PURDUE
U N I V E R S I T Y

SCHOOL OF ELECTRICAL
AND COMPUTER ENGINEERING
UNDERGRADUATE COUNSELING OFFICE

March 4, 2019

To: The Engineering Faculty
From: School of Electrical and Computer Engineering
Re: 2019-2020 BSEE Degree Requirements

The School of Electrical and Computer Engineering has approved the following degree requirements for the BSCmpE degree starting the 2019-2020 catalog term. This action is now submitted to the Engineering Faculty with a recommendation for approval.

From: See Attachment #1

To: See Attachment #2

Reason:

- The current ECE seminar courses, ECE 20000 (0 cr.) and ECE 40000 (1 cr.), are being replaced by three new ECE seminar courses: ECE 29401 (1 cr.), ECE 39401 (1 cr.), and ECE 49401 (1 cr.).
- ECE 20100 (3 cr.), ECE 20700 (1 cr.), and ECE 20200 (3 cr.) are being replaced by ECE 20001 (3), ECE 20007 (1cr.), and ECE 20002 (3 cr.).
- ECE 36400 (1 cr.) is being replaced by ECE 20875 (Python for Data Science, 3 cr.).
- The required credit hours of major courses has been increased from 49 credits to 53 credits to accommodate the above changes. A corresponding reduction in Complementary Electives is made to keep the total credits required for the degree at 125 credit hours.

Head of ECE

Purdue University   2018-2019 University Catalog

Electrical Engineering, BSEE

Degree Requirements

124 Credits Required

Required Major Courses (47 credits minimum)

An overall 2.000 cumulative GPA or better in these courses is required. Some courses have minimum grade requirements for prerequisites.

Electrical Engineering Core Requirements (24 credits)

- ECE 20100 - Linear Circuit Analysis I
- ECE 20200 - Linear Circuit Analysis II
- ECE 20700 - Electronic Measurement Techniques
- ECE 20800 - Electronic Devices And Design Laboratory
- ECE 25500 - Introduction To Electronic Analysis And Design
- ECE 27000 - Introduction To Digital System Design
- ECE 30100 - Signals And Systems
- ECE 30200 - Probabilistic Methods In Electrical And Computer Engineering
- ECE 31100 - Electric And Magnetic Fields

Required Seminars (1 credit)

- ECE 20000 - Electrical And Computer Engineering Seminar
- ECE 40000 - Professional Development And Career Guidance

Advanced Electrical Engineering Selectives - Choose Three (9-11 credits)

- ECE 30500 - Semiconductor Devices
- ECE 32100 - Electromechanical Motion Devices
- ECE 36200 - Microprocessor Systems And Interfacing
- ECE 38200 - Feedback System Analysis And Design

- ECE 43800 - Digital Signal Processing With Applications or
- ECE 44000 - Transmission Of Information

Senior Design Requirement - Choose One Option (3-4 credits)

The Electrical Engineering Core Requirements listed above must be completed before taking Senior Design.

Option 1 (4 credits):

- ECE 49022 - Electrical Engineering Senior Design Projects

Option 2 (4 credits):

- ECE 47700 - Digital Systems Senior Project

Option 3 (3 credits):

Must be taken in consecutive semesters.
- EPCS 41100 - Senior Design Participation In EPICS
- EPCS 41200 - Senior Design Participation In EPICS

Option 4 (4 credits):

Must be taken in each of 2 consecutive semesters.
- EPCS 41200 - Senior Design Participation In EPICS

Electrical Engineering Electives (7-10 credits)

- Select from the list of Electrical Engineering Electives (click here) so that total credits for Required Major Courses is at least 47.
- Must include at least three (3) Advanced-Level Laboratory courses. Advanced-Level Laboratory Courses taken as Advanced EE Selectives (ECE 36200, ECE 43800 and ECE 44000) also contribute to the Advanced-Level Laboratory requirement. No more than two (2) of these labs may be EE "Special Content" courses.
- No more than 6 credit hours of EE "Special Content" courses can be used towards the 47 credit hours of Required Major Courses.

Other Department/Program Course Requirements (77 credits minimum)

General Engineering Requirement (10 or 14 credits)

Choose One Introductory Engineering Option and One Engineering Breadth Selective.

Introductory Engineering Options (7 or 11 credits)

Option 1 (7 credits):

- ENGR 13100 - Transforming Ideas To Innovation I
- ENGR 13200 - Transforming Ideas To Innovation II
- CS 15900 - Programming Applications For Engineers

Option 2 - EPICS (7 credits)

- ENGR 13300 - Transforming Ideas To Innovation, EPICS
- EPCS 11100 - First Year Participation In EPICS I
- EPCS 12100 - First Year Participation In EPICS II
- CS 15900 - Programming Applications For Engineers

Option 3 - Honors (11 credits)

ENGR 16100/16200 includes the equivalent of PHYS 17200.

- ENGR 16100 - Honors Introduction To Innovation And The Physical Science Of Engineering Design I
- ENGR 16200 - Honors Introduction To Innovation And The Physical Science Of Engineering Design II
- CS 15900 - Programming Applications For Engineers

Engineering Breadth Selective - Choose One (3 credits)

- AAE 20300 - Aeromechanics I
- BME 20100 - Biomolecules: Structure, Function, And Engineering Applications
- CE 29700 - Basic Mechanics I (Statics)
- CE 35000 - Introduction To Environmental And Ecological Engineering
- CE 35300 - Physico-Chemical Principles Of Environmental Engineering
- CE 35500 - Engineering Environmental Sustainability
- CHE 20500 - Chemical Engineering Calculations
- EEE 35500 - Engineering Environmental Sustainability
- IE 33500 - Operations Research - Optimization
- IE 33600 - Operations Research - Stochastic Models
- ME 20000 - Thermodynamics I
- ME 27000 - Basic Mechanics I

- ME 41300 - Noise Control
- MSE 23000 - Structure And Properties Of Materials
- NUCL 20000 - Introduction to Nuclear Engineering

Mathematics Requirement - Choose One Option (18-20 credits)

Option 1 (18-20 credits)

- MA 16500 - Analytic Geometry And Calculus I or
- MA 16100 - Plane Analytic Geometry And Calculus I

- MA 16600 - Analytic Geometry And Calculus II or
- MA 16200 - Plane Analytic Geometry And Calculus II

- MA 26100 - Multivariate Calculus
- MA 26500 - Linear Algebra
- MA 26600 - Ordinary Differential Equations

Option 2 (19-21 credits)

- MA 16500 - Analytic Geometry And Calculus I or
- MA 16100 - Plane Analytic Geometry And Calculus I

- MA 16600 - Analytic Geometry And Calculus II or
- MA 16200 - Plane Analytic Geometry And Calculus II

- MA 26100 - Multivariate Calculus
- MA 26200 - Linear Algebra And Differential Equations

  Advanced Math Selective - Choose One (3 credits)
- MA 30300 - Differential Equations And Partial Differential Equations For Engineering And The Sciences
- MA 35100 - Elementary Linear Algebra
- MA 38500 - Introduction To Logic
- MA 42500 - Elements Of Complex Analysis
- MA 51000 - Vector Calculus
- CS 31400 - Numerical Methods

Science Requirement (11 or 15 credits minimum)

11 credits minimum if Introductory Engineering Option 3 was selected (contains the equivalent of PHYS 17200]

15 credits minimum if Introductory Engineering Option 1 or 2 was selected.

- CHM 11500 - General Chemistry
- PHYS 17200 - Modern Mechanics
- PHYS 27200 - Electric And Magnetic Interactions

  Science Selective - Choose One
- BIOL 11000 - Fundamentals Of Biology I
- BIOL 11100 - Fundamentals Of Biology II

- BIOL 12100 - Biology I: Diversity, Ecology, And Behavior and

- BIOL 13500 - First year Biology Laboratory

- BIOL 13100 - Biology II: Development, Structure, And Function Of Organisms
- CHM 11600 - General Chemistry
- CHM 12400 - General Chemistry For Engineers II
- PHYS 31000 - Intermediate Mechanics
- PHYS 32200 - Intermediate Optics
- PHYS 34200 - Modern Physics
- PHYS 34400 - Modern Physics

ECE General Education Requirement (24 credits)

While a comprehensive understanding of science and mathematics is central and foundational to effective engineering practice, real-world engineering problems are both complex and situated within dynamic social, political, and cultural contexts. Therefore, well-rounded engineering curricula must also include courses that encompass the breadth of human experience and culture, both past and present. Such courses may include, but are not limited to, those that explore individual behavior, social and political structures, aesthetic values, modes and dynamics of communication, philosophical and ethical thought, and cognitive processes. These types of courses provide engineering students with a framework for rational inquiry, critical evaluation, and judgment when dealing with issues that are non-quantifiable, ambiguous, and/or controversial. In addition, they offer engineering students the opportunity to develop interests and insights that will deepen their appreciation for the diversity of the world in which they live and work.

Based on these premises, the goals of the ECE General Education Program are to

- Provide the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
- Support and complement the technical content of the engineering curricula through coursework that emphasizes such skills as written communication, oral communication, information literacy, cultural awareness, leadership, innovation, entrepreneurship, and managing change.

These goals are consistent with the objectives of the College of Engineering's Engineer of 2020 initiative (Engineering Faculty Document 15-06), as well as the objectives of Purdue University's Undergraduate Outcomes-Based Curriculum (University Senate Document 11-7).

To these ends, all B.S. students in Electrical and Computer Engineering are required to complete the ECE General Education Program described below. This program is consistent with the College of Engineering General Education Program (Engineering Faculty Documents 43-13 and 39-14).

Foundational General Education Electives

Students must select from the list of courses approved by the University Curriculum Council (UCC) to satisfy each of the following six Foundational Learning Outcomes of the University Core Requirements (click here) - the Science and Quantitative Reasoning Foundational Outcomes are satisfied elsewhere in the BSCMPE curriculum. Some courses may have been approved to meet more than one of the Foundational Learning Outcomes, so fewer than six courses can be used to fulfill this condition. There is no minimum number of credit hours needed to satisfy this component of the College of Engineering General Education Program. If a course taken to fulfill some other EE/CMPE degree requirement has also been approved as satisfying one or more of these Engineering Foundational Learning Outcomes, then those Engineering Foundational Learning Outcomes need not be satisfied again within the ECE General Education Program. Students must earn a grade of C- or better in courses used to satisfy this component of the ECE General Education Program. The pertinent Foundational Learning Outcomes are defined as follows:

- Written Communication
- Oral Communication
- Information Literacy
- Human Cultures: Humanities
- Human Cultures: Behavioral/Social Science

- Science, Technology & Society

ECE General Education Electives

Students must take additional approved courses to reach the minimum requirement of 24 credit hours. Other courses, as approved by the ECE Curriculum Committee, may also be selected. See Additional Degree Requirements below to see the list of approved courses.

Advanced Level General Education Requirement

At least 6 of the 24 credit hours needed to satisfy the ECE General Education Requirement must come from courses at the 30000-level or above, or from courses with a required prerequisite in the same department.

Educational Diversity Requirement

At least 12 credit hours of the 24 credit hours needed to satisfy the ECE General Education Requirement must be taken from the College of Liberal Arts, the Krannert School of Management, and/or the Honors College - provided such courses are not focused primarily on engineering, technology, the natural sciences, or mathematics. The subject areas associated with these colleges and school are:

- College of Liberal Arts: AAS, AD, AMST, ANTH, ARAB, ASL, CHNS, CLCS, CMPL, COM, DANC, ENGL, FR, GER, GREK, HEBR, HIST, IDIS, ITAL, JPNS, JWST, LATN, LC, LING, MARS, MUS, PHIL, POL, PTGS, REL, RUSS, SOC, SPAN, THTR, WGSS
- Krannert School of Management: ECON, ENTR, MGMT
- Honors College: HONR

Complimentary Electives (up to 10 credits)

Choose additional coursework to bring total credits to the minimum 124 required for the BSEE degree. Students should carefully select these courses to complement their personal interests and their academic record.

All courses, except those specifically excluded by the ECE Curriculum Committee, may be used as Complementary Electives (click here to view list).

University Core Requirements

- Human Cultures Humanities
- Human Cultures Behavioral/Social Science
- Information Literacy
- Science #1
- Science #2
- Science, Technology, and Society
- Written Communication
- Oral Communication
- Quantitative Reasoning

For a complete listing of course selectives, visit the Provost's Website.

Prerequisite Information:

For current pre-requisites for courses, click here.

Additional Degree Requirements

- Electrical and Computer Engineering General Education
- Electrical Engineering Electives
- Electrical and Computer Engineering No Count List

Program Requirements

The following is an example of a 4-year plan that satisfies the BSEE degree requirements.

Fall 1st Year

- ENGR 13100 - Transforming Ideas To Innovation I
- MA 16500 - Analytic Geometry And Calculus I
- CHM 11500 - General Chemistry
- SCLA 10100 - Transformative Texts, Critical Thinking And Communication I: Antiquity To Modernity
- Foundational General Education Elective - Credit Hours: 3.00

16 Credits

Spring 1st Year

- ENGR 13200 - Transforming Ideas To Innovation II
- MA 16600 - Analytic Geometry And Calculus II
- PHYS 17200 - Modern Mechanics
- CS 15900 - Programming Applications For Engineers
- SCLA 10200 - Transformative Texts, Critical Thinking And Communication II: Modern World

16 Credits

Fall 2nd Year

- ECE 20000 - Electrical And Computer Engineering Seminar
- ECE 20100 - Linear Circuit Analysis I
- ECE 20700 - Electronic Measurement Techniques
- PHYS 27200 - Electric And Magnetic Interactions
- MA 26100 - Multivariate Calculus
- Foundational General Education Elective - Credit Hours: 3.00

15 Credits

Spring 2nd Year

- ECE 20200 - Linear Circuit Analysis II
- ECE 25500 - Introduction To Electronic Analysis And Design
- ECE 20800 - Electronic Devices And Design Laboratory
- MA 26600 - Ordinary Differential Equations
- Science Selective - Credit Hours: 3.00
- Foundational General Education Elective - Credit Hours: 3.00

16 Credits

Fall 3rd Year

- ECE 30100 - Signals And Systems
- ECE 27000 - Introduction To Digital System Design
- ECE 40000 - Professional Development And Career Guidance
- Adv. EE Selective - Credit Hours: 3.00
- Complementary Ele - Credit Hours: 3.00

14 Credits

Spring 3rd Year

- ECE 30200 - Probabilistic Methods In Electrical And Computer Engineering
- ECE 31100 - Electric And Magnetic Fields
- MA 26500 - Linear Algebra
- Adv. EE Selective - Credit Hours: 3.00
- ECE Elective [Adv.Lab] - Credit Hour: 1.00
- ECE General Education Elective - Credit Hours: 3.00

16 Credits

Fall 4th Year

- ECE 49022 - Electrical Engineering Senior Design Projects
- ECE Elective - Credit Hours: 3.00
- Engineering Breadth Elective - Credit Hours: 3.00
- ECE General Education Elective - Credit Hours: 3.00
- Complementary Elective - Credit Hours: 3.00

16 Credits

Spring 4th Year

- Adv. EE Selective w/Adv Lab - Credit Hours: 4.00
- ECE Elective w/Adv Lab - Credit Hours: 4.00
- ECE General Education Elective - Credit Hours: 3.00
- Complementary Elective - Credit Hours: 4.00

15 Credits

Critical Course

The ♦ course is considered critical. A Critical Course is one that a student must be able to pass to persist and succeed in a particular major.

Disclaimer

The student is ultimately responsible for knowing and completing all degree requirements.

The myPurduePlan powered by DegreeWorks is the knowledge source for specific requirements and completion.

Electrical Engineering, BSEE

2019-2020 Degree Requirements

Degree Requirements

124 Credits Required

Required Major Courses (52 credits minimum)

An overall 2.000 cumulative GPA or better in these courses is required. Some courses have minimum grade requirements for prerequisites.

Electrical Engineering Core Requirements (27 credits)

[Left]	ECE 20001 EE Fundamentals I	3.00
[Left]	ECE 20007 - EE Fundamentals I Lab	1.00
[Left]	ECE 20002 - EE Fundamentals II	3.00
[Left]	ECE 20008 - EE Fundamentals II Lab	1.00
[Left]	ECE 20875 Python for Data Science	3.00
	ECE 26400 Advanced C Programming	3.00
	ECE 27000 Introduction To Digital System Design	4.00
	ECE 30100 Signals And Systems	3.00
	ECE 30200 Probabilistic Methods In Electrical And Computer Engineering	3.00
	ECE 31100 Electric And Magnetic Fields	3.00

Required Seminars (3 credits)

ECE 29401 - ECE Sophomore Seminar	1.00
ECE 39401 - Professional Communication and Diversity	1.00
ECE 49401 - Professional Communication Capstone	1.00

Advanced Electrical Engineering Selectives - Choose Three (9-12 credits)

	ECE 30500 Semiconductor Devices	3.00
	ECE 32100 Electromechanical Motion Devices	3.00
	ECE 36200 Microprocessor Systems And Interfacing	4.00
	ECE 38200 Feedback System Analysis And Design	3.00
	ECE 43800 Digital Signal Processing With Applications	4.00
	ECE 44000 Transmission Of Information	4.00
[Left]	ECE 30412 Electromagnetics II	3.00

Senior Design Requirement - Choose One Option (4 credits)

The Electrical Engineering Core Requirements listed above must be completed before taking Senior Design.

Option 1 (4 credits):

ECE 49022 Electrical Engineering Senior Design Projects	4.00

Option 2 (4 credits):

ECE 47700 Digital Systems Senior Project	4.00

Option 3 (4 credits):

Must be taken in each of 2 consecutive semesters.

EPCS 41200 Senior Design Participation In EPICS	2.00

Electrical Engineering Electives (6-9 credits)

- Select from the list of Electrical Engineering Electives (click here) so that total credits for Required Major Courses is at least 52.
- Must include at least three (3) Advanced-Level Laboratory courses. Advanced-Level Laboratory Courses taken as Advanced EE Selectives (ECE 36200, ECE 43800 and ECE 44000) also contribute to the Advanced-Level Laboratory requirement. No more than two (2) of these labs may be EE "Special Content" courses.
- No more than 6 credit hours of EE "Special Content" courses can be used towards the 47 credit hours of Required Major Courses.

Other Department/Program Course Requirements (72 credits minimum)

Students must complete the First Year Engineering Requirements (29-30 credits). CS 15900 is the preferred FYE Science Selective.

General Engineering Requirement (3-6 credits)

C Programming (0-3 credits)

Required only if CS 15900 not taken as the FYE Science Selective.

CS 15900 C Programming	3.00

Engineering Breadth Selective - Choose One (3 credits)

AAE 20300 Aeromechanics I	3.00
BME 20100 Biomolecules: Structure, Function, And Engineering Applications	3.00
CE 29700 Basic Mechanics I (Statics)	3.00
CE 35000 Introduction To Environmental And Ecological Engineering	3.00
CE 35300 Physico-Chemical Principles Of Environmental Engineering	4.00
CE 35500 Engineering Environmental Sustainability	3.00
CHE 20500 Chemical Engineering Calculations	4.00
EEE 35500 Engineering Environmental Sustainability	3.00
IE 33500 Operations Research - Optimization	3.00
IE 33600 Operations Research - Stochastic Models	3.00
ME 20000 Thermodynamics I	3.00
ME 27000 Basic Mechanics I	3.00
ME 41300 Noise Control	3.00
MSE 23000 Structure And Properties Of Materials	3.00
NUCL 20000 Introduction to Nuclear Engineering	3.00

Mathematics Requirement - Choose One Option (10-11 credits)

Calculus I and II must be completed as part of the First Year Engineering Requirements.

Option 1 (10 credits)

MA 26100 Multivariate Calculus	4.00
MA 26500 Linear Algebra	3.00
MA 26600 Ordinary Differential Equations	3.00

Option 2 (11 credits)

MA 26100 Multivariate Calculus	4.00
MA 26200 Linear Algebra And Differential Equations	4.00
[After]	
[Before] **Advanced Math Selective** - Choose One (3 credits)	

MA 30300 Differential Equations And Partial Differential Equations For Engineering And The Sciences	3.00
MA 35100 Elementary Linear Algebra	3.00
MA 38500 Introduction To Logic	3.00
MA 42500 Elements Of Complex Analysis	3.00
MA 51000 Vector Calculus	3.00
CS 31400 Numerical Methods	3.00

Science Requirement (4-8 credits minimum)

Physics I and General Chemistry are part of the First Year Engineering Requirements. If an FYE Science Selective other than CS 15900 is selected, it will satisfy the ECE Science Selective requirement below.

PHYS 27200 Electric And Magnetic Interactions	4.00
[After]	
[Before] **Science Selective** - Choose One	
BIOL 11000 Fundamentals Of Biology I	4.00
BIOL 11100 Fundamentals Of Biology II	4.00
[After]	
BIOL 12100 Biology I: Diversity, Ecology, And Behavior	2.00
[Right] and	
BIOL 13500 First Year Biology Laboratory	2.00
[After]	
BIOL 13100 Biology II: Development, Structure, And Function Of Organisms	3.00
CHM 12400 General Chemistry For Engineers II	4.00
PHYS 31000 Intermediate Mechanics	4.00
PHYS 32200 Intermediate Optics	3.00
PHYS 34200 Modern Physics	3.00
PHYS 34400 Modern Physics	4.00

ECE General Education Requirement (18 credits)

While a comprehensive understanding of science and mathematics is central and foundational to effective engineering practice, real-world engineering problems are both complex and situated within dynamic social, political, and cultural contexts. Therefore, well-rounded engineering curricula must also include courses that encompass the breadth of human experience and culture, both past and present. Such courses may include, but are not limited to, those that explore individual behavior, social and political structures, aesthetic values, modes and dynamics of communication, philosophical and ethical thought, and cognitive processes. These types of courses provide engineering students with a framework for rational inquiry, critical evaluation, and judgment when dealing with issues that are non-quantifiable, ambiguous, and/or controversial. In addition, they offer engineering students the opportunity to develop interests and insights that will deepen their appreciation for the diversity of the world in which they live and work.

Based on these premises, the goals of the ECE General Education Program are to

- Provide the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
- Support and complement the technical content of the engineering curricula through coursework that emphasizes such skills as written communication, oral communication, information literacy, cultural awareness, leadership, innovation, entrepreneurship, and managing change.

These goals are consistent with the objectives of the College of Engineering's Engineer of 2020 initiative (Engineering Faculty Document 15-06), as well as the objectives of Purdue University's Undergraduate Outcomes-Based Curriculum (University Senate Document 11-7).

To these ends, all B.S. students in Electrical and Computer Engineering are required to complete the ECE General Education Program described below. This program is consistent with the College of Engineering General Education Program (Engineering Faculty Documents 43-13 and 39-14).

Foundational General Education Electives

Students must select from the list of courses approved by the University Curriculum Council (UCC) to satisfy each of the following six Foundational Learning Outcomes of the University Core Requirements (click here) - the Science and Quantitative Reasoning Foundational Outcomes are satisfied elsewhere in the BSCMPE curriculum. Some courses may have been approved to meet more than one of the Foundational Learning Outcomes, so fewer than six courses can be used to fulfill this condition. There is no minimum number of credit hours needed to satisfy this component of the College of Engineering General Education Program. If a course taken to fulfill some other EE/CMPE degree requirement has also been approved as satisfying one or more of these Engineering Foundational Learning Outcomes, then those Engineering Foundational Learning Outcomes need not be satisfied again within the ECE General Education Program. Students must earn a grade of C- or better in courses used to satisfy this component of the ECE General Education Program. The pertinent Foundational Learning Outcomes are defined as follows:

- Written Communication (satisfied as an FYE requirement)
- Oral Communication (satisfied as an FYE requirement)
- Information Literacy (satisfied as an FYE requirement)
- Human Cultures: Humanities
- Human Cultures: Behavioral/Social Science
- Science, Technology & Society

ECE General Education Electives

Students must take additional approved courses to reach the minimum requirement of 18 credit hours. Other courses, as approved by the ECE Curriculum Committee, may also be selected. See Additional Degree Requirements below to see the list of approved courses.

Advanced Level General Education Requirement

At least 6 of the 18 credit hours needed to satisfy the ECE General Education Requirement must come from courses at the 30000-level or above, or from courses with a

required prerequisite in the same department.

Educational Diversity Requirement

At least 12 credit hours of the 18 credit hours needed to satisfy the ECE General Education Requirement must be taken from the College of Liberal Arts, the Krannert School of Management, and/or the Honors College - provided such courses are not focused primarily on engineering, technology, the natural sciences, or mathematics. The subject areas associated with these colleges and school are:

- College of Liberal Arts: AAS, AD, AMST, ANTH, ARAB, ASL, CHNS, CLCS, CMPL, COM, DANC, ENGL, FR, GER, GREK, HEBR, HIST, IDIS, ITAL, JPNS, JWST, LATN, LC, LING, MARS, MUS, PHIL, POL, PTGS, REL, RUSS, SOC, SPAN, THTR, WGSS
- Krannert School of Management: ECON, ENTR, MGMT
- Honors College: HONR

Complimentary Electives (up to 5 credits)

Choose additional coursework to bring total credits to the minimum 124 required for the BSEE degree. Students should carefully select these courses to complement their personal interests and their academic record.

All courses, except those specifically excluded by the ECE Curriculum Committee, may be used as Complementary Electives (click here to view list).

University Core Requirements

- Human Cultures Humanities
- Human Cultures Behavioral/Social Science
- Information Literacy
- Science #1
- Science #2
- Science, Technology, and Society
- Written Communication
- Oral Communication
- Quantitative Reasoning

For a complete listing of course selectives, visit the Provost's Website.

Prerequisite Information:

For current pre-requisites for courses, click here.

Additional Degree Requirements

- [Electrical and Computer Engineering General Education](#)
- [Electrical Engineering Electives](#)
- [Electrical and Computer Engineering No Count List](#)

First Year Engineering Program Requirements

Fall 1st Year

ENGR 13100 Transforming Ideas To Innovation I		2.00
[Right] ♦		
CHM 11500 General Chemistry		4.00
[Right] ♦		
MA 16500 Analytic Geometry And Calculus I		4.00
[After]	Written Communication Selective ♦ - Credit Hours: 3.00-4.00 ([Satifies Written Communication for Core](#))	
[Right] ♦		

13-14 Credits

Spring 1st Year

ENGR 13200 Transforming Ideas To Innovation II		2.00
[Right] ♦		
MA 16600 Analytic Geometry And Calculus II		4.00
[Right] ♦		
PHYS 17200 Modern Mechanics		4.00
[Right] ♦		
[After]	Oral Communication Selective ♦ - Credit Hours: 3.00 ([Satisfies Oral Communication for Core](#))	
	Science Selective ♦ - Credit Hours: 3.00	

16 Credits

Electrical Engineering Program Requirements

Combined with two semesters for FYE above, the following is an example of a 4-year plan that satisfies the BSEE degree requirements. It assumes that CS 15900 and a 4 credit hour Written Communication Foundational Core course were taken in the First Year.

Fall 2nd Year

[Before] ECE 29401 - ECE Sophomore Seminar	1.00
[Before] ECE 20001 - EE Fundamentals I	3.00
[Right] ♦	
[Before] ECE 20007 - EE Fundamentals I Lab	1.00
[Before] ECE 20875 Python for Data Science	3.00
PHYS 27200 Electric And Magnetic Interactions	4.00
MA 26100 Multivariate Calculus	4.00
[Right] ♦	

15 Credits

Spring 2nd Year

[Before] ECE 20002 - EE Fundamentals II	3.00
[Right] ♦	
[Before] ECE 200008 EE Fundamentals II Lab	1.00
MA 26600 Ordinary Differential Equations	3.00
ECE 26400 Advanced C Programming	3.00
[After] ♦	
ECE 27000 Introduction To Digital System Design	4.00
[After] ♦	
[Left] Foundational General Education Elective	3.00

17 Credits

Fall 3rd Year

ECE 30100 Signals And Systems	3.00
ECE 40000 Professional Development And Career Guidance	1.00
[After] Adv. EE Selective - Credit Hours: 3.00	
Complementary Ele - Credit Hours: 3.00	

14 Credits

Spring 3rd Year

ECE 30200 Probabilistic Methods In Electrical And Computer Engineering	3.00
ECE 31100 Electric And Magnetic Fields	3.00
MA 26500 Linear Algebra	3.00

[After]   Adv. EE Selective - Credit Hours: 3.00

      ECE Elective [Adv.Lab] - Credit Hour: 1.00

[After] ECE General Education Elective	3.00

16 Credits

Fall 4th Year

ECE 49022 Electrical Engineering Senior Design Projects	4.00

[After]   ECE Elective - Credit Hours: 3.00

      Engineering Breadth Elective - Credit Hours: 3.00

      ECE General Education Elective - Credit Hours: 3.00

      ECE Science Selective - Credit Hours: 3.00

16 Credits

Spring 4th Year

- Adv. EE Selective w/Adv Lab - Credit Hours: 4.00
- ECE Elective w/Adv Lab - Credit Hours: 4.00
- ECE General Education Elective - Credit Hours: 3.00
- Complementary Elective - Credit Hours: 4.00

15 Credits

Critical Course

The ♦ course is considered critical. A Critical Course is one that a student must be able to pass to persist and succeed in a particular major.

Disclaimer

The student is ultimately responsible for knowing and completing all degree requirements.

The myPurduePlan powered by DegreeWorks is the knowledge source for specific requirements and completion.