

**Department of Electrical and  
Computer Engineering**

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Indiana University–Purdue University Fort Wayne

**GRADUATE PROGRAM  
GUIDELINES**

**Version 7**

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### Revision Summary

1	Section 6.2, <i>Comprehensive Exam</i>	November, 28, 2011	Version 3.2
<p>Change: The requirement for a comprehensive exam, for non-thesis option students, has been eliminated</p> <p>Rationale: This change was approved by the faculty on Nov 21, 2011</p>			
2	Section 8.3, <i>Academic Standing</i>	November, 28, 2011	Version 3.2
<p>Change: Section 8.3 was added to describe the policy on academic standing and probation</p> <p>Rationale: This change was approved by the faculty on Nov 21, 2011.</p>			
3	Section 4.2 and 4.3, <i>Committee Duties</i>	November, 28, 2011	Version 3.2
<p>Change: The committee responsibilities in reviewing and advising probationary students was added to the list of responsibilities</p> <p>Rationale: This change is a consequence of the Nov 21, 2011 policy on academic probation</p>			
4	Section 3.5, <i>Taking Courses from other Campuses</i>	November, 28, 2011	Version 3.2
<p>Change: Students are advised to discuss taking courses off-campus with faculty to prevent being classified as inactive.</p> <p>Rationale: This change reflects the lack of a consistent Registrar's office policy on how graduate students can maintain active status when not enrolled on campus for more than one semester.</p>			
5	Section 3.5, <i>Taking Courses from other Campuses</i>	December, 10, 2011	Version 3.3
<p>Change: The application process for taking an on-line course at Purdue, West Lafayette is described.</p> <p>Rationale: Memo from Jenni McIver-Jennings, Manager, Enrollment Services, ProEd Purdue University.</p>			
6	Appendix B, <i>Tentative Schedule for Core Courses</i>	May, 14, 2012	Version 3.3
<p>Change: The tentative list of core course offerings has been revised</p> <p>The list has been revised based on projected enrollments using the plans of study on file</p>			



## 1 MASTER'S DEGREE

The Department of Electrical and Computer Engineering offers the Master of Science in Engineering (MSE) degree with the following three *areas of specializations*:

- Computer Engineering
- Electrical Engineering
- Systems Engineering

Thesis and non-thesis options are both possible. The MSE degree is awarded to students who:

1. Have been accepted into the Engineering Master's program (see Sec. 2, Admission Requirements).
2. Have satisfied the requirements of the Engineering Master's program (see Sec. 3, Degree Requirements).

## 2 ADMISSION REQUIREMENTS

### 2.1 Basic Requirements

Admission to the MSE program may be granted if the applicant meets the following requirements:

1. Hold a Bachelor of Science degree in engineering.
2. Have achieved an undergraduate grade point average of at least 3.0 or equivalent.
3. Have completed the mathematics sequence of courses equivalent to MA 165 (Calculus I), MA 166 (Calculus II), MA 261 (Multivariable Calculus), MA 351 (Linear Algebra), and MA 363 (Differential Equations).
4. Have completed the physics sequence of courses equivalent to PHYS 152 (Mechanics) and PHYS 251 (Heat, Electricity, and Optics).
5. Have completed an equivalent of the undergraduate engineering prerequisite courses in his/her area of specialization according to Table 1.

**Table 1** Undergraduate engineering prerequisite courses

Area of Specialization	Prerequisite Undergraduate Courses
Computer Engineering	ECE 301, ECE 302, ECE 368, ECE 437
Electrical Engineering	ECE 333, ECE 428, ECE 436
Systems Engineering	—

See [Appendix A](#) for Course Titles

## 2.2 English Requirement

An applicant whose native language is not English must demonstrate acceptable proficiency in written English by satisfying one of the following options:

1. Earn a score of 550 on the paper-based (or 213 for computer-based) Test of English as a Foreign Language (TOEFL).
2. Minimum TOEFL Internet-Based Testing (iBT) exam scores of: Writing 18, Speaking 18, Listening 14, Reading 19, and Overall 80. All five of these scores must be met.
3. Earn at least a 6.5 band score on the International English Language Testing System (IELTS) exam.

## 2.3. Admission of non-ECE or non-Engineering Majors

The admission to the MSE program may be granted if the applicant meets all requirements for admission except that the applicant:

1. Holds a Bachelor of Science degree in physical sciences, computer science, or technology (as opposed to engineering) from an accredited institution, and
2. Has achieved an undergraduate grade point average of 3.0 .

The applicant will be required to complete the prerequisite undergraduate courses listed in Sec. 2.1 as well as those listed in Table 1 in the desired area of specialization.

A student may fulfill the requirements for an undergraduate prerequisite course through one the following methods:

1. Take the course and receive a grade of "B" or better.
2. Pass a comprehensive exam for the course with a grade of "B" or better. (This option is available only to students who are not enrolled in the course.)
3. Establish that a grade of "B" or better was obtained in an equivalent course.

## 3 DEGREE REQUIREMENTS

A student pursuing the MSE degree must select the thesis or non-thesis option and an area of specialization. For the non-thesis option, a minimum of 30 credit hours of graduate-level coursework is required. For the thesis option, a minimum of 30 credit hours of graduate-level credits, of which 6 credit hours are research, is required. Pass/No-Pass grades are not permitted for courses on Master's plan of study. *Only 500-level courses and above can be used to satisfy degree requirements.*

### 3.1 Core Course Requirement

For the system engineering specialization area a student must successfully complete four required core courses as listed in Table 2. The core courses cover material essential to the area of systems engineering.

**Table 2**  
Core courses for the System Engineering Specialization Area

Area of Specialization	Abbr.	Core Courses (choose four out of the listed five)	Total Cr. Hrs.
Systems Engineering	SE	SE 510, SE 520, SE 530, SE 540, SE 550	12

See [Appendix A](#) for Course Titles

For the computer engineering and electrical engineering specialization areas a student must successfully complete, for each area, four out of the six courses listed in Table 3.

**Table 3**  
Core courses for the Computer Engineering and Electrical Engineering Specialization Areas

Area of Specialization	Abbr.	Core Courses (choose four out of the listed six)	Total Cr. Hrs.
Computer Engineering	CmpE	ECE 538, ECE 547, ECE 567, ECE 600, ECE 608, ECE 661	12
Electrical Engineering	EE	ECE 538, ECE 540, ECE 549, ECE 569, ECE 581, ECE 584, ECE 600, ECE 604	12

See [Appendix A](#) for Course Titles

### 3.2 Engineering Elective Requirement (Depth Requirement)

A minimum of two graduate engineering elective courses is required. Refer to [Appendix C](#) for more information about these courses.

### 3.3 Math/Stat/ACS/CS Requirement

A minimum of two graduate-level courses from mathematics (MATH), statistics (STAT), or computer science (ACS or CS) is required. For more information about these courses refer to the following document (page 13),

<http://new.ipfw.edu/dotAsset/240062.pdf>

### 3.4 General Elective Requirement

A non-thesis option student must successfully complete two general elective graduate-level courses from engineering, ACS, CS, OLS, TECH, MATH/STAT, BUS, PHYS, CHEM, and/or BIOL. The purpose of these courses is to give students flexibility to tailor the program to meet his/her specific needs. For more information about these courses refer to the following document (page 13-14),

<http://new.ipfw.edu/dotAsset/240062.pdf>

### 3.5 Taking courses from other Purdue Campuses and Universities

Students are allowed to take courses from other Purdue campuses as well as from other accredited universities. In order to be able to count these courses towards their degree, students must first obtain permission from their committee by updating their plan of study. Additionally, they must maintain their active status at IPFW.

Students who want to take on-line courses at Purdue, West Lafayette through their Professional Education program must complete the on-line application for Non-Degree Seeking students to receive the negotiated discounted rate. The application is available at:

<https://engineering.purdue.edu/ProEd/apply-register/application-requirements/apply-for-course-only-non-degree>

The deadline for submitting this application is roughly one month prior to the first day of classes. Check with the Manager of the Engineering Professional Education program Enrollment Services and Client Relations for actual deadlines.

A student taking courses at other campuses for more than one semester should consult their advisor or the Director of Graduate Studies to determine if additional action is necessary to maintain their active status.

### 3.6 Research (Thesis) Credit Requirement

Research (thesis) credit is not required for students on non-thesis option. However, students pursuing the thesis option are required to register for ENGR 698 research (thesis) credit. Up to 6 hours of research (thesis) credit hours are allowed on the plan of study. Students must check with their major professor (i.e., thesis advisor) to determine the number of ENGR 698 hours appropriate for their program.

**Table 5**  
Summary of course and credit-hour requirements

	Non-Thesis Option	Thesis Option
Core Courses	12	12
Engineering Elective Courses	6	6
MATH/STAT/ACS/CS Courses	6	6
General Elective Courses	6	—
Graduate Project	—	—
Research (Thesis) Credits	—	6
Total Credits on Plan of Study	30	30

## 4 ADVISORY COMMITTEE

### 4.1 Committee Composition

1. The Master's Advisory Committee must consist of a minimum of three faculty members.

- The Chair of the advisory committee must be a graduate faculty of Purdue University and a member of the area of specialization that the student has declared. See Table 6 for the list of graduate engineering faculty and their areas.

**Table 6** Graduate engineering faculty

Faculty Name	Office	Identifier	Area
Regular Appointment			
Chen, Chao	ET 327D	W0285	CmpE
Cooklev, Todor	ET 229D	W0364	EE
Cochran, David	ET229B	W0399	SE
Eroglu, Abdullah	ET 327E	W0358	EE
Liu, Yanfei	ET 327G	W0291	EE
Moor, S. Steven	ET 321A	W0293	ME
Oloomi, Hossein	ET 327B	W0162	EE
Pomalaza-Ráez, Carlos	ET 243B (???)	W3327	EE
Thompson, Elizabeth	ET 327E	W0243	EE
Wang, Guoping	ET 327F	W0301	CmpE
Special Appointment			
Simunek, Paul	ET 327?	W0307	CS

- A majority of the advisory committee must be composed of members of the engineering graduate faculty at IPFW listed in Table 6.
- Faculty members from other universities, researchers from industry, and non-faculty research staff from the IPFW campus have to be certified as a special member by the Graduate School for them to be members of the advisory committee. A student may initiate a request for special membership and submit it to the Director of the ECE graduate program. A current and complete vita for the special member has to be submitted along with the request.
- A special member, defined as a person without regular certification, may be added as the fourth member of the committee.
- The advisory committee is established when the plan of study is approved. Any change to the advisory committee requires a "Request for Change to the Plan of Study" form (i.e., Graduate Form 13) to be completed. This form is available from the ECE Graduate Program website.

## 4.2 Committee Duties for a Thesis Option Student

1. The student shall select a major professor (also called the thesis advisor) who will serve as the Chair of the advisory committee.
2. The major professor/student relationship must be a mutually acceptable one.
3. With the advice of the major professor, the student will select the remaining members of the advisory committee.
4. The duties of the advisory committee are to assist the student in the preparation of the plan of study, advise the student on research related to the Master's thesis, and conduct examinations on the Master's thesis.
5. The committee may also assist in reviewing and advising a student placed on probation, per the policy on academic standing described in section 8.3.

### **4.3 Committee Duties for a Non-Thesis Option Student**

1. The Director of the graduate program, in consultation with the student, shall select the advisory committee and the Chair of the committee.
2. The major professor/student relationship must be a mutually acceptable one.
3. The duties of the advisory committee are to assist the student in the preparation of the plan of study.
4. The committee may also assist in reviewing and advising a student placed on probation, per the policy on academic standing described in section 8.3.

## **5 PLAN OF STUDY**

All Master's students must file a draft of plan of study before the end of their second semester with the Director of the graduate engineering program. This helps to ensure a logical curriculum early in the program, sets a clear pathway toward completion of the student's degree, and helps the department plan and monitor the overall engineering graduate program. For this reason, registrations for subsequent semesters will be restricted until a draft of the plan of study has been filed. If necessary, changes can be made to the plan of study at a later date, subject to the restrictions cited in Section 5.1. The plan of study must be appropriate to meet the needs of the student's chosen area of specialty as determined by the advisory committee.

### **5.1 Preparing the Plan of Study**

#### **5.1.1 Procedure**

The plan of study form (i.e., the Graduate School Form 6) can be obtained from the ECE Graduate Program website. The plan of study must be typed. The following are guidelines and instructions for preparing the plan of study.

1. Review the list of graduate-level courses to determine the degree requirements for the particular area of specialization you wish to pursue, and the courses of most interest to you which will enable you to meet the degree requirements.

2. Only 500-level courses and above can be used in the plan of study.
3. Fill out a draft of your plan of study (preliminary).
4. If you are a thesis option student, select an engineering faculty member listed in Table 6 to be your major professor who will also serve as the Chair of your graduate advisory committee. Then, in consultation with your major professor, select the remaining faculty members to serve on your graduate advisory committee. (See Sec. 4.2.)
5. If you are a non-thesis option student, select your advisory committee and the Chair of the committee in consultation with the Director of the graduate engineering program and the advisory committee members. (See Sec. 4.3.)
6. Confer with your major professor for advice on the plan and obtain his/her signature on the draft copy of your plan of study.
7. Prepare an electronic version of your formal plan of study from the draft copy. Sign the form and obtain the signatures of your committee members.
8. Submit the original copy of the plan of study with all necessary signatures as well as the latest copy of your transcript to the Director of the graduate engineering program.

Your plan of study will be reviewed by the Director of the graduate engineering program to ensure that it meets all requirements. A copy will be kept in your file. Before the last semester in your program, it will be submitted to the Purdue Graduate School for final approval. The Graduate School approval process takes at least 3 to 4 weeks.

### 5.1.2 Plan of Study, Graduate School Form 6

The Graduate School Form 6 is available from the ECE Graduate Program website. A sample plan of study is included in Appendix D, and the relevant items appearing on the form are explained below for your reference.

1. The “PUID No.” appearing on the form is a 10-digit Purdue University Identifier Number assigned to each graduate student.
2. The department and degree codes are listed in Table 7.

**Table 7** Degree options and their corresponding codes

Dept. Code	Degree Code	Degree Title
ECE	MSE	Master of Science in Engineering

3. The thesis or non-thesis option box should be checked.
4. The space for indicating the research area is left blank in most cases.
5. The area of specialization (concentration) should be selected from among those mentioned in Tables 2 to 4. The AOS code should be left blank.

6. The “Area” label for a course is either “P” if the course is a primary-area course, or “R” if it is a related-area course. The primary area courses are the core courses in your area of specialization (concentration) as mentioned in Tables 2 to 4. All other courses are the related area courses.
7. The title of a special topic course (e.g., ECE 595) must start with “TPCS:” followed by the title of the course.
8. The column labeled “Regular Regis.” (i.e., “RR”) is used to indicate whether a course was (or is to be) taken at IPFW. Use the label “RR” for this type of courses.
9. The column labeled “Other or Transfer From +” is reserved for courses that are transferred from another school. Use the label “TR” for this type of courses and add to this the name of the school from which the course was transferred from.
10. Courses transferred from another school should be listed on the plan of study with the course numbers and titles that appear on the transcript from the school at which they were taken. Do not use the equivalent course number from a Purdue course. One copy of the catalog description of each course transferred should be submitted together with the plan of study.
11. The column labeled “Non-Degree Regis.” is used to indicate courses that were taken while a student was in non-degree status and not officially admitted to a degree program. Use the label “NR” for this type of courses. No more than 12 credit hours taken in non-degree status may be used on a plan of study.
12. To use an undergraduate excess course on the plan of study, the course must be declared undergraduate excess on the transcript or, a letter from the school at which the course was taken must be supplied to verify that it was not used to satisfy a degree requirement.
13. ENGR 698 M.S. Research Thesis should not be listed on the plan of study.

## 5.2 Changing the Plan of Study

It is recognized that as a student’s program progresses there may arise conditions that make it desirable to change the program for the plan of study. Indeed such changes, when based on sound academic reasons, are allowed. However, there are regulations to be observed for the change. Specifically:

- According to the Graduate School rule, a course may not be removed from the plan of study once a grade of “D” or lower is received.
- No changes to the plan of study are allowed after the Form 6 submission deadline during the semester before the student’s final semester.
- Changes to a plan of study require the approval of the student’s advisory committee.
- If the requirements of Department of Electrical and Computer Engineering for the Master’s degree program are modified, there is no need for students to revise their previously approved plans of study to conform to the new rules. All approved plans of study remain valid. Students

have the option to change their plan of study to conform to the new rules, but are not required to do so.

To make changes to an approved plan of study, Graduate School Form 13 “Request for Change to the Plan of Study” has to be completed and filed with the Graduate School. This form is also used to request a change of major professor and/or other advisory committee members, or for a change of the area of specialization. This form is available from the engineering graduate website.

## **5.3 Transfer and Excess Course Credits**

### **5.3.1 Transfer Credits**

A maximum of 12 graduate-level credit hours earned at an accredited university may be applied toward the MSE degree and entered on the plan of study. All courses transferred must be graduate-level courses, must not have been used to meet the requirements for another degree, and must have been completed with a grade of “B” or better. Grades from transfer courses are not included in computing the grade point average.

### **5.3.2 Excess Course Credits**

Up to 12 credit hours of graduate-level courses taken before a student was admitted to the graduate program may be applied toward the MSE degree and entered on the plan of study. Allowed courses include those taken:

- As excess undergraduate-degree credit while at senior-year standing
- In non-degree status
- While seeking a degree in another department or school, if a request to transfer to engineering program was subsequently made
- While seeking a degree in another department or school, if a request for a dual-degree status in engineering program was subsequently made

### **5.3.3 Special Approval Requirements**

Without exception, all transfer and excess course credits used on the plan of study must be approved by your advisory committee. The steps to follow in requesting approval to include such credits on the plan of study are:

1. Add the course to your plan of study.
2. If a transfer course is taken at another university, show a copy of the catalog description of the course to your advisory committee members and to the Director of the graduate program.
3. If you are transferring a course from another university, an original transcript showing the grade earned is required. A statement, from an official at the university where the course was taken, certifying that the course was not used to fulfill the requirements for any other degree may also be required.

## 6 FINAL EXAMINATION

### 6.1 Thesis Preparation and Thesis Defense

Every thesis-option student must submit a thesis. The thesis must be prepared according to Purdue Graduate School procedures as outlined in the "Graduate School Manual for the Preparation of Graduate Thesis." This manual provides specific instructions on organizing, formatting, and binding the thesis. It is also required that the student present and defend his/her work in a final oral examination, also called the thesis defense.

The procedure to be followed by the student in preparing the thesis and defense is as follows:

1. Prior to beginning work on your thesis, students are strongly advised to develop a written proposal for their thesis. Students shall present the thesis proposal to their advisory committee to seek their input and approval for their proposed work.
2. If your thesis is confidential, a request for confidentiality needs to be submitted to the Purdue Graduate School by completing the Graduate School Form 15 "Request for Confidentiality of Thesis."
3. Prior to your final semester you are strongly advised to consult with your major professor (thesis advisor) to review your plans for preparing and presenting the thesis. You should also review the necessary forms and graduation deadlines.
4. The thesis advisor, in consultation with the student and the examining committee, will determine when a draft of the thesis is due.
5. Graduate School Form 8 "Request for Appointment of Examining Committee" is used to schedule the thesis defense and must be submitted at least three weeks prior to the date of the defense. Additionally, in consultation with your thesis advisor, determine the number of bound copies of the thesis that need to be produced.
6. On the day of thesis defense, you must have the following forms prepared and ready to be signed by your advisory committee members:
  - Graduate School Form 7 "Report of Master's Examining Committee"
  - Graduate School Form 9 "Thesis Acceptance" printed on thesis bond.

After your thesis defense, Form 7 must be completed and submitted by your major professor to the Director of the graduate program.

7. Prior to submitting the final copy of your thesis you must complete Form 19, Master's Thesis Agreement and Form 20, "Research Integrity and Copyright Disclaimer" printed on thesis bond. These forms along with the original signed copy of Form 9 should be submitted to be bound in your thesis.

8. The final copy of your thesis to be deposited needs to comply with the format requirements which are published in Purdue's Graduate School publication "A Manual for the Preparation of Graduate Theses." The thesis must be checked for proper formatting and approved by either the chair of the examining committee or department thesis format advisor.
9. Complete the ProQuest/UMI Publishing Agreement, which is available on the engineering graduate program web site.
10. Finally, deposit your thesis with all the signed pages with IPFW Office of Graduate Studies.

## 6.2 Comprehensive Exam

There is no comprehensive exam requirement for non-thesis option students.

## 7 GRADUATION PROCEDURES

In the penultimate semester, every student should complete and submit the following forms:

1. A plan of study (see section 5.1)
2. The IPFW Graduate Application

Links to these forms can be found on the Department of Electrical and Computer Engineering Graduate Program web site.

In the first half of the final semester, your advisor should schedule a date for your thesis defense or comprehensive exam. The procedure for scheduling and holding these exams is covered in section 6.

If you plan to attend graduation, you must order your cap and gown and graduation announcements during the middle of semester. The procedures and dates are published on the IPFW commencement web site.

The specific due dates for forms submission and meetings held are published on IPFW web site each semester.

### 7.1. Minimum GPA to Graduate

The graduation GPA is computed using credits for which you are assigned a GPA-related grade in only those courses that fulfill a graduation requirement. The minimum GPA to graduate is 3.0.

## 8 REGULATIONS AND POLICIES

The content of this section is from the Graduate Bulletin, Part 5 — Regulations and Policies, published yearly by the IPFW Office of the Registrar, <http://bulletin.ipfw.edu/index.php?catoid=Graduate>

## 8.1. Grades

**Basis of grades.** Your instructor is responsible for explaining to you, preferably in writing at the beginning of an academic session, the course requirements and grading system to be used. You will be assigned a grade in each course at the close of the session.

**Semester Grades:** The following grades may be assigned,

Grade	Comments	Grade Point
A+, A	Highest passing grade.	4.0 x Semester Hours
A-		3.7 x Semester Hours
B+		3.3 x Semester Hours
B	Average passing grade for graduate courses.	3.0 x Semester Hours
B-		2.7 x Semester Hours
C+		2.3 x Semester Hours
C	Lowest passing grade for graduate courses.	2.0 x Semester Hours
C-		1.7 x Semester Hours
D+		1.3 x Semester Hours
D	No credit for graduate courses.	1.0 x Semester Hours
D-		0.7 x Semester Hours
F	Failure, or unauthorized discontinuance of class attendance; no credit.	

**Note:** To earn credit in a graduate course, you must receive a C or better. A “C-” is not a passing grade for graduate students and cannot be applied toward graduation.

**Incomplete:** A grade of incomplete (I) may be granted to students (1) who are unable to complete specific course requirements for clearly unavoidable, nonacademic reasons (such as extended illness or relocation) and (2) whose work has been of passing quality up to that time. A grade of I will not be considered as an alternative to an anticipated low grade in a course. The full set of rules governing the use of incompletes can be found in the IPFW Graduate bulletin.

## 8.2. Grade-Point Average

A grade-point average (GPA) is a weighted average of all credits for which a GPA-related grade (A, B, C, D, F, IF) has been assigned. The three GPAs used at IPFW are defined and computed (and rounded to two decimal places) as follows: Semester GPA is computed using only those credits for which you are assigned a GPA-related grade for the specified semester.

**Graduation GPA** is computed using credits for which you are assigned a GPA-related grade in only those courses that fulfill a graduation requirement, with the exception of credits earned in those courses that have been repeated and are not repeatable for credit. If you are pursuing more than one degree program, your graduation GPA will be determined by the academic unit through which you register.

All applicable credits earned at IPFW or at another campus of IU or Purdue for which a GPA-related grade was assigned are included if they were received for courses that fulfill a graduation requirement.

### **8.3. Academic Standing**

Only grades of A, B, or C are acceptable in fulfilling requirements. All grades, however, are used in the calculation of your GPA, and students are expected to maintain a graduation index representing a B average or better.

The IPFW Department of Electrical and Computer Engineering requires that students maintain a graduation index of 3.0 to remain in good academic standing. This policy is motivated by the fact that a graduation index of 3.0 is required to graduate and failure to maintain a graduation index of 3.0 can result in loss of a teaching or research assistantship.

The Department of Electrical and Computer Engineering defines the student's graduate index as their cumulative grade point average (GPA) for courses listed on the student's approved Plan of Study (i.e., Purdue Graduate School Form 6). The motivation of this policy is to ensure that students who are not making satisfactory progress toward graduation are identified and advised. In situations where a student is unable to raise their GPA to 3.0, they may be dismissed. Additionally, failure to maintain a graduation index of 3.0 may result in loss of a teaching or research assistantship.

Students who are admitted conditionally start their academic career on probation, per the terms stated in their admission letter. Probationary standing will also occur when a student's graduation index drops below 3.0 due to a grade of B- or worse. The following steps will take place when a student is placed on probationary status:

1. The student will be notified of their probation status by the Department.
2. When the graduation index drops below 3.0, the student will need to schedule a meeting with their advisor. The student and their advisor will discuss the student's performance and develop a plan to improve their grade point average. To ensure that this meeting takes place, the student will have a hold placed on their account until that meeting takes place.
3. If the student is unable to improve their GPA and graduation index at the end of the first probationary semester, the student will need to meet with their advisory committee. It is the responsibility of the advisory committee to determine if progress has been made, and if not, whether there were extenuating circumstances interfering with the student ability to perform at a satisfactory level. If the student has not made progress toward improving their graduation index, the committee may either allow the student to continue in the program with a deadline or ask them to leave the program. If the advisory committee disallows continuation, the student will be dismissed from the program.

## Appendix A: Course Titles and Their Coordinators

**Table A**  
Titles and coordinators of courses relevant to the engineering graduate program

Course No.	Course Title	Primary Coordinator	Secondary Coordinator
<b>Undergraduate Prerequisite Courses</b>			
ECE 301	Signals and Systems	Oloomi	Thompson
ECE 302	Probabilistic Methods in Electrical Engineering	Chen, C.	Pomalaza-Ráez
ECE 333	Automatic Control Systems	Oloomi	Kang
ECE 368	Data Structures	Chen, C.	Wang
ECE 428	Modern Communication Systems	Pomalaza-Ráez	Chen, C.
ECE 436	Digital Signal Processing	Thompson	---
ECE 437	Computer Design and Prototyping	Wang	???
<b>Graduate Core Courses</b>			
ECE 538	Digital Signal Processing I	Thompson	Oloomi
ECE 540	Antenna Des., Anly & Sim Methods	Eroglu	Pomalaza-Ráez
ECE 547	Introduction to Computer Communication Networks	Pomalaza-Ráez	Chen, C.
ECE 549	Software Defined Radio	Cooklev	Pomalaza-Ráez
ECE 567	FPGA Designs for Signal Processing Applications	Wang	Thompson
ECE 569	Intr. To Robotic Sys.	Liu	Oloomi
ECE 581	Microwave Engineering	Eroglu	Pomalaza-Ráez
ECE 584	Linear Control Systems	Oloomi	Liu
ECE 600	Random Variables and Signals	Chen, C.	Pomalaza-Ráez
ECE 604	Electromagnetic Field Theory	Eroglu	Cooklev
ECE 608	Computational Models and Methods	Chen, C.	Pomalaza-Ráez
ECE 661	Computer Vision	Liu	Pomalaza-Ráez
SE 510	Systems Engineering	Cochran	---
SE 520	Engineering Economics	Cochran	---
SE 530	Engineering Management	Cochran	---

SE 540	System Architecture	Cochran	---
SE 550	Advanced Manufacturing Systems and Processes	Cochran	

## Appendix C: Graduate Engineering Elective Courses

The engineering electives offer the student a chance to develop depth in his/her area of specialization and to explore new technologies of interest. Students will have the option of taking engineering elective courses on campus or via video.

For the computer engineering and electrical engineering specialization areas students can choose two courses out of the four shown in Table C.1

**Table C.1**  
Engineering Electives for the Computer Engineering and Electrical Engineering Concentration Areas

Course No.	Course Title	Primary Coordinator	Secondary Coordinator
ECE 543	Wireless Communications	Pomalaza-Ráez	Cooklev
ECE 544	Digital Communications	Pomalaza-Ráez	Cooklev
ECE 569	Introduction to Robotics	Liu	Oloomi
ENGR 580	Engineering Optimization	Oloomi	Pomalaza-Ráez

For the system engineering specialization area students can choose two courses from additional engineering or Computer Science graduate courses as graduate engineering elective courses.

### Note:

Students from one specialization area can take required courses from another area of specialization to satisfy the engineering elective requirements, e.g. computer or electrical engineering students can take courses in Systems Engineering to satisfy their engineering elective and general elective requirements.

Additional engineering elective courses are the ones offered by IPFW, Purdue University at West Lafayette. For the list of graduate engineering courses that are accessible from Purdue University via video and the schedule of their current offerings, visit the website

[https://engineering.purdue.edu/ProEd/App/courses/courses\\_by\\_school](https://engineering.purdue.edu/ProEd/App/courses/courses_by_school)

## **Appendix D: Sample of Plan of Study**

Please see next page.

