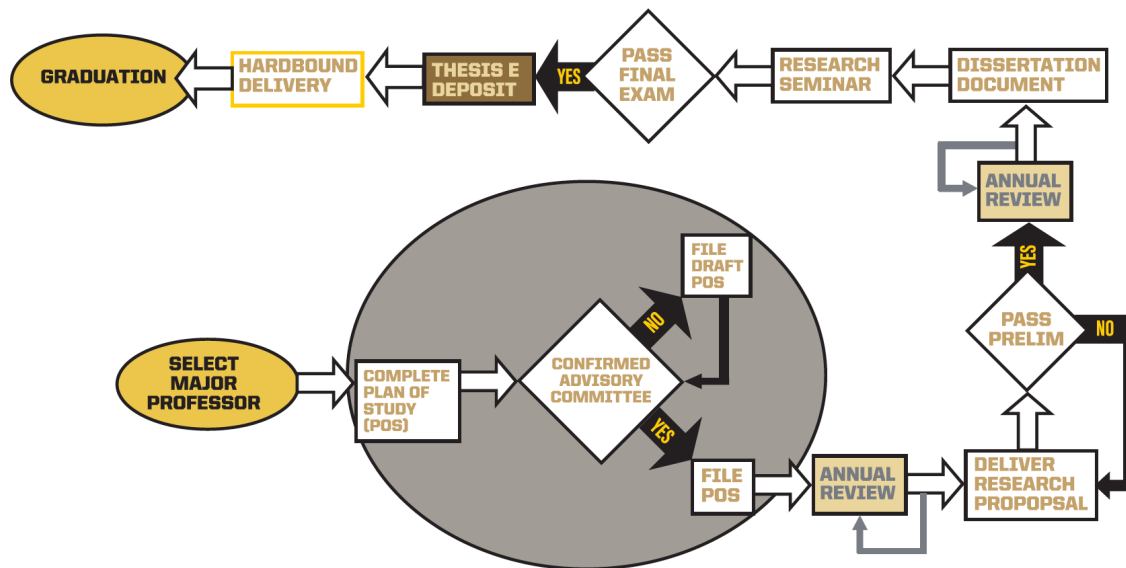


FIGURE 6: PHD COMPLETION PROCESS

Table 4: Schedule of Events for Completion of the Ph.D. Degree Item Deadline

#	Item
1	Select a major professor and appoint study advisory committee
2	Prepare draft plan of study (if advisory committee is not yet established)
3	File a formal plan of study (once advisory committee is established)
4	Use annual review worksheet to facilitate annual review of progress
5	Deliver research proposal
6	Use annual review worksheet to facilitate annual review of progress
7	Pass preliminary examination
8	Use annual review worksheet to facilitate annual review of progress
9	Present research seminar
10	Pass final examination
11	Deposit the dissertation with the thesis deposit office
12	Deliver a copy of the thesis to the School of Industrial Engineering
13	Attend Commencement

APPENDIX A: GRADUATE STUDENT RESPONSIBLE CONDUCT OF RESEARCH (RCR)

WHAT IS THE REQUIRED RCR TRAINING?

Purdue University requires **all degree-seeking graduate students** to complete training in Responsible Conduct of Research. This training provides important guidance to all graduate students who will benefit from an understanding of how research is conducted. Students on certain research grants (NSF, NIH, etc.) may have additional requirements or earlier deadlines; check with your research advisor. Please also see resources at the end of this handout.

All Graduate Students: Complete the CITI online course on Responsible Conduct of Research Training – Faculty, Postdoctoral, and Graduate Course (CITI-RCR) within 60 days of starting your graduate study. The CITI-RCR online course includes 9 required modules. Each module takes approximately 30-60 minutes to complete and ends with a short multiple-choice quiz. Students can enter, leave, and re-enter the course and each module as many times as they would like prior to taking the quiz. Students must achieve an average score of at least 80% on all quizzes in the required modules. When students have completed all the quizzes, they can print out a certificate of completion.

In addition, mandatory for on-campus graduate students and optional for fully online students: Attend a follow-up seminar or workshop within the first year. The seminar or workshop may be given by the graduate program or the Graduate School either in-person or online. The seminar should be at least 60-90 minutes in length and allow students to ask questions and discuss RCR-related issues with the speaker.

HOW DO STUDENTS COMPLETE THE CITI ONLINE TRAINING REQUIREMENT?

Each engineering school may establish a specific process to follow, so students should check with their graduate program office with any questions. Some schools include the CITI training as part of a first semester course; others require students to complete the training prior to receiving a registration PIN for the second semester.

Once you have your **BoilerKey/Career Account login and password**, you can use the following steps as a guide to complete the online training:

- Visit www.citiprogram.org and select “Log In” and then “Log In Through My Institution.”
- Click on Purdue University. Log in with your BoilerKey and complete the registration process.
- Once logged in, click to add courses and select the **Responsible Conduct of Research Training – Faculty, Postdoctoral, and Graduate Course**.
- Complete all modules (8 models/1 session of online CITI and 1 session with Purdue). This will meet the CoE online training requirement.
- Your School or research project may require additional courses. If unsure, check with your research advisor. IE students should also complete the CITI Human Subjects Research Basic Course, which is required if students will conduct research involving human participants as part of the IRB process (<https://www.irb.purdue.edu/>).

At the completion of the CITI course, a certificate of completion will be displayed. You will need to print and submit or email a copy of this completion certificate to your graduate program office. This certificate is your only

proof of completing the course, so do not miss this step! Your School may provide additional guidance on how they would like you to submit your completion certificate.

HOW DO STUDENTS COMPLETE THE SEMINAR/WORKSHOP REQUIREMENT?

Each engineering school can determine whether to have students complete a school-sponsored seminar/workshop or have students attend an RCR workshop hosted by the Graduate School. Once determined, each school should communicate to students what they need to accomplish and how they should show proof of completion to the Graduate Administrator.

HOW IS RCR TRAINING TRACKED?

Students must submit their CITI-RCR certificate of completion and proof of seminar/workshop attendance to the graduate administrator. Completion of the online CITI training and the seminar/workshop should be noted in GradDB under Research Conduct. Some engineering schools also use flags or banners to prominently display completion within GradDB.

DOES THE CITI-RCR TRAINING EVER EXPIRE?

Graduate students working on active grants from certain federal agencies must recertify every 4 years. See the EVPRP RCR website linked at the end of this handout for details. Other graduate students need to complete the certification only once. Schools should update GradDB when students recertify.

DO STUDENTS WHO HAVE TAKEN THE CITI ONLINE TRAINING AT A PREVIOUS INSTITUTION NEED TO TAKE IT AGAIN?

Students may be able to transfer the online training credits and should follow the instructions at the bottom of the quick reference card here: <https://www.purdue.edu/research/docs/pdf/RCR%20Quick%20Reference%20Card.pdf>.

Transferred credits for training completed at other Institutions may or may not match the required credits/modules for Purdue RCR training requirements. You may need to complete additional modules to get full credit for the training required by Purdue. Even if the online training credits are transferred, on-campus students will still need to attend the follow-up workshop.

DO NON-THESIS STUDENTS NEED TO COMPLETE THE RCR TRAINING?

Yes. All degree-seeking graduate students are required to complete the CITI-RCR online training; additionally, all on-campus graduate students must attend a follow-up workshop or seminar.

DO NON-DEGREE STUDENTS NEED TO COMPLETE THE RCR TRAINING?

Non-degree students should complete the RCR training if they are working toward a certificate. Non-degree students taking an individual class are not required but are strongly encouraged to complete the training.

DO STUDENTS EARNING THEIR DEGREES ONLINE NEED TO COMPLETE THE RCR TRAINING?

Yes. RCR training is beneficial and required for all degree-seeking graduate students. Online students must complete the CITI-RCR online certification. An additional workshop or seminar is strongly encouraged but not required. Many excellent workshops are presented online.

RESOURCES

Please note that any changes in university guidelines will supersede information presented in this handout.

Purdue University Graduate School RCR Information: <https://www.purdue.edu/gradschool/research/rcr/index.html>

Purdue EVPRP RCR Information: www.purdue.edu/research/regulatory-affairs/integrity/responsible-conduct.php

Questions on CoE requirements: Janet Beagle, Ph.D., Sr. Director of Graduate Programs, jbeagle@purdue.edu.

Issued from Purdue University, College of Engineering Graduate Education: Updated August 2020

APPENDIX B: HOW TO CREATE A NEW PLAN OF STUDY (POS)

PLAN OF STUDY LOG-IN

- Log in to your myPurdue.
- Click “Graduate School Plan of Study” under the “Graduate Students” bar (see Figure B.1)
- When prompted, log-in again with your Purdue account at the POS website.
- Click “Plan of Study Generator” (see Figure B.2)

My Courses

You do not appear to be registered for any courses during the existing active terms. Please contact the HelpDesk if you believe this is in error.

Schedule

[Week-to-Glance](#)
[Condse Schedule](#)
[Detail Schedule](#)
[Evening & Final Exams](#)

Destination: Graduation

myPurduePlan (Best viewed in Chrome or Firefox)
 Undergraduate and Vet-Med/Pharmacy students, your one stop to track your degree progress, determine the courses still needed for graduation, see how a COCO may affect your degree progress and more. Please watch the [myPurduePlan Overview video](#) for general information. For comprehensive program information, please see the [University Catalog Academic Programs & Requirements](#). The following videos provide more detailed assistance:

Worksheet	Graduation Calculator
What-if Worksheet	GPA Calculator
myPurduePlan Planner	Advice Calculator

Are you ready to graduate?
Apply for Graduation for Undergraduate and Vet-Med/Pharmacy students only
 Accepting applications for

I. Spring 2018 - now until March 9, 2018
 II. Summer 2018 - now until July 11, 2018
 III. Fall 2018 - now until October 23, 2018

[How to Apply to Graduate](#)
[Student-Apply to Graduate FAQ](#)
[View Graduation Application](#)

Graduate Students

[Graduate School Plan of Study](#)
 Use the link above to submit a plan of study for your graduate degree, request changes to an approved graduate plan, view your funding account, submit an examination request, or complete the Graduate School's Candidate Exit Questionnaire.

Vet-Tech Distance Learning

Figure B.1

This is the login page for the Graduate School Plan of Study Generator. Students trying

Enter your Purdue Career Account userid and password.
If you do not know your userid and/or password, contact the ITaP Customer Service Center

User ID / Alias

User Password

Figure B.2

- Click on “Plan of Study Generator”.

Welcome GRADUATE

The pages below provide access to your personal academic information. This system does not have a save button or closing the web browser once you have finished this session.

The Graduate School posts upcoming graduation-related dates and deadlines on the [Graduation Information](#) page. An internal student submission deadline has been established for any of the forms below. Early submission is encouraged.

[Plan of Study Generator](#)

Every degree-seeking graduate student must submit a plan of study and obtain all relevant departmental approvals **session of anticipated graduation**. The Graduate School recommends submitting the plan of study well in advance to allow sufficient time for department review.

[Form 8 \(Request for Appointment of Examining Committee\)](#)

Students requesting a preliminary (doctoral only) or final examination are encouraged to submit the form as early as possible. The form must be submitted and receive all departmental approvals **at least 30 days before the exam date**. Master's students are not required to use the Form 8 unless directed to do so by the department chair.

Figure B.3

GRADUATE PLAN OF STUDY GENERATOR PAGE

- Click "Create New Plan of Study".

[Create New Plan of Study](#)

This option allows you to create a new plan of study for Master's students.

Figure B.4

- Use only a Purdue email for the e-mail address.
- To save, click "Process and Continue" before you leave the page.

To fill out this form:

- Indicate Department that is granting the degree.
- Indicate the first semester of **graduate** study at **any Purdue campus**.
- Indicate your email address.

For more detailed instructions click on the Help button at the bottom of the page.

Most recent registration in:

Campus:
-Campus granting degree.

Department:
-Department granting degree.

First semester of graduate study at Purdue:
-Use academic year (1998-99).
-Transfer or Re-entry students indicate the first semester of graduate study at any Purdue campus.

Email Address:

Process and Continue will process this page, any errors detected will be displayed at that time.
Cancel will return you to the menu for your plan of study but will not retain any data entered on this page.

INDUSTRIAL ENGINEERING
West Lafayette (Main Campus)
INDUSTRIAL ENGINEERING ▾
▾ / ▾
▾

Help Process and Continue Cancel




Figure B.5

REQUIRED SECTIONS

- The following four sections are mandatory:
 - Student and Degree Information,
 - Research Area and Concentration,
 - Course Work, and
 - Advisory Committee.
- When each section is complete, checkmark will appear in the box.

Click to open a new browser window that contains [Industrial Engineering 's Plan of Study](#)

[Student and Degree Information](#)
List: degree title, campus, department, expected graduate date, email address

[Research Area and Concentration](#)
List: research area, concentration and language requirements.

[Course Work](#)
List courses for your plan of study.

[Advisory Committee](#)
List advisory committee members.

[Comments and Special Notes](#)
List any special notes or comments.
No information on this page is required

Figure B.6

STUDENT AND DEGREE INFORMATION

- **Degree Title** - Select the degree, (PHD) Doctor of Philosophy.

- **Non-Thesis or Thesis Option** – Leave the field blank.
- **Date Degree Expected** - enter your graduation term using the drop-down box.

Please select the degree you are seeking and the date you are expecting to achieve this degree. For detailed instructions click on the Help button at the bottom of the page.

Listed are degrees available for Industrial Engineering on the West Lafayette (Main Campus) campus.

Degree Title: (PHD) DOCTOR OF PHILOSOPHY

Choose Non-Thesis or Thesis Option: [v]

Date Degree Expected: DEC | 2020

Process and Continue will process this page, any errors detected will be displayed at that time.
Cancel will return you to the menu for your plan of study but will not retain any data entered on this page.

Help Process and Continue Cancel

Figure B.7

RESEARCH AREA AND CONCENTRATION

- Enter your research title in “Research Area”.
- Leave the remaining fields blank.
- The concentration field should not be filled ***unless you are in the Computational Science & Engineering (CS&E) program.***
 - CS&E students: Select “CMEN” for the first concentration.
 - Everyone else: Leave the concentration blank.

Selecting incorrect information in the concentration may create incorrect charges to your tuition bill.

For detailed instructions click on the Help button at the bottom of the page.

Research Area: (* required for Ph.D., optional for Master's)
- Indicate a short title of the research area chosen.

Concentration: (* optional)
- Select the concentration to include on your plan of study.
- If the concentration you intend to select is not listed in the drop down menu, please contact your Plan of Study Coordinator.
NOTE: If a concentration ends in -IGP, it should only be selected if you are officially registered in the associated Interdisciplinary Graduate Program curriculum.

First Concentration [v]
Second Concentration [v]

Language Requirement:
- Designate specific language requirements and the method to be used to satisfy the requirements.
- This information is required by some departments. Refer to your department's Guidelines and Requirements link.

LANGUAGE Requirement	METHOD to be used to meet requirement
[]	[]
[]	[]

"Process and Continue" will process this page and display any errors. If no errors are detected then the next page of the plan of study generator will be displayed.

Help Process and Continue

Figure B.8

COURSE WORK

- Enter your courses using the four course entry links below (see Figure 9) and review the POS curriculum requirements in the PhD policy manual, Section 2.

Students with Master’s degree must add at least 24 credit hours on the Plan of Study.

Students without Master’s degree must add at least 45 credit hours on the Plan of Study.

- Courses in the areas of engineering, mathematics, statistics, computer sciences, psychology, sociology, biology, economics, or management are accepted.
- If you have taken non-IE courses from other areas, see the additional course policies below:
 - STAT 50100, 50200, 50300, 51100, 51300 will not count toward IE degree requirements.
 - All Polytechnic courses (AVTH, CNIT, CGT, BCM, ECET, ENGT, MET, TLI, TECH, etc.) will not count toward the IE degree requirements.
 - Do not add research credits, non-credit courses, nor courses from your master’s degree.

Indicate the courses to be used on your plan of study using the following links. Click on the Process and Continue button at the bottom of the page. For more detailed instructions, click on the Help button at the bottom of the page.

[Courses currently being taken or those previously completed at Purdue University \(as a graduate student\)](#)

[Transfer courses and courses taken as excess undergraduate credit.](#)

[Courses to be taken in the future at Purdue.](#)

[Purdue Combined Degree Courses \(THIS SECTION IS ONLY FOR STUDENTS IN APPROVED PROGRAMS\)](#)

Open a new browser window containing the [Graduate School's Policies and Procedures Manual, Section 2](#).

"Process and Continue" will process this page and display any errors. If no errors are detected then the next page will be displayed.

Figure B.9

COURSES CURRENTLY ENROLLED OR PREVIOUSLY COMPLETED AT PURDUE GRAD. PROGRAM

- Enrolled or completed courses are displayed. Check the “Use” box to select the courses that you want to add.
- In the Area column, you must identify the course as Primary for all IE courses and Related for non-IE courses.
- For a column, B or Better Required, click the box for all the core courses and leave it blank for the rest of the courses.
- The system may not let you enter current courses due to delayed server update. If you experience this problem, enter your current courses at “Courses to be taken in the future at Purdue.”

TRANSFER COURSES AND COURSES TAKEN AS EXCESS UNDERGRADUATE CREDIT

- Leave the page blank unless you have a course to transfer.
- For more information, contact the IE Graduate Programs Office.

FUTURE COURSE ENROLLMENT PLAN

- Enter all courses with a proper subject, course title, and five-digit course number (e.g., IE 53000). Do not enter the CRN#.
- Enter the future courses to the best of your knowledge. If your future courses are outdated, you will have an opportunity to update it later.
- Ensure the course timeline matches your degree completion timeline.
- Enter the correct academic year and term for the course. (e.g., A spring course offers in January 2024 falls under the academic year of 2023-2024.)

PURDUE COMBINED DEGREE COURSES

- It applies to a dual degree student only and may be skipped if it does not apply to you.
- If you are struggling with this section, please contact the IE Graduate Program Office for more information.

ADVISORY COMMITTEE

- Please find the “Faculty Identifier” by searching your major professor’s name.
- Choose “Chair” or “Co-Chair” and enter the code# “IE” and [faculty identifier #]. Do not enter “+”.
- Enter the rest of the committee members.

The action buttons for each row (Add, Modify, Delete) are the right most column. You must fill in each row, then click on the Add button to add the row. After a m

For more detailed instructions, click on the Help button at the bottom of this section.

Participation of Member	Dept. Code and Faculty Identifier retrieved from search	Certification Level	Advisor Name	Area of Advisor (*optional)	Action
<input type="radio"/> Chair <input type="radio"/> Co-Chair <input type="radio"/> Member	<input type="text"/> <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Add

"Process and Continue" will process this page and display any errors. If no errors are detected then the next page of the plan of study generator will be displayed.

Figure B.10

COMMENTS AND SUPPLEMENTAL NOTES

- Complete the "Comments" and "Supplemental Notes".
- (Select either 24 course credits if you have a Master's degree, otherwise select 45 course credits):
- Students must include the following supplemental note on their Plan of Study (POS):

SUPPLEMENTAL NOTE FOR PH.D. WITH M.S. DEGREE

"I am a PhD student **WITH** a Master's degree. The Plan of Study includes at least **24 COURSE CREDITS** not used toward any other degree. This Plan of Study includes at least one course each in:

- Engineering economics/decisions **[LIST COURSE IDENTIFIER]**
- Human factors/cognitive engineering **[LIST COURSE IDENTIFIER]**
- Manufacturing processes/production **[LIST COURSE IDENTIFIER]**
- Optimization/stochastic processes **[LIST COURSE IDENTIFIER]**

In addition, this Plan of Study includes:

- Six credit hours of coursework **[LIST COURSE IDENTIFIERS]** in the related area **[SPECIFY THE NAME OF THE RELATED AREA]** and
- Two 600-level courses **[LIST COURSE IDENTIFIERS]."**

If you modify this supplemental note in any way other than filling in the italicized options, your Plan of Study will be rejected.

SUPPLEMENTAL NOTE FOR PH.D. WITHOUT M.S. DEGREE

"I am a PhD student **WITHOUT** a Master's degree. The Plan of Study includes at least **45 COURSE CREDITS** not used toward any other degree. This Plan of Study includes at least one course in each category- **and** one additional course in two of the four areas below:

- Engineering economics/decisions **[LIST COURSE IDENTIFIER(S)]**
- Human factors/cognitive engineering **[LIST COURSE IDENTIFIER(S)]**
- Manufacturing processes/production **[LIST COURSE IDENTIFIER(S)]**

- Optimization/stochastic processes **[LIST COURSE IDENTIFIER(S)]**

In addition, this Plan of Study includes:

- Six credit hours of coursework **[LIST COURSE IDENTIFIERS]** in the related area **[SPECIFY THE NAME OF THE RELATED AREA]** and
- Two 600-level courses **[LIST COURSE IDENTIFIERS]."**

If you modify this supplemental note in any way other than filling in the italicized options, your Plan of Study will be rejected.

- A plan of study is allowed to include up to 30 hours of course work from one previous master’s or professional degree as part of the 90 graduate credit hours. Please consult with your major professor(s) for current guidance on how to satisfy this requirement.

<input checked="" type="checkbox"/>	Student and Degree Information List: degree title, campus, department, expect
<input checked="" type="checkbox"/>	Research Area and Concentration List: research area, concentration and languag
<input checked="" type="checkbox"/>	Course Work List courses for your plan of study.
<input checked="" type="checkbox"/>	Advisory Committee List advisory committee members.
<input type="checkbox"/>	Comments and Special Notes List any special notes or comments. No information on this page is required

Figure B.11

PREVIEW AND CHECKLIST BEFORE SUBMITTING THE DRAFT

When you complete the five sections, click “Preview Plan of Study” and review your entries. See the important checklist below before submitting it as a draft.

- Mark all IE courses as “Primary” and all non-IE courses as “Related”.
- All courses for your degree completion must have a grade of C or better to be listed on the Plan of Study.
- Core courses must receive a grade of B or better.
- Students must obtain a graduation index (500- & 600-level courses with exception of foreign languages AND any 300- & 400-level courses that appear on a Plan of Study with a B- or better grade) of 3.0 or better.

OTHER INFORMATION

- There are three types of Plan of Study submission:
 - **Saved** is for your own draft, which triggers no alert to the administrator.
 - **Draft** submission sends an email notification to department administrators for the review. You can easily correct errors on your own.
 - **Submit as Final** is the only status that counts as official submission.

Do not submit your POS as a final until your DRAFT is reviewed and approved by IE Graduate Program Office.

- **Submit as Final** should only be pursued after receiving okay on your draft. This protocol is to prevent you from receiving rejection and avoid sending multiple alerts to administrators and committee members.
- Status of Plan of Study (POS)
 - “Outstanding” POS means your POS has been filed officially, and it is under review.
 - POS status updates to “Approved” when the Graduate School approves your Outstanding POS.
- You can log-in back to the POS and check the status.

APPENDIX C: HOW TO FILE CHANGE TO PLAN OF STUDY (CPOS)

LOG-IN AND UPDATE

- Return to the same “Plan of Study” general page.
- Click “Change to Plan of Study”.
- To update the course, use “Replace” or “Add/Delete”.
 - When you update your courses, your course term must match the timeline of your graduation term.
- To update the Advisory Committee, use “Add” and “Delete”.
- To replace or modify a committee chair, you must delete the member first before adding the new one.
- To replace or modify a committee member, first add, and then delete.

Click to open a new browser window to view [your approved plan of study](#).
Enter in all requested changes before submitting this form. You may enter in more than one request.

Change Degree Information
[Add or replace a concentration](#)
[Delete a concentration](#)

Change Course Information
[Replace Purdue University Course\(s\)](#)
[Add Course\(s\)](#)
[Delete Course\(s\)](#)

Change Advisory Committee
[Add a committee member to your plan of study](#)
[Delete a committee member from your plan of study](#)

Before submitting, please [Preview Request for Change to the Plan of Study](#) to ensure all information is correct.
It is recommended that you submit your Request to Change as a Draft before submitting.

Figure C.1

PREVIEW AND CHECKLIST

- Before submitting your CPOS, click “Preview Change to Plan of Study” and review your entries.
- Submit the CPOS as a draft.
- File only one CPOS at a time. You can file another CPOS when previous CPOS is approved.
- You can log-in back to CPOS and check the status.
- The “Change to Plan of Study” link will not appear until your initial POS is approved.

APPENDIX D: PURDUE POLYTECHNIC INSTITUTE COURSES ON GRAD. PLANS OF STUDY⁶

Graduate student course credit requirements are minimums and not maximums, and so nothing in this policy should be interpreted as precluding students from taking courses offered by Purdue's Polytechnic Institute (PPI). However, courses offered by Purdue's Polytechnic Institute cannot count toward the required course credits for graduate students. Specifically, Polytechnic Institute courses cannot be used toward the 30 required course credits for M.S. non-thesis plans of study, toward the 21 required course credits for M.S. thesis plans of study, toward the 24 required course credits for the plans of studies for Ph.D. students with a master's degree, or toward the 39 required course credits for plans of studies for Ph.D. students without a master's degree.

Requests for waivers to this policy should be directed to an IE Graduate Program Administrator.

Requests for such waivers must be accompanied by the following:

- the course syllabus;
- the full draft plan of study;
- the expected date of graduation; and
- the reason why courses other than Polytechnic courses could not be taken.

Requests without this information will be rejected.

Note that #3 is not a reason why the Polytechnic Institute course should count toward the minimum graduate course requirement, since any such courses can be taken over and above the minimum course requirements. It must be a reason why the student cannot populate the plan of study with minimum course credits in non-Polytechnic Institute courses and therefore must use Polytechnic Institute courses toward the minimums.

The IE Graduate Program Administrator will forward the student's information with a recommendation to either the Chair of the IE Graduate Committee or the Associate Head for consideration. The Chair of the IE Graduate Committee and the Associate Head are both authorized to provide a waiver. If a waiver is granted, the Chair of the IE Graduate Committee or the Associate Head will make an appropriate annotation in the student's electronic plan of study.

⁶ Policy Adopted by IE Faculty, 7 March 2017

Revised (10/22/2019)

SCHOOL OF INDUSTRIAL ENGINEERING

IE698/699 Research MSIE/PhD Thesis

Student Name: _____ Degree: choose _____

Term: choose _____ choose _____ Graduate Research Credit Hours: _____

Advisor Name: _____

Requirements for IE698/699 research credits. (You may consider following criteria for student's research credit(s) completion: research progress report, conference participation, journal, presentation, POS, preliminary exam, final exam, other documentations, etc.)

Student Signature _____

Date _____

Advisor Signature _____

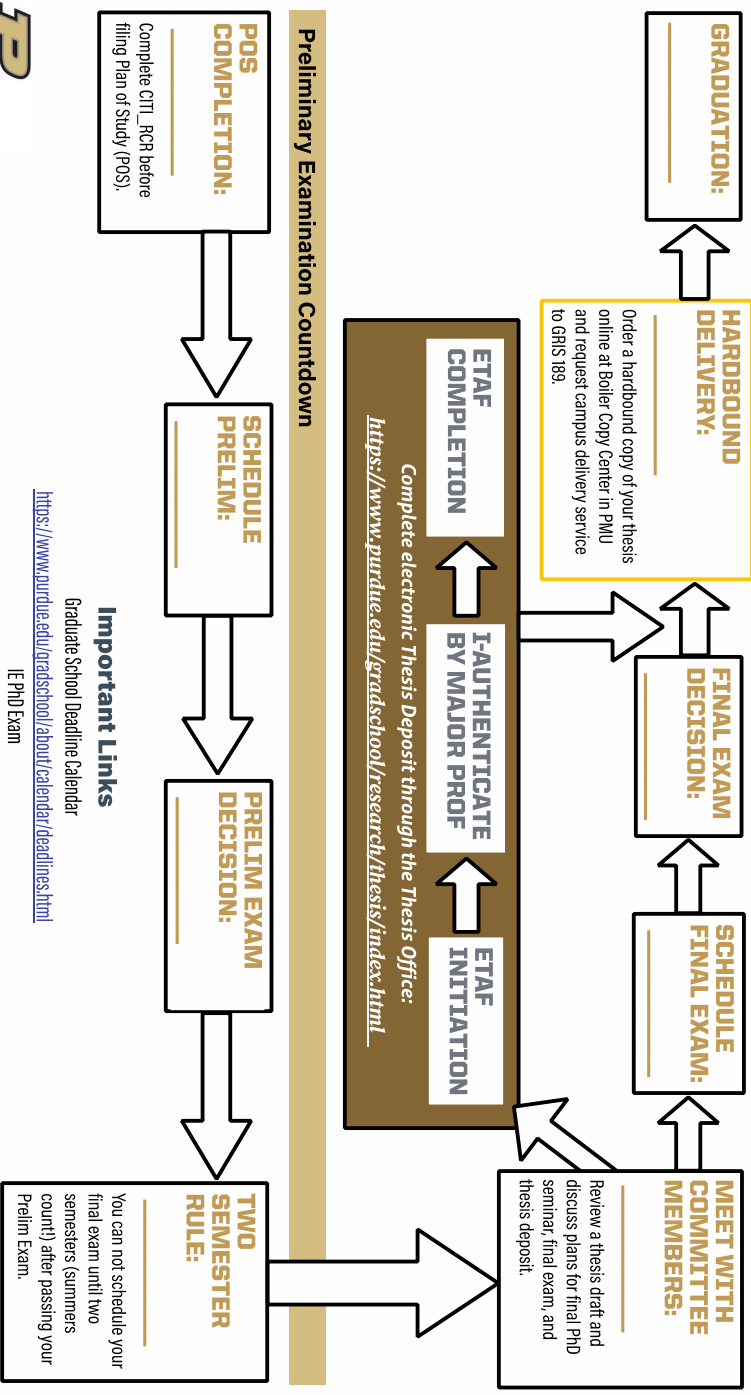
Date _____

PHD TIMELINE WORKSHEET

INDUSTRIAL ENGINEERING

FOR: _____ PUID: _____ ADVISOR: _____ DATE: _____

Final Examination & Thesis Deposit Countdown



Preliminary Examination Countdown



STUDENT: _____ ADVISOR: _____ IE GRAD OFFICE: _____

- Important Links**
- Graduate School Deadline Calendar
<https://www.purdue.edu/gradschool/about/calendar/deadlines.html>
 - IE PhD Exam
<https://engineering.purdue.edu/IEacademics/academics/graduate/phd/preliminary-exam-phd>

ANNUAL PROGRESS REPORT FOR DOCTORAL CANDIDATES AND PRE-CANDIDATES

This report is recommended to be completed annually at the end of the Spring Semester by all IE Ph.D. students. Students are not required to submit a report; however, they are *strongly encouraged* to do so in order to establish milestones for successful completion of the program.

This report serves several purposes. Most importantly, it is used by you and your dissertation advisor(s) to formally review progress towards completing your program. *You are encouraged to work closely with your advisor(s) when drafting the report.* It is recommended that if you complete the annual report to submit it to the IE Graduate Program office to be saved as part of your academic record. Prior to submitting this report to the IE Graduate Program office, it must be signed by you and your advisor(s).

You are encouraged to update your curriculum vitae and personal web page on a regular basis, and to submit the most-current version of your CV as an appendix to the report.

Information in the progress reports and the submitted CVs may be used by your advisor(s), the Graduate Program Committee, and the IE Graduate Program Office for several purposes including: advising and assessment of eligibility and qualifications for honors and awards.

ANNUAL PROGRESS REPORT FOR DOCTORAL CANDIDATES

Report Period: _____

Student Name: _____

PUID #: _____

Term Entered Ph.D. Program (e.g., Fall 2019) : _____

Advisor: _____

THE FOLLOWING SECTION IS COMPLETED BY THE STUDENT

List members of your dissertation committee. If there are no changes from last year, enter “No Changes.” (Note: This question is optional for first year or second year students.)

Chair __

Co-chair (if any) _____

Member _____

Member _____

Member _____

If committee has not been formally appointed (i.e., Plan of Study submitted to Graduate School), please explain why:

When (give date(s)) did you meet with your dissertation committee (as a whole or individually) during the reporting period? (Note: In answering this question, do not report meetings with your advisor(s).) Provide a brief summary (a bulleted list is acceptable) of key items discussed and decisions reached during each meeting as they pertain to your progress to your degree. If space is insufficient, add an additional sheet(s). If you did not have any meetings with committee members (other than advisor(s)) during this period, give a brief explanation.

Looking back at last year's annual progress report (if applicable), list the outcomes and milestones you established for the year, and comment on the extent to which they were achieved. Please provide a brief explanation for each outcome/milestone not yet reached. In some cases, students find it necessary to amend outcomes/milestones during the year based on research findings. As necessary, describe amended outcomes/milestones, and give an updated estimate of the completion dates.

List the major specific and tangible outcomes and milestones for your dissertation research that you plan to achieve during the next reporting period (May 1, 2020 – April 30, 2021). Examples of milestones might include: "I plan to submit a paper on ...," "I plan to apply for the XYZ fellowship;" and "I plan to finish the experiment that would provide the basis of Chapter III of my dissertation."

You will be asked to report on your progress on these next year. If you anticipate obstacles in meeting any outcome or milestone, provide a brief explanation.

The College of Engineering and the School of IE have established the following target completion times for Ph.D. students:

- Those entering with a Bachelor's degree are expected to finish within five years of initial enrollment, and
- Those entering with a Master's degree are expected to finish within four years.

Do you anticipate any problems or barriers that will delay you from successfully defending your dissertation within the target time, or which have already lengthened the time to completion? If so, please explain. If you do not expect to complete your degree by the target date, what is your plan to complete your degree, including your expected completion date?

RESPONSIBLE CONDUCT FOR RESEARCH

The College of Engineering and Graduate School require that all M.S. and Ph.D. students complete Responsible Conduct for Research (RCR) training. RCR is offered by the College of Engineering that are taught throughout the Fall and Spring terms. Additional information can be found at the following web site: <https://www.purdue.edu/gradschool/research/rcr/index.html>

You are strongly encouraged to complete all RCR training as soon as possible. Students on certain research grants (NSF, NIH, etc.) may have additional requirements or earlier deadlines; check with your research advisor.

All students must complete RCR training in order to graduate from the Ph.D. program. Starting in 2020, you will not be allowed to advance to Candidacy until you have completed all RCR modules.

In the space below, indicate the date that you completed each RCR module. If you completed the workshop in a previous year, just give the year:

1. CITI-RCR (every four years)
2. Annual Review: Overview of RCR

CURRICULUM VITAE

On a separate page(s), please list all publications and presentations you have prepared during your doctoral studies at Purdue University. This is a cumulative report that will be updated and appended each year. New publications prepared/submitted/presented/revise/published during the May 2020-April 2021 reporting period should be shown in BOLD. Use the categories below. (Note: We do not expect students to be active in all categories every year.)

1. Articles in peer-reviewed journals

Provide full citation, e.g., authors, title, journal name, year of publication, volume, and page numbers. If article has not appeared, give status: submitted, under revision following review, accepted, in press, etc.

2. Articles in refereed conference proceedings

Provide full citation, e.g., authors, title, meeting name, location, date, and page numbers. If article has not appeared, give status: submitted, under revision following review, accepted, in press, etc.

3. Articles in non-refereed conference proceedings

Provide full citation, e.g., authors, title, meeting name, location, date, and page numbers. If article has not appeared, give status: submitted, under revision following review, accepted, in press, etc.

4. Oral presentations at national/international meetings - including poster sessions

Provide authors, title, meeting name, location, date.

5. Oral presentations at academic institutions other than Purdue - including job talks and poster sessions

Provide authors, title, institution, location, date.)

6. Oral presentations at Purdue - including poster sessions

Provide authors, title, institution, location, date.)

7. Chapters in edited books

Provide full citation, e.g., authors, chapter title, name of book, editor(s), and page numbers.

If chapter has not appeared, give status: submitted, under revision following review, accepted, in press, etc.

8. Working papers

9. On a separate page, list all honors, awards, fellowships, grants, etc. received since starting your doctoral studies at Purdue. In addition, you may choose to include service to the Department, University, or community, personal accomplishments, etc., with particular attention to those accomplishments and activities that contributed to your development as a teacher, scholar, or professional.

This is a cumulative report that will be updated and appended each year. New honors, etc. received during the May 2020-April 2021 reporting period should be shown in **BOLD**. List items related to your dissertation research first, followed by items related to teaching and/or service.

THE FOLLOWING SECTION IS TO BE COMPLETED BY THE ADVISOR(S)

Have you discussed the content of this report with your student? Yes No

Please provide a short commentary on the student's progress, strengths, and weaknesses. (If necessary, attach a separate page.)

Give your best estimate of the anticipated date for the dissertation defense (term and year).

Student Signature _____ Date _____

Advisor Signature _____ Date _____

Co-Advisor Signature _____ Date _____