Purdue University In Indianapolis

Announcing our next giant leap: a new extension of our flagship campus bringing the academic rigor and accessible excellence we're known for to central Indiana. Purdue is uniquely able to fuel growth and accelerate an innovation-based economy for Indianapolis, the state and the nation.

"Fueling a transformational growth, Purdue University's first comprehensive urban campus will offer unique opportunities for Boilermaker students and faculty. We will expand enrollment. We will build startups. We will create new knowledge. We will connect talents and industry. We will maximize Indy's unique strengths such as sports and biomedical technology. Purdue campuses now bookend the Hard Tech Corridor: 65 miles connecting Indy and West Lafayette with LEAP Innovation District at the midpoint. We will generate talents, jobs and innovation together in America's heartland!" **Mung Chiang,** *President, Purdue University*

Find more information on the website: Purdue University in Indianapolis

Past IUPUI Program Information: IUPUI Plans of Study for Continuing Students at Purdue in Indianapolis

Bachelor of Science

Animation And Visual Effects, BS

About the Program

Computer animation is everywhere, not only in entertainment but also in education, product and packaging, construction, healthcare and courtrooms as well as new applications yet to be discovered. When you major in animation at Purdue University, you will focus on six areas of animation: 3-D modeling, texturing, lighting, rendering and character rigging (creating a digital skeleton) and motion. Your primary tool will be the powerful animation software, Maya, and you will experiment with other options.

Animation Website

Animation and Visual Effects Major Change (CODO) Requirements

Degree Requirements

120 Credits Required

Departmental/Program Major Courses (54 credits)

Required Major Courses (39 credits)

- CGT 11200 - Sketching For Visualization And Communication **Credits:** 3.00
- CGT 11600 - Geometric Modeling For Visualization And Communication **Credits:** 3.00
- CGT 11800 - Fundamentals Of Imaging Technology **Credits:** 3.00
- CGT 12300 - Animation Foundations **Credits:** 3.00
- CGT 14100 - Internet Foundations Technologies And Development **Credits:** 3.00
- CGT 14700 - Visual Effects Introduction **Credits:** 3.00

- CGT 17208 - User Experience Design Studio I: Fundamentals **Credits:** 3.00 (*satisfies Science, Technology & Society for core*)
- CGT 20500 - Portfolio Review **Credits:** 0.00
- CGT 24100 - Introduction To Computer Animation **Credits:** 3.00
- CGT 25001 - Computer Graphics Professional Practices I **Credits:** 1.00
- CGT 27000 - Introduction To Data Visualization **Credits:** 3.00
- CGT 30505 - Portfolio II **Credits:** 0.00
- CGT 40500 - Senior Portfolio Review **Credits:** 0.00
- CGT 41101 - Contemporary Problems In Applied Computer Graphics I **Credits:** 2.00
- CGT 41201 - Contemporary Problems In Applied Computer Graphics II **Credits:** 2.00
- CGT 44200 - Production For Computer Animation **Credits:** 3.00 (course must be taken twice for total of 6 credits)
- CGT 45001 - Computer Graphics Professional Practices II **Credits:** 1.00
- Intercultural Requirement - Credit Hours: 0.00
- Humanities Requirement - Credit Hours: 0.00
- Professional Requirement - Credit Hours: 0.00

CGT Entertainment Selectives (15 credits)

Other Departmental/Program Course Requirements (52 credits)

- MA 15800 - Precalculus - Functions And Trigonometry **Credits:** 3.00 (*satisfies Quantitative Reasoning Selective for core*)
- MA 16010 - Applied Calculus I **Credits:** 3.00 (*satisfies Quantitative Reasoning Selective for core*)
- SCLA 10100 - Transformative Texts, Critical Thinking And Communication I: Antiquity To Modernity **Credits:** 3.00 ♦ (*satisfies Written Communication AND Information Literacy for core & a Cornerstone Area A*)
- SCLA 10200 - Transformative Texts, Critical Thinking And Communication II: Modern World **Credits:** 3.00 ♦ (*satisfies Oral Communication for core & a Cornerstone Area A*)
- PHYS 22000 - General Physics **Credits:** 4.00 ♦ (*satisfies Science for core*)
  Advanced English Selective - 1 Course (possible Cornerstone Selective)
- ENGL 20500 - Introduction To Creative Writing **Credits:** 3.00 or
- ENGL 30400 - Advanced Composition **Credits:** 3.00 or
- ENGL 41900 - Multimedia Writing **Credits:** 3.00 or
- ENGL 42000 - Business Writing **Credits:** 3.00 or
- ENGL 42100 - Technical Writing **Credits:** 3.00
  Statistics Selective - 1 Course
- IET 31600 - Statistical Quality Control **Credits:** 3.00 or
- PSY 20100 - Introduction To Statistics In Psychology **Credits:** 3.00 or
- STAT 22500 - Introduction To Probability Models **Credits:** 3.00 or
- STAT 30100 - Elementary Statistical Methods **Credits:** 3.00 or
- STAT 35000 - Introduction To Statistics **Credits:** 3.00
- Human Cultures: Humanities Selective (HUM) Core - Credit Hours: 3.00 (satisfies Human Cultures: Humanities for core & possible Cornerstone Selective)
- Human Cultures: Behavioral/Social Science (BSS) Core - Credit Hours: 3.00 (satisfies Human Culture Behavior/Social Science for core)
- Humanities Elective - Credit Hours: 6.00 (possible Cornerstone Selective)
- Science (SCI) Core - Credit Hours: 3.00 (satisfies Science for core)
- CGT Global Selective - Credit Hours: 3.00 (possible Cornerstone Selective)
- Technical Electives - Credit Hours: 12.00

Electives (14 Credits)

Electives (any course, any subject) - Credit Hours: 14.00

Cornerstone Certificate

- Cornerstone Certificate is required with this major.

Supplemental Lists

Click here for Animation And Visual Effects & Themed Entertainment Design Supplemental Information.

Grade Requirements

- Students must earn a "C-" or better in all CGT courses.
- Students must earn an "S" in CGT 20500, 30505, 40500.
- Purdue policy states that a student may attempt a course no more than three (3) times. An attempt is defined as all courses displayed on a student's transcript including, but not limited to A,B,C,D,E,F,W,WF,I and IF.

GPA Requirements

- 2.00 Graduation GPA required for Bachelor of Science degree.

Course Requirements and Notes

A course can only satisfy one degree requirement in the plan of study.

Non-course / Non-credit Requirements

- Intercultural Requirement - Credit Hours: 0.00
- Humanities Requirement - Credit Hours: 0.00
- Professional Requirement - Credit Hours: 0.00

See Supplemental Information for details.

Pass/No Pass Policy

- Pass/No Pass may be allowed for Electives or Technical Electives only.

Transfer Credit Policy

CGT adheres to the admissions office Transfer Credit Course Equivalency Guide.

University Requirements

University Core Requirements

For a complete listing of University Core Course Selectives, visit the <u>Provost's Website</u>**.**

- Human Cultures: Behavioral/Social Science (BSS)
- Human Cultures: Humanities (HUM)
- Information Literacy (IL)
- Oral Communication (OC)
- Quantitative Reasoning (QR)
- Science #1 (SCI)
- Science #2 (SCI)
- Science, Technology, and Society (STS)
- Written Communication (WC)

Civics Literacy Proficiency Requirement

The Civics Literacy Proficiency activities are designed to develop civic knowledge of Purdue students in an effort to graduate a more informed citizenry. For more information visit the Civics Literacy Proficiency website.

Students will complete the Proficiency by passing a test of civic knowledge, and completing <u>one of three</u> paths:

- Attending six approved civics-related events and completing an assessment for each; or
- Completing 12 podcasts created by the Purdue Center for C-SPAN Scholarship and Engagement that use C-SPAN material and completing an assessment for each; or
- Earning a passing grade for one of **these approved courses** (or transferring in approved AP or departmental credit in lieu of taking a course).

Upper Level Requirement

- Resident study at Purdue University for at least two semesters and the enrollment in and completion of at least 32 semester hours of coursework required and approved for the completion of the degree. These courses are expected to be at least junior-level (30000+) courses.
- Students should be able to fulfill *most*, *if not all*, of these credits within their major requirements; there should be a clear pathway for students to complete any credits not completed within their major.

Sample 4-Year Plan

Fall 1st Year

- CGT 11200 - Sketching For Visualization And Communication **Credits:** 3.00
- CGT 11800 - Fundamentals Of Imaging Technology **Credits:** 3.00
- CGT 12300 - Animation Foundations **Credits:** 3.00
- CGT 14100 - Internet Foundations Technologies And Development **Credits:** 3.00
- MA 15800 - Precalculus - Functions And Trigonometry **Credits:** 3.00

15 Credits

Spring 1st Year

- CGT 11600 - Geometric Modeling For Visualization And Communication **Credits:** 3.00
- CGT 17208 - User Experience Design Studio I: Fundamentals **Credits:** 3.00
- CGT 24100 - Introduction To Computer Animation **Credits:** 3.00
- CGT 27000 - Introduction To Data Visualization **Credits:** 3.00
- MA 16010 - Applied Calculus I **Credits:** 3.00

15 Credits

Fall 2nd Year

- SCLA 10100 - Transformative Texts, Critical Thinking And Communication I: Antiquity To Modernity **Credits:** 3.00 ♦ or
- SCLA 10200 - Transformative Texts, Critical Thinking And Communication II: Modern World **Credits:** 3.00 ♦
- CGT 14700 - Visual Effects Introduction **Credits:** 3.00
- CGT Entertainment Selective - Credit Hours: 3.00
- Human Cultures: Humanities (HUM) Core - Credit Hours: 3.00
- Technical Elective - Credit Hours: 3.00

15 Credits

Spring 2nd Year

- CGT 20500 - Portfolio Review **Credits:** 0.00
- CGT 25001 - Computer Graphics Professional Practices I **Credits:** 1.00
- PHYS 22000 - General Physics **Credits:** 4.00
- SCLA 10200 - Transformative Texts, Critical Thinking And Communication II: Modern World **Credits:** 3.00 ♦ or
- SCLA 10100 - Transformative Texts, Critical Thinking And Communication I: Antiquity To Modernity **Credits:** 3.00 ♦
- CGT Entertainment Selective - Credit Hours: 3.00
- Elective - Credit Hours: 3.00

14 Credits

Fall 3rd Year

- CGT 44200 - Production For Computer Animation **Credits:** 3.00
  Statistics Selective - 1 Course
- IET 31600 - Statistical Quality Control **Credits:** 3.00 or
- PSY 20100 - Introduction To Statistics In Psychology **Credits:** 3.00 or
- STAT 22500 - Introduction To Probability Models **Credits:** 3.00 or
- STAT 30100 - Elementary Statistical Methods **Credits:** 3.00 or
- STAT 35000 - Introduction To Statistics **Credits:** 3.00

- CGT Entertainment Selective - Credit Hours: 3.00
- Science (SCI) Core - Credit Hours: 3.00
- Technical Elective - Credit Hours: 3.00

15 Credits

Spring 3rd Year

- CGT 30505 - Portfolio II **Credits:** 0.00
- CGT 44200 - Production For Computer Animation **Credits:** 3.00
- CGT Entertainment Selective - Credit Hours: 3.00
- Humanities Elective - Credit Hours: 3.00
- Human Cultures: Behavioral/Social Science (BSS) Core - Credit Hours: 3.00
- CGT Global Selective - Credit Hours: 3.00

15 Credits

Fall 4th Year

- CGT 41101 - Contemporary Problems In Applied Computer Graphics I **Credits:** 2.00
- CGT Entertainment Selective - Credit Hours: 3.00
- Elective - Credit Hours: 2.00
- Technical Elective - Credit Hours: 3.00
- Humanities Elective - Credit Hours: 3.00
- Elective - Credit Hours: 3.00

16 Credits

Spring 4th Year

- CGT 40500 - Senior Portfolio Review **Credits:** 0.00
- CGT 41201 - Contemporary Problems In Applied Computer Graphics II **Credits:** 2.00
- CGT 45001 - Computer Graphics Professional Practices II **Credits:** 1.00
  Advanced English Selective - 1 Course (possible Cornerstone Selective)
- ENGL 20500 - Introduction To Creative Writing **Credits:** 3.00 or
- ENGL 30400 - Advanced Composition **Credits:** 3.00 or
- ENGL 41900 - Multimedia Writing **Credits:** 3.00 or
- ENGL 42000 - Business Writing **Credits:** 3.00 or
- ENGL 42100 - Technical Writing **Credits:** 3.00

- Technical Elective - Credit Hours: 3.00
- Elective - Credit Hours: 3.00
- Elective - Credit Hours: 3.00

15 Credits

Pre-Requisite Information

For pre-requisite information, log in to mypurdue.purdue.edu and click here.

Critical Course

The ♦ course is considered critical.

In alignment with the Degree Map Guidance for Indiana's Public Colleges and Universities, published by the Commission for Higher Education (pursuant to HEA 1348-2013), a Critical Course is identified as "one that a student must be able to pass to persist and succeed in a particular major. Students who want to be nurses, for example, should know that they are expected to be proficient in courses like biology in order to be successful. These would be identified by the institutions for each degree program."

Disclaimer

The student is ultimately responsible for knowing and completing all degree requirements. Consultation with an advisor may result in an altered plan customized for an individual student. The myPurduePlan powered by DegreeWorks is the knowledge source for specific requirements and completion.

Comparative information about Purdue University and other U.S. educational institutions is also available through the College Navigator tool, provided by the National Center for Education Statistics, and through the U.S. Department of Education College Scorecard.

Artificial Intelligence, BS

About the Program

Artificial Intelligence (AI) systems are increasingly being deployed for real-world tasks. Students in the AI major will master the foundations and tools for building and understanding artificial intelligence systems which reason about data, correct themselves, and make decisions. Students will explore the link between cognitive psychology, neuroscience, and AI, as well as the ethics of AI, which are integral to a holistic understanding of AI. The major will open pathways to new careers ranging from healthcare and sustainability to business and economics.

Artificial Intelligence (College of Science)

Computer Science Major Change (CODO) Requirements

Degree Requirements

120 Credits Required

Curriculum and Degree Requirements for College of Science

A College of Science degree is conferred when a student successfully completes all requirements in their degree program. Students will complete coursework or approved experiential learning activities to meet the following three degree components:

1. Major
2. Science Core Curriculum
3. Electives

Students may use any of the following options to meet College of Science degree requirements:

- Purdue Coursework
- AP, IB, and CLEP credit. The use of AP and IB coursework varies between College of Science degree plans.
- Transfer Credit. Students should consult the Admissions Transfer Credit Resource page for all available transfer options.

College of Science degree programs vary widely in their approval and use of the proceeding options and thus students are strongly encouraged to work closely with their academic advisors and to regularly consult their MyPurduePlan to view the use of each option in their degree plan.

Most College of Science degree programs contain elective credits students may use to pursue courses that relate to their interests or which support their major area of study. The elective area of a degree plan may also be used to complete minors, second majors and certificates such as the Entrepreneurial Certificate. Any Purdue course may be used to meet the elective area of a student's degree plan.

College of Science Core Requirements

All Students starting Purdue University Fall semester, 2007 or later are required to pursue the 2007 Science Core curriculum.

The College of Science Core Curriculum requires the completion of approved coursework and/or experiential learning opportunities in the following academic areas:

- Composition and Presentation
- Computing
- Cultural Diversity (Language and Culture)
- General Education
- Great Issues in Science
- Laboratory Science
- Mathematics
- Science Technology and Society
- Statistics
- Teambuilding and Collaboration

Earning Core Curricular Requirements through Experience

Students may meet selected core curriculum requirements through approved experiential learning opportunities. Interested students should contact their academic advisor for more information on this option and incorporating experiential learning into their four-year program of study. For more information on earning requirements through experience, please click here.

Departmental/Program Major Courses (62-63 credits)

Must have a C or better in all courses.

Required Major Courses (50-51 credits)

Must have a C or better in all courses.

- CS 17600 - Data Engineering In Python **Credits:** 3.00
- CS 18000 - Problem Solving And Object-Oriented Programming **Credits:** 4.00

- CS 18200 - Foundations Of Computer Science **Credits:** 3.00
- CS 24300 - Artificial Intelligence Basics **Credits:** 3.00
- CS 25300 - Data Structures And Algorithms For DS/AI **Credits:** 3.00
- CS 37300 - Data Mining And Machine Learning **Credits:** 3.00
- CS 38100 - Introduction To The Analysis Of Algorithms **Credits:** 3.00
- CS 47100 - Introduction To Artificial Intelligence **Credits:** 3.00
- PSY 12000 - Elementary Psychology **Credits:** 3.00
- MA 26100 - Multivariate Calculus **Credits:** 4.00 or
- MA 27101 - Honors Multivariate Calculus **Credits:** 5.00
- MA 26500 - Linear Algebra **Credits:** 3.00 or
- MA 35100 - Elementary Linear Algebra **Credits:** 3.00
- MA 41600 - Probability **Credits:** 3.00 or
- STAT 41600 - Probability **Credits:** 3.00
- PHIL 20700 - Ethics For Technology, Engineering, And Design **Credits:** 3.00 or
- PHIL 20800 - Ethics Of Data Science **Credits:** 3.00
- PHIL 22100 - Introduction To Philosophy Of Science **Credits:** 3.00 or
- PHIL 32200 - Philosophy Of Technology **Credits:** 3.00
- PSY 20000 - Introduction To Cognitive Psychology **Credits:** 3.00 or
- PSY 22200 - Introduction To Behavioral Neuroscience **Credits:** 3.00
- STAT 35000 - Introduction To Statistics **Credits:** 3.00 or
- STAT 51100 - Statistical Methods **Credits:** 3.00

CS Selective I (6 credits)

Must have a C or better in all courses. **Choose two:**

- CS 43900 - Introduction To Data Visualization **Credits:** 3.00
- CS 44000 - Large Scale Data Analytics **Credits:** 3.00
- CS 47300 - Web Information Search And Management **Credits:** 3.00
- CS 47500 - Human-Computer Interaction **Credits:** 3.00
- CS 57700 - Natural Language Processing **Credits:** 3.00
- CS 45800 - Introduction To Robotics **Credits:** 3.00

CS Selective II (3 credits)

Must have a C or better in all courses. **Choose one:**

- CS 34800 - Information Systems **Credits:** 3.00
- CS 44800 - Introduction To Relational Database Systems **Credits:** 3.00
- CS 48300 - Introduction To The Theory Of Computation **Credits:** 3.00
- CS 52300 - Social, Economic, And Legal Aspects Of Security **Credits:** 3.00
- CS 52900 - Security Analytics **Credits:** 3.00

Philosophy Selective (3 credits)

Must have a C or better in all courses. **Choose one:**

- PHIL 30300 - History Of Modern Philosophy **Credits:** 3.00

- PHIL 43200 - Theory Of Knowledge **Credits:** 3.00
- PHIL 43500 - Philosophy Of Mind **Credits:** 3.00

Other Departmental/Program Course Requirements (20-37 Credits)

COLLEGE OF SCIENCE CORE REQUIREMENTS

^ - Labeled as a Science Core Selection in the four year plan of study

* - Requirement may be met with a zero credit experiential learning option. See your advisor for more information.

Composition & Presentation

Written Communication (3-4 credits)

Choose one course from the Written Communication list here. (satisfies Written Communication and Information Literacy for core)

Technical Writing And Presentation* (0 or 3 credits)

Special Note: Students completing both COM 11400 (elective) and COM 21700 (Technical Writing and Presentation requirement) may use both courses to meet degree requirements.

Computing (0 credits)

Met with CS 17600.

Cultural Diversity (Language & Culture)^* (0-6 credits)

Choose courses from this list to fulfill each Option below (select courses COULD satisfy Humanities for core).

- Language & Culture Option I - fulfilled by PHIL 20700 or PHIL 20800.
- Language & Culture Option II
- Language & Culture Option III

General Education^ (0 credits)

Choose courses from this list to fulfill each Option below (select courses COULD satisfy Behavioral/Social Science for core).

- Met with PHIL 22100 or PHIL 32200.
- Met with PSY 12000.
- Met with PSY 20000 or PSY 22200.

Great Issues In Science (3 credits)

Choose one from this list.

Laboratory Science (6-8 credits)

Choose courses from this list to fulfill each Option below (satisfies Science for core).

- Laboratory Science Option I
- Laboratory Science Option II

Mathematics (8-10 credits)

(satisfies Quantitative Reasoning for core) - Must have C or better

- MA 16100 - Plane Analytic Geometry And Calculus I **Credits:** 5.00 or
- MA 16500 - Analytic Geometry And Calculus I **Credits:** 4.00
- MA 16200 - Plane Analytic Geometry And Calculus II **Credits:** 5.00 or
- MA 16600 - Analytic Geometry And Calculus II **Credits:** 4.00

Science, Technology, and Society^* (0 credits)

Met with PHIL 20700 or PHIL 20800 or PHIL 22100. (satisfies Science, Technology, Society for core)

Statistics (0 credits)

Met with STAT 35000 or STAT 51100.

Team-Building and Collaboration (0 credits)

Met with CS 18000.

Electives (20-38 credits)

Enrollment in freshman seminar course - CS 19300 - Tools is strongly encouraged to be taken with CS 17600. *CS 19300 is not a degree requirement.* CS 29100 - Sophomore Development Seminar *and* CS 39100 - Junior Resources Seminar *are optional but recommended.*

Grade Requirements

For this degree, all major required courses, all major electives (selectives), and their pre-requisites, regardless of department, must be completed with a grade of C or better.

GPA Requirements

- 2.0 Major and Graduation GPA required for Bachelor of Science degree.

College of Science Pass/No Pass Option Policy

- Only electives and courses at the 50000-level general education requirement may be taken under the pass/no pass option.
- The pass/no pass grade mode may be entered for courses which are not required by a student's major(s), minor(s) or science core curriculum.
- Grade mode Passing is equivalent to at a minimum grade of C- had a letter grade been awarded.
- Students may elect to use the pass/no pass option for no more than 20% of the 124/120 credit requirement for graduation and for no more than two courses per academic year (Fall-Summer).
- The pass/no pass option cannot be elected for a course that has already been completed with a letter grade. University Regulation.
- Students may take elective credit while abroad using the P/NP mode. In the case of universities which only post P/NP, the University will apply a calculation process to determine a letter grade.
- Department of Languages and Cultures P/NP policy and Language Placement results. Students must take advanced coursework for a letter grade to receive credit for lower-level language courses.

College of Science Transfer Credit Policy

College of Science degree programs vary widely in their approval and use of non-Purdue originated credit (AP, IB, CLEP, and transfer credit). Students work closely with their academic advisors and degree plan audits to review the use and approval of each non-Purdue credit option.

University Requirements

University Core Requirements

For a complete listing of University Core Course Selectives, visit the <u>Provost's Website</u>**.**

- Human Cultures: Behavioral/Social Science (BSS)
- Human Cultures: Humanities (HUM)
- Information Literacy (IL)
- Oral Communication (OC)
- Quantitative Reasoning (QR)
- Science #1 (SCI)
- Science #2 (SCI)
- Science, Technology, and Society (STS)
- Written Communication (WC)

Civics Literacy Proficiency Requirement

The Civics Literacy Proficiency activities are designed to develop civic knowledge of Purdue students in an effort to graduate a more informed citizenry. For more information visit the Civics Literacy Proficiency website.

Students will complete the Proficiency by passing a test of civic knowledge, and completing <u>one of three</u> paths:

- Attending six approved civics-related events and completing an assessment for each; or
- Completing 12 podcasts created by the Purdue Center for C-SPAN Scholarship and Engagement that use C-SPAN material and completing an assessment for each; or
- Earning a passing grade for one of **these approved courses** (or transferring in approved AP or departmental credit in lieu of taking a course).

Upper Level Requirement

- Resident study at Purdue University for at least two semesters and the enrollment in and completion of at least 32 semester hours of coursework required and approved for the completion of the degree. These courses are expected to be at least junior-level (30000+) courses.
- Students should be able to fulfill *most*, *if not all*, of these credits within their major requirements; there should be a clear pathway for students to complete any credits not completed within their major.

Sample 4-year Plan

All Major core courses and Major elective requirements, regardless of department, must be completed with a grade of "C" or higher. All prerequisites to Major core courses and Major elective requirements, regardless of department, must be completed with a grade of C or higher.

Fall 1st Year

- CS 17600 - Data Engineering In Python **Credits:** 3.00
- PSY 12000 - Elementary Psychology **Credits:** 3.00
- MA 16100 - Plane Analytic Geometry And Calculus I **Credits:** 5.00 or
- MA 16500 - Analytic Geometry And Calculus I **Credits:** 4.00
- Science Core Selection - Credit Hours: 3.00-4.00 (English Composition suggested.)
- Elective - Credit Hours: 1.00
- Elective - Credit Hours: 1.00 (CS 19300 suggested.)

15-17 Credits

Spring 1st Year

- CS 18000 - Problem Solving And Object-Oriented Programming **Credits:** 4.00
- CS 18200 - Foundations Of Computer Science **Credits:** 3.00
- MA 16200 - Plane Analytic Geometry And Calculus II **Credits:** 5.00 or
- MA 16600 - Analytic Geometry And Calculus II **Credits:** 4.00
- PSY 20000 - Introduction To Cognitive Psychology **Credits:** 3.00 or
- PSY 22200 - Introduction To Behavioral Neuroscience **Credits:** 3.00

14-15 Credits

Fall 2nd Year

- CS 24300 - Artificial Intelligence Basics **Credits:** 3.00
- MA 26100 - Multivariate Calculus **Credits:** 4.00 or
- MA 27101 - Honors Multivariate Calculus **Credits:** 5.00
- STAT 35000 - Introduction To Statistics **Credits:** 3.00
- STAT 51100 - Statistical Methods **Credits:** 3.00
- PHIL 20700 - Ethics For Technology, Engineering, And Design **Credits:** 3.00 or
- PHIL 20800 - Ethics Of Data Science **Credits:** 3.00

- Science Core Selection - Credit Hours: 3.00-4.00

16-18 Credits

Spring 2nd Year

- CS 25300 - Data Structures And Algorithms For DS/AI **Credits:** 3.00
- MA 26500 - Linear Algebra **Credits:** 3.00
  OR
- MA 41600 - Probability **Credits:** 3.00
  OR
- MA 35100 - Elementary Linear Algebra **Credits:** 3.00
- STAT 41600 - Probability **Credits:** 3.00
- PHIL 22100 - Introduction To Philosophy Of Science **Credits:** 3.00
  OR
- PHIL 32200 - Philosophy Of Technology **Credits:** 3.00
- Science Core Selection - Credit Hours: 3.00-4.00

15-16 Credits

Fall 3rd Year

- CS 37300 - Data Mining And Machine Learning **Credits:** 3.00
- CS Selective I - Credit Hours: 3.00
- Philosophy Selective - Credit Hours: 3.00
- Science Core Selection - Credit Hours: 3.00-4.00
- Science Core Selection - Credit Hours: 3.00-4.00

15-17 Credits

Spring 3rd Year

- CS 38100 - Introduction To The Analysis Of Algorithms **Credits:** 3.00
- Science Core Selection - Credit Hours: 3.00-4.00
- Science Core Selection - Credit Hours: 3.00-4.00
- Elective - Credit Hours: 3.00
- Elective - Credit Hours: 3.00

15-17 Credits

Fall 4th Year

- CS 47100 - Introduction To Artificial Intelligence **Credits:** 3.00
- CS Selective I - Credit Hours: 3.00
- Science Core Selection - Credit Hours: 3.00-4.00
- Science Core Selection - Credit Hours: 3.00-4.00

- Elective - Credit Hours: 3.00

15-17 Credits

Spring 4th Year

- CS Selective II - Credit Hours: 3.00
- Science Core Selection - Credit Hours: 3.00-4.00
- Science Core Selection - Credit Hours: 3.00-4.00
- Elective - Credit Hours: 3.00
- Elective - Credit Hours: 3.00

15-17 Credits

Pre-Requisite Information

For pre-requisite information, log in to mypurdue.purdue.edu and click here.

World Language Courses

World Language proficiency requirements vary by program. The following list is inclusive of all world languages PWL offers for credit; for acceptable languages and proficiency levels, see your advisor. (ASL-American Sign Language; ARAB-Arabic; CHNS-Chinese; FR-French; GER-German; GREK-Greek(Ancient); HEBR-Hebrew(Biblical); HEBR-Hebrew(Modern); ITAL-Italian; JPNS-Japanese; KOR-Korean; LATN-Latin; PTGS=Portuguese; RUSS-Russian; SPAN-Spanish)

Critical Course

The ♦ course is considered critical.

In alignment with the Degree Map Guidance for Indiana's Public Colleges and Universities, published by the Commission for Higher Education (pursuant to HEA 1348-2013), a Critical Course is identified as "one that a student must be able to pass to persist and succeed in a particular major. Students who want to be nurses, for example, should know that they are expected to be proficient in courses like biology in order to be successful. These would be identified by the institutions for each degree program."

Disclaimer

The student is ultimately responsible for knowing and completing all degree requirements. Consultation with an advisor may result in an altered plan customized for an individual student. The myPurduePlan powered by DegreeWorks is the knowledge source for specific requirements and completion.

Comparative information about Purdue University and other U.S. educational institutions is also available through the College Navigator tool, provided by the National Center for Education Statistics, and through the U.S. Department of Education College Scorecard.

Computer and Information Technology, BS

About the Program

The Computer and Information Technology major is part of the Computer and Information Technology program. The Computer and Information Technology program is accredited by the Computing Accreditation Commission of ABET, www.abet.org.

As computers find their way into every part of our lives, information technology professionals are needed to keep the systems functioning and the data safe. Your information technology courses and problem-solving skills will prepare you for careers in almost any industry. You'll learn how to increase efficiencies as you work with computer applications, management information systems, databases, and computer networks. Computer and information technology courses provide students with strong technical skills, a thorough understanding of business needs, and the ability to communicate effectively with customers, peers, and industry leaders.

Computer and Information Technology Website

Computer and Information Technology Department Major Change (CODO) Requirements

Degree Requirements

120 Credits Required

Departmental/Program Major Courses (51 credits)

A C- GPA is required across all CNIT courses

Computer and Information Technology Required Major Courses (30 credits)

- CNIT 15501 - Introduction To Software Development Concepts **Credits:** 3.00
- CNIT 17600 - Information Technology Architectures **Credits:** 3.00 (satisfies Informational Literacy for core)
- CNIT 18000 - Introduction To Systems Development **Credits:** 3.00 (Gateway to CIT)
- CNIT 24200 - System Administration **Credits:** 3.00
- CNIT 25501 - Object-Oriented Programming Introduction **Credits:** 3.00
- CNIT 27000 - Cybersecurity Fundamentals I **Credits:** 3.00
- CNIT 27200 - Database Fundamentals **Credits:** 3.00
- CNIT 28000 - Systems Analysis And Design Methods **Credits:** 3.00
- CNIT 32000 - Policy, Regulation, And Globalization In Information Technology **Credits:** 3.00
- CNIT 48000 - Managing Information Technology Projects **Credits:** 3.00

Programming Selective (3 credits)

- CNIT 31500 - Systems Programming **Credits:** 3.00 or
- CNIT 32500 - Object-Oriented Application Development **Credits:** 3.00

Database Selective (3 credits)

- CNIT 37200 - Database Programming **Credits:** 3.00 or

- CNIT 39200 - Enterprise Data Management **Credits:** 3.00

Information Technology Selectives (15 credits)

At least nine credits must be CNIT courses.

- Any non-required 30000 level or higher CNIT course or EPICS (EPCS): participation in EPICS requires responsibility for an IT component and CIT faculty approval; CGT courses 30000 level or higher

CIT Common Core (42 credits)

Composition Selective (satisfies Written Communication for core) - Credit Hours: 3.00

- SCLA 10100 - Transformative Texts, Critical Thinking And Communication I: Antiquity To Modernity **Credits:** 3.00 or
- ENGL 10600 - First Year Composition With Conferences **Credits:** 4.00 or
- ENGL 10800 - First Year Composition **Credits:** 3.00 or
- HONR 19903 - Interdisciplinary Approaches In Writing **Credits:** 3.00

Introductory Oral Communication Selective (satisfies Oral Communication for core) - Credit Hours: 3.00

- SCLA 10200 - Transformative Texts, Critical Thinking And Communication II: Modern World **Credits:** 3.00 or
- COM 11400 - Fundamentals Of Speech Communication **Credits:** 3.00

Calculus I (satisfies Quantitative Reasoning for core) - Credit Hours: 3.00

- MA 16010 - Applied Calculus I **Credits:** 3.00

Calculus II (satisfies Quantitative Reasoning for core) - Credit Hours: 3.00

- MA 16020 - Applied Calculus II **Credits:** 3.00

Design Thinking (satisfies Information Literacy and Science, Technology & Society Selective for core) - Credit Hours: 3.00

- TECH 12000 - Design Thinking In Technology **Credits:** 3.00

Behavioral/Social Science Foundational Selective (satisfies Human Culture Behavioral/Social Science for core) - Credit Hours: 3.00

Human Cultures: Behavioral/Social Sciences (BSS)

Three credits required from the Human Cultures: Behavioral/Social Sciences (BSS) list.

Humanities Selective (satisfies Human Cultures: Humanities for core) - Credit Hours: 3.00

Human Cultures: Humanities (HUM)

Three credits required from the Human Cultures: Humanities (HUM) list.

Science Selective (satisfies Science for core) - Credit Hours: 3.00

Science(SCI)

Three credits required from the Science(SCI) list.

Lab Science Selective (satisfies Science for core) - Credit Hours: 3.00

Science (SCI) - with Lab Component

Three credits required from the Science(SCI) list.

Verify the course has a lab component when scheduling.

The following courses are typically offered with a lab component:

Accounting Selective - Credit Hours: 3.00

- MGMT 20000 - Introductory Accounting **Credits:** 3.00
- MGMT 21200 - Business Accounting **Credits:** 3.00

Economics Selective - Credit Hours: 3.00

 AGEC 21700 or ECON 21000: credit can only be used for one of these courses to fulfill a degree requirement.

- AGEC 21700 - Economics **Credits:** 3.00
- ECON 21000 - Principles Of Economics **Credits:** 3.00
- ECON 25100 - Microeconomics **Credits:** 3.00
- ECON 25200 - Macroeconomics **Credits:** 3.00

Communication Selective - Credit Hours: 3.00

- COM 21000 - Addressing Public Issues **Credits:** 3.00 or
- COM 21200 - Approaches To The Study Of Interpersonal Communication **Credits:** 3.00 or
- COM 22400 - Communicating In The Global Workplace **Credits:** 3.00 or
- COM 25100 - Communication, Information, And Society **Credits:** 3.00 or
- COM 30300 - Intercultural Communication **Credits:** 3.00 or
- COM 31400 - Advanced Presentational Speaking **Credits:** 3.00 or
  (COM 31400 or COM 31500: credit can only be used for one of these courses to fulfill a degree requirement.)
- COM 31500 - Speech Communication Of Technical Information **Credits:** 3.00 or
  COM 31400 or COM 31500: credit can only be used for one of these courses to fulfill a degree requirement.

- COM 31800 - Principles Of Persuasion **Credits:** 3.00 or
- COM 32400 - Introduction To Organizational Communication **Credits:** 3.00

Professional Speaking Selective - Credit Hours: 3.00

- COM 31500 - Speech Communication Of Technical Information **Credits:** 3.00 or
- COM 32000 - Small Group Communication **Credits:** 3.00 or
- COM 32500 - Interviewing: Principles And Practice **Credits:** 3.00 or
- COM 41500 - Discussion Of Technical Problems **Credits:** 3.00

Professional Writing Selective - Credit Hours: 3.00

- ENGL 41900 - Multimedia Writing **Credits:** 3.00 or
- ENGL 42000 - Business Writing **Credits:** 3.00 or
- ENGL 42100 - Technical Writing **Credits:** 3.00

Professional IT Experience Requirement

If a student selects the course option, they must enroll in 3 credits total.

- CNIT 39000 - Supervised Practicum **Credits:** 1.00 to 3.00
- TDM 11100 - Corporate Partners I **Credits:** 3.00
- TDM 11200 - Corporate Partners II **Credits:** 3.00
- TDM 21100 - Corporate Partners III **Credits:** 3.00
- TDM 21200 - Corporate Partners IV **Credits:** 3.00
- TDM 31100 - Corporate Partners V **Credits:** 3.00
- TDM 31200 - Corporate Partners VI **Credits:** 3.00
- TDM 41100 - Corporate Partners VII **Credits:** 3.00
- TDM 41200 - Corporate Partners VIII **Credits:** 3.00

Globalization Requirement - Credit Hours: 0.00

All students must complete the Polytechnic Growth Plan for Global Awareness and Intercultural Competency.

Step 1: Complete the Pre-test Intercultural Development Inventory Assessments (1st year)

Step 2: Complete CNIT 32000 or CNIT 37100

Step 3: Complete the Post-test Intercultural Development Inventory Assessments (4th year)

NOTE FOR TRANSFER/CODO STUDENTS: Transfer and CODO students with less than 75 credit hours remaining to completed their Polytechnic Plan of Study are exempt from Step 1 (taking the IDI Pretest).

Other Departmental/Program Course Requirements (24 credits)

- TLI 11200 - Foundations Of Organizational Leadership **Credits:** 3.00

Statistics Selective - Credit Hours: 3.00

- STAT 22500 - Introduction To Probability Models **Credits:** 3.00 or
- STAT 30100 - Elementary Statistical Methods **Credits:** 3.00 or
- STAT 50100 - Experimental Statistics I **Credits:** 3.00 or
- STAT 51100 - Statistical Methods **Credits:** 3.00

General Business - Credit Hours: 3.00

- TLI 15200 - Business Principles For Organizational Leadership **Credits:** 3.00

Interdisciplinary Selective - Credit Hours: 15.00

Globalization Requirement - Credit Hours: 0.00

Elective (3 credits)

- Elective (non-remedial course) - Credit Hours: 3.00

Supplemental List

Click here for Computer and Information Technology Supplemental Information.

Supplemental List

Click here for Computer and Information Technology Supplemental Information.

Grade Requirements

- Students must earn a C- or better in all CNIT courses that are a prerequisite to another CNIT course
- Any course taken at Purdue can be attempted no more than three times (inclusive of W, WF, WN, I, and IF)

GPA Requirements

- 2.0 Cummulative GPA required for Bachelor of Science degree
- 2.0 Cummulative GPA in all CNIT courses required for Bachelor of Science degree

Course Requirements and Notes

- Courses with the ♦ are essential for the CIT degree critical path to graduation
- Students must select courses from Computer and Information Technology Supplemental Information.
- Credit cannot be earned for both AGEC 21700 and ECON 21000 to fulfill degree requirements

- Credit cannot be earned for both COM 31400 and COM 31500 to fulfill degree requirements
- A single course may not fulfill multiple requirements within the CIT BS degree

Non-course / Non-credit Requirements

- Co-Curricular Requirements include the following:
  - Professional IT Experience
  - Globalization requirement

Pass/No Pass Policy

College, department, major P/NP policy. Any exceptions to the rule should also be included.

Transfer Credit Policy

College, department, major transfer credit (including any/all undistributed credit, TR graded course, AP/IB credit, etc.) should be clearly stated. Can transfer credit be applied to the major? If yes, how and where?

University Requirements

University Core Requirements

For a complete listing of University Core Course Selectives, visit the <u>Provost's Website</u>.

- Human Cultures: Behavioral/Social Science (BSS)
- Human Cultures: Humanities (HUM)
- Information Literacy (IL)
- Oral Communication (OC)
- Quantitative Reasoning (QR)
- Science #1 (SCI)
- Science #2 (SCI)
- Science, Technology, and Society (STS)
- Written Communication (WC)

Civics Literacy Proficiency Requirement

The Civics Literacy Proficiency activities are designed to develop civic knowledge of Purdue students in an effort to graduate a more informed citizenry. For more information visit the Civics Literacy Proficiency website.

Students will complete the Proficiency by passing a test of civic knowledge, and completing <u>one of three</u> paths:

- Attending six approved civics-related events and completing an assessment for each; or
- Completing 12 podcasts created by the Purdue Center for C-SPAN Scholarship and Engagement that use C-SPAN material and completing an assessment for each; or
- Earning a passing grade for one of **these approved courses** (or transferring in approved AP or departmental credit in lieu of taking a course).

Upper Level Requirement

- Resident study at Purdue University for at least two semesters and the enrollment in and completion of at least 32 semester hours of coursework required and approved for the completion of the degree. These courses are expected to be at least junior-level (30000+) courses.
- Students should be able to fulfill *most*, *if not all*, of these credits within their major requirements; there should be a clear pathway for students to complete any credits not completed within their major.

Additional Information

Any additional information that does not fit into any of the categories above.

Sample 4-Year Plan

Fall 1st Year

- CNIT 18000 - Introduction To Systems Development **Credits:** 3.00
- TLI 11200 - Foundations Of Organizational Leadership **Credits:** 3.00
- SCLA 10100 - Transformative Texts, Critical Thinking And Communication I: Antiquity To Modernity **Credits:** 3.00 or
- ENGL 10600 - First Year Composition With Conferences **Credits:** 4.00 or
- ENGL 10800 - First Year Composition **Credits:** 3.00 or
- HONR 19903 - Interdisciplinary Approaches In Writing **Credits:** 3.00
- MA 16010 - Applied Calculus I **Credits:** 3.00
- TECH 12000 - Design Thinking In Technology **Credits:** 3.00 ♦

15 Credits

Spring 1st Year

- CNIT 15501 - Introduction To Software Development Concepts **Credits:** 3.00
- CNIT 17600 - Information Technology Architectures **Credits:** 3.00
- SCLA 10200 - Transformative Texts, Critical Thinking And Communication II: Modern World **Credits:** 3.00 or
- COM 11400 - Fundamentals Of Speech Communication **Credits:** 3.00
- MA 16020 - Applied Calculus II **Credits:** 3.00
- Behavioral/Social Sciences Foundational Selective - Credit Hours: 3.00

15 Credits

Fall 2nd Year

- CNIT 27200 - Database Fundamentals **Credits:** 3.00

- CNIT 28000 - Systems Analysis And Design Methods **Credits:** 3.00
- CNIT 24200 - System Administration **Credits:** 3.00
- TLI 15200 - Business Principles For Organizational Leadership **Credits:** 3.00
- Science Selective - Credit Hours: 3.00

15 Credits

Spring 2nd Year

- CNIT 25501 - Object-Oriented Programming Introduction **Credits:** 3.00
- CNIT 27000 - Cybersecurity Fundamentals I **Credits:** 3.00
- COM 21000 - Addressing Public Issues **Credits:** 3.00 or
- COM 21200 - Approaches To The Study Of Interpersonal Communication **Credits:** 3.00 or
- COM 22400 - Communicating In The Global Workplace **Credits:** 3.00 or
- COM 25100 - Communication, Information, And Society **Credits:** 3.00 or
- COM 31400 - Advanced Presentational Speaking **Credits:** 3.00 or
- COM 31500 - Speech Communication Of Technical Information **Credits:** 3.00 or
- COM 31800 - Principles Of Persuasion **Credits:** 3.00 or
- COM 32000 - Small Group Communication **Credits:** 3.00 or
- COM 32400 - Introduction To Organizational Communication **Credits:** 3.00
- STAT 22500 - Introduction To Probability Models **Credits:** 3.00 or
- STAT 30100 - Elementary Statistical Methods **Credits:** 3.00 or
- STAT 50100 - Experimental Statistics I **Credits:** 3.00 or
- STAT 51100 - Statistical Methods **Credits:** 3.00
- Lab Science Selective - Credit Hours: 3.00

15 Credits

Fall 3rd Year

- CNIT 31500 - Systems Programming **Credits:** 3.00 or
- CNIT 32500 - Object-Oriented Application Development **Credits:** 3.00
- MGMT 20000 - Introductory Accounting **Credits:** 3.00 or
- MGMT 21200 - Business Accounting **Credits:** 3.00
- COM 31500 - Speech Communication Of Technical Information **Credits:** 3.00 or
- COM 32000 - Small Group Communication **Credits:** 3.00 or
- COM 32500 - Interviewing: Principles And Practice **Credits:** 3.00 or
- COM 41500 - Discussion Of Technical Problems **Credits:** 3.00 ♦
- AGEC 21700 - Economics **Credits:** 3.00 or
- ECON 21000 - Principles Of Economics **Credits:** 3.00 or
- ECON 25100 - Microeconomics **Credits:** 3.00 or
- ECON 25200 - Macroeconomics **Credits:** 3.00
- Information Technology Selective - Credit Hours: 3.00

15 Credits

Spring 3rd Year

- CNIT 37200 - Database Programming **Credits:** 3.00 or
- CNIT 39200 - Enterprise Data Management **Credits:** 3.00
- CNIT 32000 - Policy, Regulation, And Globalization In Information Technology **Credits:** 3.00
- Information Technology Selective - Credit Hours: 3.00
- ENGL 41900 - Multimedia Writing **Credits:** 3.00 or
- ENGL 42000 - Business Writing **Credits:** 3.00 or
- ENGL 42100 - Technical Writing **Credits:** 3.00 or

15 Credits

Fall 4th Year

- CNIT 48000 - Managing Information Technology Projects **Credits:** 3.00
- Information Technology Selective - Credit Hours: 3.00
- Humanities Foundational Selective - Credit Hours: 3.00
- Interdisciplinary Selective - Credit Hours: 3.00
- Interdisciplinary Selective - Credit Hours: 3.00

15 Credits

Spring 4th Year

- Elective - Credit Hours: 3.00
- Information Technology Selective - Credit Hours: 3.00
- Information Technology Selective - Credit Hours: 3.00
- Interdisciplinary Selective - Credit Hours: 3.00
- Interdisciplinary Selective - Credit Hours: 3.00

15 Credits

Critical Course

The ♦ course is considered critical.

In alignment with the Degree Map Guidance for Indiana's Public Colleges and Universities, published by the Commission for Higher Education (pursuant to HEA 1348-2013), a Critical Course is identified as "one that a student must be able to pass to persist and succeed in a particular major. Students who want to be nurses, for example, should know that they are expected to be proficient in courses like biology in order to be successful. These would be identified by the institutions for each degree program."

Disclaimer

The student is ultimately responsible for knowing and completing all degree requirements. Consultation with an advisor may result in an altered plan customized for an individual student. The myPurduePlan powered by DegreeWorks is the knowledge source for specific requirements and completion.

Comparative information about Purdue University and other U.S. educational institutions is also available through the College Navigator tool, provided by the National Center for Education Statistics, and through the U.S. Department of Education College Scorecard.

Computer Engineering Technology, BS

About the Program

The Computer Engineering Technology major is part of the Electrical Engineering Technology program. The Electrical Engineering Technology program is accredited by the Engineering Technology Accreditation Commission of ABET, https://www.abet.org, under the commission's general criteria and program criteria for Electrical/Electronic(s) Engineering Technology and similarly named programs.

Computer Engineering Technology

School of Engineering Technology Major Change (CODO) Requirements

Degree Requirements

120 Credits Required

Departmental/Program Major Courses (52 credits)

Required Major Courses (49 credits)

- ENGT 18200 - Gateway To Engineering Technology **Credits:** 4.00
- ECET 17700 - Data Acquisition And Systems Control **Credits:** 3.00
- ECET 17900 - Introduction To Digital Systems **Credits:** 3.00
- ECET 22700 - DC And Pulse Electronics **Credits:** 3.00 ♦
- ECET 22900 - Concurrent Digital Systems **Credits:** 3.00
- ECET 27000 - Electronics Prototype Development And Construction **Credits:** 3.00
- ECET 27400 - Wireless Communications **Credits:** 3.00
- ECET 27900 - Embedded Digital Systems **Credits:** 3.00 ♦
- ECET 32900 - Advanced Embedded Digital Systems **Credits:** 3.00
- ECET 33900 - Digital Signal Processing **Credits:** 3.00
- ECET 34900 - Advanced Digital Systems **Credits:** 3.00
- Computer Engineering Technology Selective - Credit Hours: 6.00
- ECET Selective - Credit Hours: 3.00
- Senior Capstone Selective I - Credit Hours: 3.00
- Senior Capstone Selective II - Credit Hours: 3.00

Other Departmental/Program Course Requirements (65 credits)

- CNIT 17600 - Information Technology Architectures **Credits:** 3.00
- CNIT 18000 - Introduction To Systems Development **Credits:** 3.00
- CNIT 25501 - Object-Oriented Programming Introduction **Credits:** 3.00
- CNIT 34400 - Network Engineering Fundamentals **Credits:** 3.00
- TECH 12000 - Design Thinking In Technology **Credits:** 3.00 ♦ (satisfies Information Literacy and Science, Technology & Society for core)
  Intro to C Programming Selective (3 credits)
- CNIT 10500 - Introduction To C Programming **Credits:** 3.00 (preferred) or
- CS 15900 - C Programming **Credits:** 3.00
  Applied Calculus I Selective (3-5 credits) **-** satisfies Quantitative Reasoning for core
- MA 16010 - Applied Calculus I **Credits:** 3.00 (preferred) or
- MA 16100 - Plane Analytic Geometry And Calculus I **Credits:** 5.00 or
- MA 16500 - Analytic Geometry And Calculus I **Credits:** 4.00
  Applied Calculus II Selective (3-5 credits)
- MA 16020 - Applied Calculus II **Credits:** 3.00 (preferred) or
- MA 16200 - Plane Analytic Geometry And Calculus II **Credits:** 5.00 or
- MA 16600 - Analytic Geometry And Calculus II **Credits:** 4.00
  General Physics I Selective (4 credits) **-** satisfies Science for core
- PHYS 22000 - General Physics **Credits:** 4.00 (preferred) or
- PHYS 17200 - Modern Mechanics **Credits:** 4.00
  General Physics II Selective (3-4 credits) **-** satisfies Science for core
- PHYS 22100 - General Physics **Credits:** 4.00 (preferred) or
- PHYS 24100 - Electricity And Optics **Credits:** 3.00 or
- PHYS 27200 - Electric And Magnetic Interactions **Credits:** 4.00
  Statistics Selective (3 credits)
- STAT 22500 - Introduction To Probability Models **Credits:** 3.00 or
- STAT 30100 - Elementary Statistical Methods **Credits:** 3.00
  English Composition Selective (3-4 credits) **-** satisfies Written Communication for core
- ENGL 10600 - First Year Composition With Conferences **Credits:** 4.00 or
- ENGL 10800 - First Year Composition **Credits:** 3.00 or
- HONR 19903 - Interdisciplinary Approaches In Writing **Credits:** 3.00 or
- SCLA 10100 - Transformative Texts, Critical Thinking And Communication I: Antiquity To Modernity **Credits:** 3.00
  Freshman Speech Selective (3 credits) **-** satisfies Oral Communication for core)
- COM 11400 - Fundamentals Of Speech Communication **Credits:** 3.00 or
- SCLA 10200 - Transformative Texts, Critical Thinking And Communication II: Modern World **Credits:** 3.00
  Industrial Economics Selective (3 credits)
- AGEC 33000 - Management Methods For Agricultural Business **Credits:** 3.00 or
- AGEC 35200 - Quantitative Techniques For Firm Decision Making **Credits:** 3.00 or
- IET 33400 - Economic Analysis For Technology Systems **Credits:** 3.00 or
- MGMT 20000 - Introductory Accounting **Credits:** 3.00 or
- MGMT 21200 - Business Accounting **Credits:** 3.00
  Written Communication Selective (3 credits)
- ENGL 20500 - Introduction To Creative Writing **Credits:** 3.00 or
- ENGL 30400 - Advanced Composition **Credits:** 3.00 or
- ENGL 42000 - Business Writing **Credits:** 3.00 or
- ENGL 42100 - Technical Writing **Credits:** 3.00 or
- ENGL 42400 - Writing For High Technology Industries **Credits:** 3.00
- **Business Selective** - Credit Hours: 3.00 (may satisfy Human Culture: Behavioral/Social Sciences for core)

- **General Education Selectives** - Credit Hours: 12.00 (may satisfy Human Culture: Humanities and Human Culture: Behavioral/Social Sciences for core)
- **Global/ Professional Selective** - Credit Hours: 3.00
- **Oral Communication Selectives** - Credit Hours: 3.00 (Any communications COM course at the 20000+ level or higher.)
- **Intercultural Requirement** - Credit Hours: 0.00
- **Professional Requirement** - Credit Hours: 0.00

Elective (3 credits)

- Any non-remedial course.

Supplemental List

Computer Engineering Technology Supplemental Information

Professional Requirement

The SOET Professional Experience requirement is intended to document those experiences which help expose SOET students to the expectations of their professional prior to graduation. This may occur through industrial experience, technical or administrative involvement with community service, military service, et cetera. Approval has been granted for the following experiences. Additional experiences may also satisfy this graduation requirement. Requests for approval should be submitted to the SOET Curriculum Subcommittee Chair for consideration, allowing at least four academic weeks for review and response. See supplemental information for approved experiences.

Grade Requirements

- Students must earn a "D-" or better in all courses. Pass/no pass grading allowed for General Education Selectives and Electives (up to 15 hrs).
- Courses at Purdue University may only be attempted a maximum of three (3) times, including W, WF, I, IF and all graded attempts.

GPA Requirements

- 2.0 Graduation GPA is required for the Bachelor of Science degree.

Course Requirements and Notes

- Human Cultures Behavioral/Social Science for University Core may be selected to satisfy either the Business Selective or a General Education Selective requirement.
- Senior Capstone Selective I/II and 12 hours of ECET lab-based courses at the 300-level or higher must be taken at Purdue University West Lafayette and/or Polytechnic Statewide.

Non-course / Non-credit Requirements

- Intercultural Requirement (ungraded) must be completed.

- Professional Requirement (ungraded) must be completed.

- Professional and Intercultural requirements will be satisfied by completion of experiences, assessments, and courses that are pre-approved by the EET Curriculum Subcommittee. Approved courses may fulfill other degree requirements.

- Choose from list: Refer to the Computer Engineering Technology Supplemental Information for a complete list of selectives and requirements (including ungraded requirements).

Pass/No Pass Policy

- Pass/no pass grading allowed for General Education Selectives and Electives (up to 15 hrs).

Transfer Credit Policy

Transfer credit from other institutions, including courses taken as dual or concurrent credit in high school, and credit from testing such as Advanced Placement and International Baccalaureate that are an exact match for Purdue courses, may be applied to degree requirements.

For undistributed credit to be applied to degree requirements, the course or courses will need to be evaluated by the ECET Curriculum Committee for approval. Additional approvals will be required for courses to meet University Core Curriculum requirements. In both cases approval is not automatic.

University Requirements

University Core Requirements

For a complete listing of University Core Course Selectives, visit the Provost's Website.

- Human Cultures: Behavioral/Social Science (BSS)
- Human Cultures: Humanities (HUM)
- Information Literacy (IL)
- Oral Communication (OC)
- Quantitative Reasoning (QR)
- Science #1 (SCI)
- Science #2 (SCI)
- Science, Technology, and Society (STS)
- Written Communication (WC)

Civics Literacy Proficiency Requirement

The Civics Literacy Proficiency activities are designed to develop civic knowledge of Purdue students in an effort to graduate a more informed citizenry. For more information visit the Civics Literacy Proficiency website.

Students will complete the Proficiency by passing a test of civic knowledge, and completing one of three paths:

- Attending six approved civics-related events and completing an assessment for each; or
- Completing 12 podcasts created by the Purdue Center for C-SPAN Scholarship and Engagement that use C-SPAN material and completing an assessment for each; or

- Earning a passing grade for one of **these approved courses** (or transferring in approved AP or departmental credit in lieu of taking a course).

Upper Level Requirement

- Resident study at Purdue University for at least two semesters and the enrollment in and completion of at least 32 semester hours of coursework required and approved for the completion of the degree. These courses are expected to be at least junior-level (30000+) courses.
- Students should be able to fulfill *most*, *if not all*, of these credits within their major requirements; there should be a clear pathway for students to complete any credits not completed within their major.

Additional Information

- The Computer Engineering Technology (CEGT) major is within the Electrical Engineering Technology program.

Sample 4-Year Plan

Fall 1st Year

- ENGT 18200 - Gateway To Engineering Technology **Credits:** 4.00
- TECH 12000 - Design Thinking In Technology **Credits:** 3.00

  Intro to C Programming Selective:
- CNIT 10500 - Introduction To C Programming **Credits:** 3.00 (preferred) or
- CS 15900 - C Programming **Credits:** 3.00

  Applied Calculus I Selective:
- MA 16010 - Applied Calculus I **Credits:** 3.00 (preferred) or
- MA 16100 - Plane Analytic Geometry And Calculus I **Credits:** 5.00 or
- MA 16500 - Analytic Geometry And Calculus I **Credits:** 4.00

  English Composition Selective:
- ENGL 10600 - First Year Composition With Conferences **Credits:** 4.00 or
- ENGL 10800 - First Year Composition **Credits:** 3.00 or
- HONR 19903 - Interdisciplinary Approaches In Writing **Credits:** 3.00 or
- SCLA 10100 - Transformative Texts, Critical Thinking And Communication I: Antiquity To Modernity **Credits:** 3.00

16 Credits

Spring 1st Year

- ECET 17700 - Data Acquisition And Systems Control **Credits:** 3.00
- ECET 17900 - Introduction To Digital Systems **Credits:** 3.00

   Applied Calculus II Selective:
- MA 16020 - Applied Calculus II **Credits:** 3.00 (preferred) or
- MA 16100 - Plane Analytic Geometry And Calculus I **Credits:** 5.00 or
- MA 16500 - Analytic Geometry And Calculus I **Credits:** 4.00

   General Physics I Selective:
- PHYS 22000 - General Physics **Credits:** 4.00 (preferred) or
- PHYS 17200 - Modern Mechanics **Credits:** 4.00

   Freshman Speech Selective:
- COM 11400 - Fundamentals Of Speech Communication **Credits:** 3.00 or
- SCLA 10200 - Transformative Texts, Critical Thinking And Communication II: Modern World **Credits:** 3.00

16 Credits

Fall 2nd Year

- ECET 22700 - DC And Pulse Electronics **Credits:** 3.00 ♦
- ECET 22900 - Concurrent Digital Systems **Credits:** 3.00

   General Physics II Selective:
- PHYS 22100 - General Physics **Credits:** 4.00 (preferred) or
- PHYS 24100 - Electricity And Optics **Credits:** 3.00 or
- PHYS 27200 - Electric And Magnetic Interactions **Credits:** 4.00
- General Education Selective - Credit Hours: 3.00
- Oral Communication Selective - Credit Hours: 3.00

16 Credits

Spring 2nd Year

- ECET 27000 - Electronics Prototype Development And Construction **Credits:** 3.00
- ECET 27400 - Wireless Communications **Credits:** 3.00
- ECET 27900 - Embedded Digital Systems **Credits:** 3.00 ♦
- CNIT 18000 - Introduction To Systems Development **Credits:** 3.00

   Written Communication Selective:
- ENGL 20500 - Introduction To Creative Writing **Credits:** 3.00 or

- ENGL 30400 - Advanced Composition **Credits:** 3.00 or
- ENGL 42000 - Business Writing **Credits:** 3.00 or
- ENGL 42100 - Technical Writing **Credits:** 3.00 or
- ENGL 42400 - Writing For High Technology Industries **Credits:** 3.00

15 Credits

Fall 3rd Year

- ECET 34900 - Advanced Digital Systems **Credits:** 3.00
- ECET 33900 - Digital Signal Processing **Credits:** 3.00
- CNIT 25501 - Object-Oriented Programming Introduction **Credits:** 3.00
- General Education Selective - Credit Hours: 3.00
- Global/ Professional Selective - Credit Hours: 3.00

15 Credits

Spring 3rd Year

- ECET 32900 - Advanced Embedded Digital Systems **Credits:** 3.00
- CNIT 17600 - Information Technology Architectures **Credits:** 3.00
- Business Selective - Credit Hours: 3.00
- Computer Engineering Technology Selective - Credit Hours: 3.00
- General Education Selective - Credit Hours: 3.00

15 Credits

Fall 4th Year

- Senior Capstone Selective I - Credit Hours: 3.00
- General Education Selective - Credit Hours: 3.00
- Computer Engineering Technology Selective - Credit Hours: 3.00
- CNIT 34400 - Network Engineering Fundamentals **Credits:** 3.00

    Industrial Economics Selective:
- AGEC 33000 - Management Methods For Agricultural Business **Credits:** 3.00 or
- AGEC 35200 - Quantitative Techniques For Firm Decision Making **Credits:** 3.00 or
- IET 33400 - Economic Analysis For Technology Systems **Credits:** 3.00 or
- MGMT 20000 - Introductory Accounting **Credits:** 3.00 or
- MGMT 21200 - Business Accounting **Credits:** 3.00

15 Credits

Spring 4th Year

- Senior Capstone Selective II - Credit Hours: 3.00

- ECET Selective - Credit Hours: 3.00
- Elective - Credit Hours: 3.00

   Statistics Selective:
- STAT 22500 - Introduction To Probability Models **Credits:** 3.00 or
- STAT 30100 - Elementary Statistical Methods **Credits:** 3.00

12 Credits

Pre-Requisite Information

For pre-requisite information, log in to mypurdue.purdue.edu and click here.

Critical Course

The ♦ course is considered critical.

In alignment with the Degree Map Guidance for Indiana's Public Colleges and Universities, published by the Commission for Higher Education (pursuant to HEA 1348-2013), a Critical Course is identified as "one that a student must be able to pass to persist and succeed in a particular major. Students who want to be nurses, for example, should know that they are expected to be proficient in courses like biology in order to be successful. These would be identified by the institutions for each degree program."

Disclaimer

The student is ultimately responsible for knowing and completing all degree requirements. Consultation with an advisor may result in an altered plan customized for an individual student. The myPurduePlan powered by DegreeWorks is the knowledge source for specific requirements and completion.

Comparative information about Purdue University and other U.S. educational institutions is also available through the College Navigator tool, provided by the National Center for Education Statistics, and through the U.S. Department of Education College Scorecard.

Computer Science Honors: Machine Intelligence, BS

About the Program

Students in the Computer Science Honors major, in addition to fulfilling all the requirements for a BS in Computer Science, will complete additional coursework and a research project. Honors students must maintain an overall GPA of 3.25 plus at least a 3.6 in Computer Science and required CSHO courses. The program requirements include additional math coursework, three out of four selected CS and ECE courses, a research seminar and project, and a graduate level course. It is especially suitable for students planning on graduate level coursework, though it also offers advantages to students seeking employment. Machine Intelligence is designed to prepare students to work in fields related to management and analysis of data, including areas such as machine learning, information retrieval, and data mining. The track is designed to prepare students to understand, and effectively apply in practice, the principles and techniques of data and knowledge representation, search, as well as learning and reasoning with data.

Students are invited to declare the major if they meet the qualifications after their first semester or after completion of the six core courses. Students who have been admitted to the Honors College may also join the major. Students may also request to declare

the major if they meet qualifications no later than their seventh semester (student must have at least 2 academic semesters remaining to accommodate both the research seminar and the research project).

Computer Science Website

Computer Science Major Change (CODO) Requirements (Students must first CODO into Computer Science before Honors.)

Degree Requirements

120 Credits Required

Curriculum and Degree Requirements for College of Science

A College of Science degree is conferred when a student successfully completes all requirements in their degree program. Students will complete coursework or approved experiential learning activities to meet the following three degree components:

1. Major
2. Science Core Curriculum
3. Electives

Students may use any of the following options to meet College of Science degree requirements:

- Purdue Coursework
- AP, IB, and CLEP credit. The use of AP and IB coursework varies between College of Science degree plans.
- Transfer Credit. Students should consult the Admissions Transfer Credit Resource page for all available transfer options.

College of Science degree programs vary widely in their approval and use of the proceeding options and thus students are strongly encouraged to work closely with their academic advisors and to regularly consult their MyPurduePlan to view the use of each option in their degree plan.

Most College of Science degree programs contain elective credits students may use to pursue courses that relate to their interests or which support their major area of study. The elective area of a degree plan may also be used to complete minors, second majors and certificates such as the Entrepreneurial Certificate. Any Purdue course may be used to meet the elective area of a student's degree plan.

College of Science Core Requirements

All Students starting Purdue University Fall semester, 2007 or later are required to pursue the 2007 Science Core curriculum.

The College of Science Core Curriculum requires the completion of approved coursework and/or experiential learning opportunities in the following academic areas:

- Composition and Presentation
- Computing
- Cultural Diversity (Language and Culture)
- General Education
- Great Issues in Science
- Laboratory Science
- Mathematics
- Science Technology and Society
- Statistics

- Teambuilding and Collaboration

Earning Core Curricular Requirements through Experience

Students may meet selected core curriculum requirements through approved experiential learning opportunities. Interested students should contact their academic advisor for more information on this option and incorporating experiential learning into their four-year program of study. For more information on earning requirements through experience, please click here.

Computer Science Honors Major Courses (58-63 credits)

Must have "C" or better in all courses.

Required CS Honors Major Math Courses (7-8 credits)

Must have "C" or better in all courses.

- MA 35100 - Elementary Linear Algebra **Credits:** 3.00
- MA 26100 - Multivariate Calculus **Credits:** 4.00 or
- MA 27101 - Honors Multivariate Calculus **Credits:** 5.00

Required CS Major Core Courses (21 credits)

Must have C or better in all courses.

- CS 18000 - Problem Solving And Object-Oriented Programming **Credits:** 4.00 ♦ (satisfies Computing and Teambuilding for College of Science)
- CS 18200 - Foundations Of Computer Science **Credits:** 3.00 ♦
- CS 24000 - Programming In C **Credits:** 3.00 ♦
- CS 25000 - Computer Architecture **Credits:** 4.00
- CS 25100 - Data Structures And Algorithms **Credits:** 3.00
- CS 25200 - Systems Programming **Credits:** 4.00

Machine Intelligence Concentration (18 credits)

Must have C or better in all courses.

Required Courses (4 courses)

- CS 37300 - Data Mining And Machine Learning **Credits:** 3.00
- CS 38100 - Introduction To The Analysis Of Algorithms **Credits:** 3.00
- CS 47100 - Introduction To Artificial Intelligence **Credits:** 3.00 or
- CS 47300 - Web Information Search And Management **Credits:** 3.00
- MA 41600 - Probability **Credits:** 3.00 or
- STAT 41600 - Probability **Credits:** 3.00 or
- STAT 51200 - Applied Regression Analysis **Credits:** 3.00

Selectives (2 courses)

- CS 31400 - Numerical Methods **Credits:** 3.00
- CS 34800 - Information Systems **Credits:** 3.00
- CS 35200 - Compilers: Principles And Practice **Credits:** 3.00
- CS 44800 - Introduction To Relational Database Systems **Credits:** 3.00
- CS 45600 - Programming Languages **Credits:** 3.00
- CS 45800 - Introduction To Robotics **Credits:** 3.00
- CS 47100 - Introduction To Artificial Intelligence **Credits:** 3.00
- CS 47300 - Web Information Search And Management **Credits:** 3.00
- CS 57700 - Natural Language Processing **Credits:** 3.00
- CS 57800 - Statistical Machine Learning **Credits:** 3.00
- CS 48300 - Introduction To The Theory Of Computation **Credits:** 3.00
- CS 43900 - Introduction To Data Visualization **Credits:** 3.00 or
- CS 44000 - Large Scale Data Analytics **Credits:** 3.00 or
- CS 47500 - Human-Computer Interaction **Credits:** 3.00

Concentration Notes

- Non-CS courses and graduate level courses may have additional prerequisites that must be met to be eligible to take the course.
- No course may be counted for both a required and selective course within the same track.

Required CS Honors - (12-13 credits)

Need CS GPA of 3.60 or better & cumulative GPA of 3.25 and must have a C or better in all courses

- CS 39700 - Honors Seminar **Credits:** 0.00
- CS 49700 - Honors Research Project **Credits:** 3.00 (may use for Track Elective - see Track chairperson for approval)
- MA 35301 - Linear Algebra II **Credits:** 3.00 or
- MA 41600 - Probability **Credits:** 3.00 or
- MA 51800 - Advanced Discrete Mathematics **Credits:** 3.00 or
- An approved MA course with course number higher than   MA 35100 - Elementary Linear Algebra **Credits:** 3.00 or
- An approved STAT course with course number higher than   STAT 51100 - Statistical Methods **Credits:** 3.00
- CS 50000 level course (may use for Track Elective - see Track chairperson for approval) - Credit Hours: 3.00
- Three out of the four following courses: CS 35400, CS 35200, CS 38100, ECE 27000. CS 35400, CS 35200, and CS 38100 may be used to meet track requirements if the courses are required or electives for the student's track.

Other Departmental/Program Course Requirements (32-55 credits)

COLLEGE OF SCIENCE CORE REQUIREMENTS

^ - Labeled as a Science Core Selection in the four year plan of study

* - Requirement may be met with a zero credit experiential learning option. See your advisor for more information.

Composition & Presentation

Written Communication (3-4 credits)

Choose one course from the Written Communication list here. (satisfies Written Communication and Information Literacy for core)

Technical Writing And Presentation* (0-6 credits)

Students may elect to take one course (COM 21700), a combination of courses, or experiences to meet the TWTP requirement. The list of approved courses and experiences can be found here. (satisfies OC for core)

Special Note: Students completing both COM 11400 (elective) and COM 21700 (Technical Writing and Presentation requirement) may use both courses to meet degree requirements.

*Students wishing to meet the Technical Presentation and/or Technical Writing requirement through experience are required to complete the Experiential Learning Contract process.

International Students Only: International students whose primary high school/equivalent instruction was not in English may meet this requirement with a course option only.

Computing

Met with required major coursework.

Cultural Diversity (Language & Culture)^* (0-9 credits)

Choose courses from this list to fulfill each Option below (select courses COULD satisfy Humanities for core).

- Language & Culture Option I
- Language & Culture Option II
- Language & Culture Option III

General Education^ (9 credits)

Choose courses from this list to fulfill each Option below (select courses COULD satisfy Behavioral/Social Science for core).

- General Education Option I
- General Education Option II
- General Education Option III

Great Issues In Science (3 credits)

Choose one from this list.

Laboratory Science (6-8 credits)

Choose courses from this list to fulfill each Option below (satisfies Science for core).

- Laboratory Science Option I
- Laboratory Science Option II

Mathematics (8-10 credits)

(satisfies Quantitative Reasoning for core) Must have a C or better.

- MA 16100 - Plane Analytic Geometry And Calculus I **Credits:** 5.00 or
- MA 16500 - Analytic Geometry And Calculus I **Credits:** 4.00
- MA 16200 - Plane Analytic Geometry And Calculus II **Credits:** 5.00 or
- MA 16600 - Analytic Geometry And Calculus II **Credits:** 4.00

Science, Technology and Society^* (1-3 credits)

Choose one from the Science Technology and Society list here *(satisfies Science, Technology, Society for core)*

Statistics (3 credits)

- STAT 35000 - Introduction To Statistics **Credits:** 3.00 ♦ or
- STAT 51100 - Statistical Methods **Credits:** 3.00 ♦

Team-Building and Collaboration

Met with required major coursework.

Electives (2-30 credits)

Enrollment in freshman seminar course - CS 19300 - Tools is strongly encouraged to be taken with CS 18000. *CS 19300 is not a degree requirement. CS 19700,* CS 29100 - Sophomore Development Seminar *and* CS 39100 - Junior Resources Seminar *are optional but recommended.*

Grade Requirements

- All major required courses, all track requirements and track selectives, and their pre-requisites, regardless of department, must be completed with a grade of C or better.

GPA Requirements

- 3.6 CS GPA and 3.25 cumulative GPA is required for graduation with the CS Honors degree.

Course Requirements & Notes

- Courses cannot double count between General Education, Culture and Diversity, and Great Issues requirements.

College of Science Pass/No Pass Option Policy

- Only electives and courses at the 50000-level general education requirement may be taken under the pass/no pass option.

- The pass/no pass grade mode may be entered for courses which are not required by a student's major(s), minor(s) or science core curriculum.
- Grade mode Passing is equivalent to at a minimum grade of C- had a letter grade been awarded.
- Students may elect to use the pass/no pass option for no more than 20% of the 124/120 credit requirement for graduation and for no more than two courses per academic year (Fall-Summer).
- The pass/no pass option cannot be elected for a course that has already been completed with a letter grade. University Regulation.
- Students may take elective credit while abroad using the P/NP mode. In the case of universities which only post P/NP, the University will apply a calculation process to determine a letter grade.
- Department of Languages and Cultures P/NP policy and Language Placement results. Students must take advanced coursework for a letter grade to receive credit for lower-level language courses.

College of Science Transfer Credit Policy

College of Science degree programs vary widely in their approval and use of non-Purdue originated credit (AP, IB, CLEP, and transfer credit). Students work closely with their academic advisors and degree plan audits to review the use and approval of each non-Purdue credit option.

University Requirements

University Core Requirements

For a complete listing of University Core Course Selectives, visit the Provost's Website.

- Human Cultures: Behavioral/Social Science (BSS)
- Human Cultures: Humanities (HUM)
- Information Literacy (IL)
- Oral Communication (OC)
- Quantitative Reasoning (QR)
- Science #1 (SCI)
- Science #2 (SCI)
- Science, Technology, and Society (STS)
- Written Communication (WC)

Civics Literacy Proficiency Requirement

The Civics Literacy Proficiency activities are designed to develop civic knowledge of Purdue students in an effort to graduate a more informed citizenry. For more information visit the Civics Literacy Proficiency website.

Students will complete the Proficiency by passing a test of civic knowledge, and completing one of three paths:

- Attending six approved civics-related events and completing an assessment for each; or
- Completing 12 podcasts created by the Purdue Center for C-SPAN Scholarship and Engagement that use C-SPAN material and completing an assessment for each; or
- Earning a passing grade for one of **these approved courses** (or transferring in approved AP or departmental credit in lieu of taking a course).

Upper Level Requirement

- Resident study at Purdue University for at least two semesters and the enrollment in and completion of at least 32 semester hours of coursework required and approved for the completion of the degree. These courses are expected to be at least junior-level (30000+) courses.
- Students should be able to fulfill *most, if not all*, of these credits within their major requirements; there should be a clear pathway for students to complete any credits not completed within their major.

Sample 4-Year Plan

Fall 1st Year

- CS 18000 - Problem Solving And Object-Oriented Programming **Credits:** 4.00 ♦ ***
- MA 16100 - Plane Analytic Geometry And Calculus I **Credits:** 5.00 or
- MA 16500 - Analytic Geometry And Calculus I **Credits:** 4.00
- Science Core Selection - Credit Hours: 3.00-4.00 (English Composition suggested.)
- Elective - Credit Hours: 3.00
- Elective - Credit Hours: 1.00 (CS 19300 suggested.)

15-17 Credits

Spring 1st Year

- CS 18200 - Foundations Of Computer Science **Credits:** 3.00 *** ♦
- CS 24000 - Programming In C **Credits:** 3.00 *** ♦
- MA 16200 - Plane Analytic Geometry And Calculus II **Credits:** 5.00 or
- MA 16600 - Analytic Geometry And Calculus II **Credits:** 4.00
- Science Core First-Year Composition Selection - Credit Hours: 3.00-4.00
- Electives - Credit Hours: 1.00 (Recommended CS 19700)
- Electives - Credit Hours: 1.00

15-17 Credits

Fall 2nd Year

- CS 25000 - Computer Architecture **Credits:** 4.00 ***
- CS 25100 - Data Structures And Algorithms **Credits:** 3.00 ***
- MA 26100 - Multivariate Calculus **Credits:** 4.00 or
- MA 27101 - Honors Multivariate Calculus **Credits:** 5.00
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Electives - Credit Hours: 1.00 (Recommended CS 29100)

15-17 Credits

Spring 2nd Year

- CS 25200 - Systems Programming **Credits:** 4.00 ***

- MA 35100 - Elementary Linear Algebra **Credits:** 3.00 ♦
- Science Core Selection - Credit Hours: 3.00 - 4.00 (COM 21700 suggested.)
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Elective - Credit Hours: 3.00

16-17 Credits

Fall 3rd Year

- MA 35301 - Linear Algebra II **Credits:** 3.00 *** or
- MA 41600 - Probability **Credits:** 3.00 *** or
- MA 51800 - Advanced Discrete Mathematics **Credits:** 3.00 *** or
- An approved MA course with a course number higher than   MA 35100 - Elementary Linear Algebra **Credits:** 3.00 *** or
- An approved MA course with a course number higher than STAT 51100***
- STAT 35000 - Introduction To Statistics **Credits:** 3.00 ♦ or
- STAT 51100 - Statistical Methods **Credits:** 3.00
- Machine Intelligence Concentration course - Credit Hours: 3.00 *** (Suggested CS 35200)
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Elective - Credit Hours: 1.00 (Recommended CS 39100)
- Elective - Credit Hours: 3.00

16-17 Credits

Spring 3rd Year

- Machine Intelligence Concentration course - Credit Hours: 3.00 *** (Suggested CS 35400)
- Machine Intelligence Concentration course - Credit Hours: 3.00 ***
- Great Issues In Science - Credit Hours: 3.00
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Elective - Credit Hours: 3.00

15-16 Credits

Fall 4th Year

- CS 39700 - Honors Seminar **Credits:** 0.00
- Machine Intelligence Concentration course - Credit Hours: 3.00 *** (Suggested CS 38100)
- Machine Intelligence Concentration course - Credit Hours: 3.00 ***
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Elective - Credit Hours: 3.00

15-17 Credits

- CS 49700 - Honors Research Project **Credits:** 3.00
- Machine Intelligence Concentration course - Credit Hours: 3.00 ***
- CS 50000 level - Credit Hours: 3.00 ***
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Science Core Selection - Credit Hours: 3.00 - 4.00

15-17 Credits

World Language Courses

World Language proficiency requirements vary by program. The following list is inclusive of all world languages PWL offers for credit; for acceptable languages and proficiency levels, see your advisor. (ASL-American Sign Language; ARAB-Arabic; CHNS-Chinese; FR-French; GER-German; GREK-Greek(Ancient); HEBR-Hebrew(Biblical); HEBR-Hebrew(Modern); ITAL-Italian; JPNS-Japanese; KOR-Korean; LATN-Latin; PTGS=Portuguese; RUSS-Russian; SPAN-Spanish)

Critical Course

The ♦ course is considered critical.

In alignment with the Degree Map Guidance for Indiana's Public Colleges and Universities, published by the Commission for Higher Education (pursuant to HEA 1348-2013), a Critical Course is identified as "one that a student must be able to pass to persist and succeed in a particular major. Students who want to be nurses, for example, should know that they are expected to be proficient in courses like biology in order to be successful. These would be identified by the institutions for each degree program."

Disclaimer

The student is ultimately responsible for knowing and completing all degree requirements. Consultation with an advisor may result in an altered plan customized for an individual student. The myPurduePlan powered by DegreeWorks is the knowledge source for specific requirements and completion.

Comparative information about Purdue University and other U.S. educational institutions is also available through the College Navigator tool, provided by the National Center for Education Statistics, and through the U.S. Department of Education College Scorecard.

Computer Science Honors: Software Engineering, BS

About the Program

Students in the Computer Science Honors major, in addition to fulfilling all the requirements for a BS in Computer Science, will complete additional coursework and a research project. Honors students must maintain an overall GPA of 3.25 plus at least a 3.6 in Computer Science and required CSHO courses. The program requirements include additional math coursework, three out of

four selected CS and ECE courses, a research seminar and project, and a graduate level course. It is especially suitable for students planning on graduate level coursework, though it also offers advantages to students seeking employment.

Students are invited to declare the major if they meet the qualifications after their first semester or after completion of the six core courses. Students who have been admitted to the Honors College may also join the major. Students may also request to declare the major if they meet qualifications no later than their seventh semester (student must have at least 2 academic semesters remaining to accommodate both the research seminar and the research project).

The Software Engineering track is designed to prepare students to become software engineers who:

- understand and can use the principles and techniques of software engineering essential for the design and development of large software products,
- are familiar with and can effectively use a variety of tools for software analysis, design, testing, and maintenance, and
- can effectively work in teams and communicate orally and in writing.

Computer Science Website

Computer Science Major Change (CODO) Requirements (Students must first CODO into Computer Science before Honors.)

Degree Requirements

120 Credits Required

Curriculum and Degree Requirements for College of Science

A College of Science degree is conferred when a student successfully completes all requirements in their degree program. Students will complete coursework or approved experiential learning activities to meet the following three degree components:

1. Major
2. Science Core Curriculum
3. Electives

Students may use any of the following options to meet College of Science degree requirements:

- Purdue Coursework
- AP, IB, and CLEP credit. The use of AP and IB coursework varies between College of Science degree plans.
- Transfer Credit. Students should consult the Admissions Transfer Credit Resource page for all available transfer options.

College of Science degree programs vary widely in their approval and use of the proceeding options and thus students are strongly encouraged to work closely with their academic advisors and to regularly consult their MyPurduePlan to view the use of each option in their degree plan.

Most College of Science degree programs contain elective credits students may use to pursue courses that relate to their interests or which support their major area of study. The elective area of a degree plan may also be used to complete minors, second majors and certificates such as the Entrepreneurial Certificate. Any Purdue course may be used to meet the elective area of a student's degree plan.

College of Science Core Requirements

All Students starting Purdue University Fall semester, 2007 or later are required to pursue the 2007 Science Core curriculum.

The College of Science Core Curriculum requires the completion of approved coursework and/or experiential learning opportunities in the following academic areas:

- Composition and Presentation
- Computing
- Cultural Diversity (Language and Culture)
- General Education
- Great Issues in Science
- Laboratory Science
- Mathematics
- Science Technology and Society
- Statistics
- Teambuilding and Collaboration

Earning Core Curricular Requirements through Experience

Students may meet selected core curriculum requirements through approved experiential learning opportunities. Interested students should contact their academic advisor for more information on this option and incorporating experiential learning into their four-year program of study. For more information on earning requirements through experience, please click here.

Computer Science Honors Major Courses (58-63 credits)

Required CS Honors Major Math Courses (7-8 credits)

Must have C or better to meet prerequisite for certain upper level CS courses

- MA 35100 - Elementary Linear Algebra **Credits:** 3.00
- MA 26100 - Multivariate Calculus **Credits:** 4.00 or
- MA 27101 - Honors Multivariate Calculus **Credits:** 5.00

Required CS Major Core Courses (21 credits)

Must have C or better in all courses.

- CS 18000 - Problem Solving And Object-Oriented Programming **Credits:** 4.00 ♦ (satisfies Computing and Teambuilding for College of Science)
- CS 18200 - Foundations Of Computer Science **Credits:** 3.00 ♦
- CS 24000 - Programming In C **Credits:** 3.00 ♦
- CS 25000 - Computer Architecture **Credits:** 4.00
- CS 25100 - Data Structures And Algorithms **Credits:** 3.00
- CS 25200 - Systems Programming **Credits:** 4.00

Software Engineering Concentration (18 credits)

Required Courses

- CS 30700 - Software Engineering I **Credits:** 3.00
- CS 38100 - Introduction To The Analysis Of Algorithms **Credits:** 3.00
- CS 40700 - Software Engineering Senior Project **Credits:** 3.00
- CS 40800 - Software Testing **Credits:** 3.00
- CS 35200 - Compilers: Principles And Practice **Credits:** 3.00 or

- CS 35400 - Operating Systems **Credits:** 3.00

Selective

Choose one course.

- CS 34800 - Information Systems **Credits:** 3.00
- CS 35100 - Cloud Computing **Credits:** 3.00
- CS 35200 - Compilers: Principles And Practice **Credits:** 3.00
- CS 35300 - Principles Of Concurrency And Parallelism **Credits:** 3.00
- CS 35400 - Operating Systems **Credits:** 3.00
- CS 37300 - Data Mining And Machine Learning **Credits:** 3.00
- CS 42200 - Computer Networks **Credits:** 3.00
- CS 42600 - Computer Security **Credits:** 3.00
- CS 44800 - Introduction To Relational Database Systems **Credits:** 3.00
- CS 45600 - Programming Languages **Credits:** 3.00
- CS 47300 - Web Information Search And Management **Credits:** 3.00
- CS 48900 - Embedded Systems **Credits:** 3.00
- CS 49000 - Topics In Computer Sciences For Undergraduates **Credits:** 1.00 to 5.00
- DSO Distributed Systems
- SWS Software Security
- CS 51000 - Software Engineering **Credits:** 3.00
- CS 590 - Topics In Computer Sciences **Credits:** 1.00 to 5.00
- SRS Software Reliability and Security

Software Engineering Senior Project

- The Software Engineering Senior Project (CS 40700) must be completed in the student's last or next-to-last semester.
- It must be a team project involving 4-6 people.
- CS 30700 is a pre-requisite for the Software Engineering Senior Project.

Concentration Notes

- All major required courses, all track requirements and track selectives, and their pre-requisites, regardless of department, must be completed with a grade of C or better.
- No course may be counted for both a required and selective course within the same track.

Required CS Honors - (12-13 credits)

Need CS GPA of 3.60 or better & cumulative GPA of 3.25 and must have a C or better in all courses

- CS 39700 - Honors Seminar **Credits:** 0.00
- CS 49700 - Honors Research Project **Credits:** 3.00 (may use for Track Elective - see Track chairperson for approval)
- MA 35301 - Linear Algebra II **Credits:** 3.00 or
- MA 41600 - Probability **Credits:** 3.00 or
- MA 51800 - Advanced Discrete Mathematics **Credits:** 3.00 or

- An approved MA course with course number higher than   MA 35100 - Elementary Linear Algebra **Credits:** 3.00 or
- An approved STAT course with course number higher than   STAT 51100 - Statistical Methods **Credits:** 3.00
- CS 50000 level course (may use for Track Elective - see Track chairperson for approval) - Credit Hours: 3.00
- Three out of the four following courses: CS 35400, CS 35200, CS 38100, ECE 27000. CS 35400, CS 35200, and CS 38100 may be used to meet track requirements if the courses are required or electives for the student's track.

Other Departmental/Program Course Requirements (32-55 credits)

COLLEGE OF SCIENCE CORE REQUIREMENTS

^ - Labeled as a Science Core Selection in the four year plan of study

* - Requirement may be met with a zero credit experiential learning option. See your advisor for more information.

Composition & Presentation

Written Communication (3-4 credits)

Choose one course from the Written Communication list here. (satisfies Written Communication and Information Literacy for core)

Technical Writing And Presentation* (0-6 credits)

Students may elect to take one course (COM 21700), a combination of courses, or experiences to meet the TWTP requirement. The list of approved courses and experiences can be found here. (satisfies OC for core)

Special Note: Students completing both COM 11400 (elective) and COM 21700 (Technical Writing and Presentation requirement) may use both courses to meet degree requirements.

*Students wishing to meet the Technical Presentation and/or Technical Writing requirement through experience are required to complete the Experiential Learning Contract process.

International Students Only: International students whose primary high school/equivalent instruction was not in English may meet this requirement with a course option only.

Computing

Met with required major coursework.

Cultural Diversity (Language & Culture)^* (0-9 credits)

Choose courses from this list to fulfill each Option below (select courses COULD satisfy Humanities for core).

- Language & Culture Option I
- Language & Culture Option II
- Language & Culture Option III

General Education^ (9 credits)

Choose courses from this list to fulfill each Option below (select courses COULD satisfy Behavioral/Social Science for core).

- General Education Option I
- General Education Option II
- General Education Option III

Great Issues In Science (3 credits)

Choose one from this list.

Laboratory Science (6-8 credits)

Choose courses from this list to fulfill each Option below (satisfies Science for core).

- Laboratory Science Option I
- Laboratory Science Option II

Mathematics (8-10 credits)

(satisfies Quantitative Reasoning for core)

- MA 16100 - Plane Analytic Geometry And Calculus I **Credits:** 5.00 (must have C or better to meet prerequisite for CS 18200) or
- MA 16500 - Analytic Geometry And Calculus I **Credits:** 4.00 (must have C or better to meet prerequisite for CS 18200)
- MA 16200 - Plane Analytic Geometry And Calculus II **Credits:** 5.00 or
- MA 16600 - Analytic Geometry And Calculus II **Credits:** 4.00

Science Technology and Society^* (0-3 credits)

Choose one from the Science Technology and Society list, excluding those on the College of Science No Count list (satisfies STS for core).

Statistics (3 credits)

- STAT 35000 - Introduction To Statistics **Credits:** 3.00 ♦ or
- STAT 51100 - Statistical Methods **Credits:** 3.00 ♦

Team-Building and Collaboration

Met with required major coursework.

Electives (2-30 credits)

Enrollment in freshman seminar course CS 19300 is required with CS 18000. This is not a degree requirement. CS 19700 - Freshman Honors Seminar, CS 29100 - Sophomore Development Seminar, and CS 39100 are optional but recommended.

Grade Requirements

- All major required courses, all track requirements and track selectives, and their pre-requisites, regardless of department, must be completed with a grade of C or better.

GPA Requirements

- 3.6 CS GPA and 3.25 cumulative GPA is required for graduation with the CS Honors degree.

Course Requirements & Notes

- Enrollment in freshman seminar course CS 19300 is required with CS 18000. This is not a degree requirement. CS 29100 - Sophomore Development Seminar and CS 39100 - Junior Resources Seminar are optional but recommended.
- Courses cannot double count between General Education, Culture and Diversity, and Great Issues requirements.

College of Science Pass/No Pass Option Policy

- Only electives and courses at the 50000-level general education requirement may be taken under the pass/no pass option.
- The pass/no pass grade mode may be entered for courses which are not required by a student's major(s), minor(s) or science core curriculum.
- Grade mode Passing is equivalent to at a minimum grade of C- had a letter grade been awarded.
- Students may elect to use the pass/no pass option for no more than 20% of the 124/120 credit requirement for graduation and for no more than two courses per academic year (Fall-Summer).
- The pass/no pass option cannot be elected for a course that has already been completed with a letter grade. University Regulation.
- Students may take elective credit while abroad using the P/NP mode. In the case of universities which only post P/NP, the University will apply a calculation process to determine a letter grade.
- Department of Languages and Cultures P/NP policy and Language Placement results. Students must take advanced coursework for a letter grade to receive credit for lower-level language courses.

College of Science Transfer Credit Policy

College of Science degree programs vary widely in their approval and use of non-Purdue originated credit (AP, IB, CLEP, and transfer credit). Students work closely with their academic advisors and degree plan audits to review the use and approval of each non-Purdue credit option.

University Requirements

University Core Requirements

For a complete listing of University Core Course Selectives, visit the Provost's Website**.**

- Human Cultures: Behavioral/Social Science (BSS)
- Human Cultures: Humanities (HUM)
- Information Literacy (IL)

- Oral Communication (OC)
- Quantitative Reasoning (QR)
- Science #1 (SCI)
- Science #2 (SCI)
- Science, Technology, and Society (STS)
- Written Communication (WC)

Civics Literacy Proficiency Requirement

The Civics Literacy Proficiency activities are designed to develop civic knowledge of Purdue students in an effort to graduate a more informed citizenry. For more information visit the Civics Literacy Proficiency website.

Students will complete the Proficiency by passing a test of civic knowledge, and completing <u>one of three</u> paths:

- Attending six approved civics-related events and completing an assessment for each; or
- Completing 12 podcasts created by the Purdue Center for C-SPAN Scholarship and Engagement that use C-SPAN material and completing an assessment for each; or
- Earning a passing grade for one of **these approved courses** (or transferring in approved AP or departmental credit in lieu of taking a course).

Upper Level Requirement

- Resident study at Purdue University for at least two semesters and the enrollment in and completion of at least 32 semester hours of coursework required and approved for the completion of the degree. These courses are expected to be at least junior-level (30000+) courses.
- Students should be able to fulfill *most, if not all*, of these credits within their major requirements; there should be a clear pathway for students to complete any credits not completed within their major.

Sample 4-Year Plan

Fall 1st Year

- CS 18000 - Problem Solving And Object-Oriented Programming **Credits:** 4.00 ♦ ***
- MA 16100 - Plane Analytic Geometry And Calculus I **Credits:** 5.00 or
- MA 16500 - Analytic Geometry And Calculus I **Credits:** 4.00
- Science Core Selection - Credit Hours: 3.00-4.00 (English Composition suggested.)
- Elective - Credit Hours: 3.00
- Elective - Credit Hours: 1.00 (CS 19300 suggested.)

15-17 Credits

Spring 1st Year

- CS 18200 - Foundations Of Computer Science **Credits:** 3.00 *** ♦
- CS 24000 - Programming In C **Credits:** 3.00 *** ♦
- MA 16200 - Plane Analytic Geometry And Calculus II **Credits:** 5.00 or
- MA 16600 - Analytic Geometry And Calculus II **Credits:** 4.00

- Science Core First-Year Composition Selection - Credit Hours: 3.00-4.00
- Electives - Credit Hours: 1.00 (Recommended CS 19700)
- Electives - Credit Hours: 1.00

15-17 Credits

Fall 2nd Year

- CS 25000 - Computer Architecture **Credits:** 4.00 ***
- CS 25100 - Data Structures And Algorithms **Credits:** 3.00 ***
- MA 26100 - Multivariate Calculus **Credits:** 4.00 or
- MA 27101 - Honors Multivariate Calculus **Credits:** 5.00
- Science Core Selection - Credit Hours: 3.00 - 4.00 (COM 21700 suggested.)
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Elective - Credit Hours: 3.00

15-17 Credits

Spring 2nd Year

- CS 25200 - Systems Programming **Credits:** 4.00 ***
- MA 35100 - Elementary Linear Algebra **Credits:** 3.00 ♦
- Science Core Selection - Credit Hours: 3.00 - 4.00 (COM 21700 suggested.)
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Elective - Credit Hours: 3.00

16-17 Credits

Fall 3rd Year

- MA 35301 - Linear Algebra II **Credits:** 3.00 *** or
- MA 41600 - Probability **Credits:** 3.00 *** or
- MA 51800 - Advanced Discrete Mathematics **Credits:** 3.00 *** or
- An approved MA course with a course number higher than   MA 35100 - Elementary Linear Algebra **Credits:** 3.00 *** or
- An approved MA course with a course number higher than STAT 51100***
- STAT 35000 - Introduction To Statistics **Credits:** 3.00 ♦ or
- STAT 51100 - Statistical Methods **Credits:** 3.00
- Software Engineering Concentration course - Credit Hours: 3.00 *** (Suggested CS 35200)
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Elective - Credit Hours: 1.00 (Recommended CS 39100)
- Elective - Credit Hours: 3.00

16-17 Credits

Spring 3rd Year

- Software Engineering Concentration course - Credit Hours: 3.00 *** (Suggested CS 35400)
- Software Engineering Concentration course - Credit Hours: 3.00 ***
- Great Issues In Science - Credit Hours: 3.00
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Elective - Credit Hours: 3.00

15-16 Credits

Fall 4th Year

- CS 39700 - Honors Seminar **Credits:** 0.00
- Software Engineering Concentration course - Credit Hours: 3.00 *** (Suggested CS 38100)
- Software Engineering Concentration course - Credit Hours: 3.00 ***
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Elective - Credit Hours: 3.00

15-17 Credits

Spring 4th Year

- CS 49700 - Honors Research Project **Credits:** 3.00
- Software Engineering Concentration course - Credit Hours: 3.00 ***
- CS 50000 level - Credit Hours: 3.00 ***
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Science Core Selection - Credit Hours: 3.00 - 4.00

15-17 Credits

Pre-Requisite Information

For pre-requisite information, log in to mypurdue.purdue.edu and click here.

World Language Courses

World Language proficiency requirements vary by program. The following list is inclusive of all world languages PWL offers for credit; for acceptable languages and proficiency levels, see your advisor. (ASL-American Sign Language; ARAB-Arabic; CHNS-Chinese; FR-French; GER-German; GREK-Greek(Ancient); HEBR-Hebrew(Biblical); HEBR-Hebrew(Modern); ITAL-Italian; JPNS-Japanese; KOR-Korean; LATN-Latin; PTGS=Portuguese; RUSS-Russian; SPAN-Spanish)

Critical Course

The ♦ course is considered critical.

In alignment with the Degree Map Guidance for Indiana's Public Colleges and Universities, published by the Commission for Higher Education (pursuant to HEA 1348-2013), a Critical Course is identified as "one that a student must be able to pass to persist and succeed in a particular major. Students who want to be nurses, for example, should know that they are expected to be proficient in courses like biology in order to be successful. These would be identified by the institutions for each degree program."

Disclaimer

The student is ultimately responsible for knowing and completing all degree requirements. Consultation with an advisor may result in an altered plan customized for an individual student. The myPurduePlan powered by DegreeWorks is the knowledge source for specific requirements and completion.

Comparative information about Purdue University and other U.S. educational institutions is also available through the College Navigator tool, provided by the National Center for Education Statistics, and through the U.S. Department of Education College Scorecard.

Computer Science: Machine Intelligence, BS

About the Program

Purdue Computer Science is one of the country's top-ranked programs. Faculty members are shaping the future of information technology through cutting-edge research. Students can take courses that include such topics as graphics and animation, web programming, competitive programming, cryptography and security, networks, software engineering, distributed systems, information systems, artificial intelligence, and bioinformatics.

The flexible curriculum offers students the opportunity to be involved in a dynamic discipline that will continue to grow and to contribute significantly to progress in many other disciplines and ultimately to changes in human society that are nothing short of profound. Students learn communication skills, teamwork, problem-solving skills, and acquire the necessary technical skills for positions in computing throughout society.

Computer Science Website

Computer Science Major Change (CODO) Requirements

Computer Science students begin by taking six core courses that teach them the fundamentals of computer science. Students then take coursework in a concentration, which allows them to deepen their understanding in a specific area. Machine Intelligence is designed to prepare students to work in fields related to management and analysis of data, including areas such as machine learning, information retrieval, and data mining. The track is designed to prepare students to understand, and effectively apply in practice, the principles and techniques of data and knowledge representation, search, as well as learning and reasoning with data.

Degree Requirements

120 Credits Required

Curriculum and Degree Requirements for College of Science

A College of Science degree is conferred when a student successfully completes all requirements in their degree program. Students will complete coursework or approved experiential learning activities to meet the following three degree components:

1. Major
2. Science Core Curriculum
3. Electives

Students may use any of the following options to meet College of Science degree requirements:

- Purdue Coursework
- AP, IB, and CLEP credit. The use of AP and IB coursework varies between College of Science degree plans.
- Transfer Credit. Students should consult the Admissions Transfer Credit Resource page for all available transfer options.

College of Science degree programs vary widely in their approval and use of the proceeding options and thus students are strongly encouraged to work closely with their academic advisors and to regularly consult their MyPurduePlan to view the use of each option in their degree plan.

Most College of Science degree programs contain elective credits students may use to pursue courses that relate to their interests or which support their major area of study. The elective area of a degree plan may also be used to complete minors, second majors and certificates such as the Entrepreneurial Certificate. Any Purdue course may be used to meet the elective area of a student's degree plan.

College of Science Core Requirements

All Students starting Purdue University Fall semester, 2007 or later are required to pursue the 2007 Science Core curriculum.

The College of Science Core Curriculum requires the completion of approved coursework and/or experiential learning opportunities in the following academic areas:

- Composition and Presentation
- Computing
- Cultural Diversity (Language and Culture)
- General Education
- Great Issues in Science
- Laboratory Science
- Mathematics
- Science Technology and Society
- Statistics
- Teambuilding and Collaboration

Earning Core Curricular Requirements through Experience

Students may meet selected core curriculum requirements through approved experiential learning opportunities. Interested students should contact their academic advisor for more information on this option and incorporating experiential learning into their four-year program of study. For more information on earning requirements through experience, please click here.

Computer Science Major Courses (46-50 credits)

Must have C or better in all courses.

Required CS Major Math Courses (7-8 credits)

Must have C or better in all courses.

- MA 26100 - Multivariate Calculus **Credits:** 4.00 or
- MA 27101 - Honors Multivariate Calculus **Credits:** 5.00

- MA 26500 - Linear Algebra **Credits:** 3.00 or
- MA 35100 - Elementary Linear Algebra **Credits:** 3.00

Required CS Major Core Courses (21 credits)

Must have C or better in all courses.

- CS 18000 - Problem Solving And Object-Oriented Programming **Credits:** 4.00 ♦ (satisfies Computing and Teambuilding requirements for College of Science core)
- CS 18200 - Foundations Of Computer Science **Credits:** 3.00 ♦
- CS 24000 - Programming In C **Credits:** 3.00 ♦
- CS 25000 - Computer Architecture **Credits:** 4.00
- CS 25100 - Data Structures And Algorithms **Credits:** 3.00
- CS 25200 - Systems Programming **Credits:** 4.00

Machine Intelligence Concentration (18 credits)

Must have C or better in all courses.

Required Courses for Machine Intell (12 credits)

- CS 37300 - Data Mining And Machine Learning **Credits:** 3.00
- CS 38100 - Introduction To The Analysis Of Algorithms **Credits:** 3.00
- CS 47100 - Introduction To Artificial Intelligence **Credits:** 3.00 or
- CS 47300 - Web Information Search And Management **Credits:** 3.00
- MA 41600 - Probability **Credits:** 3.00 or
- STAT 41600 - Probability **Credits:** 3.00 or
- STAT 51200 - Applied Regression Analysis **Credits:** 3.00

Selectives (6 credits)

Choose two.

- CS 31400 - Numerical Methods **Credits:** 3.00
- CS 34800 - Information Systems **Credits:** 3.00
- CS 35200 - Compilers: Principles And Practice **Credits:** 3.00
- CS 44800 - Introduction To Relational Database Systems **Credits:** 3.00
- CS 45600 - Programming Languages **Credits:** 3.00
- CS 45800 - Introduction To Robotics **Credits:** 3.00
- CS 47100 - Introduction To Artificial Intelligence **Credits:** 3.00
- CS 47300 - Web Information Search And Management **Credits:** 3.00
- CS 48300 - Introduction To The Theory Of Computation **Credits:** 3.00
- CS 57700 - Natural Language Processing **Credits:** 3.00
- CS 57800 - Statistical Machine Learning **Credits:** 3.00
- CS 44000 - Large Scale Data Analytics **Credits:** 3.00 or
- CS 43900 - Introduction To Data Visualization **Credits:** 3.00 or
- CS 47500 - Human-Computer Interaction **Credits:** 3.00

Other Departmental/Program Course Requirements (32-54 credits)

COLLEGE OF SCIENCE CORE REQUIREMENTS

^ - Labeled as a Science Core Selection in the four year plan of study

* - Requirement may be met with a zero credit experiential learning option. See your advisor for more information.

Composition & Presentation

Written Communication (3-4 credits)

Choose one course from this list. (satisfies Written Communication and Information Literacy for core)

Technical Writing And Presentation* (0-6 credits)

Students may elect to take one course (COM 21700), a combination of courses, or experiences to meet the TWTP requirement. The list of approved courses and experiences can be found **here** (ADD LINK IN ACALOG). (satisfies OC for core)

Special Note: Students completing both COM 11400 (elective) and COM 21700 (Technical Writing and Presentation requirement) may use both courses to meet degree requirements.

*Students wishing to meet the Technical Presentation and/or Technical Writing requirement through experience are required to complete the Experiential Learning Contract process.

International Students Only: International students whose primary high school/equivalent instruction was not in English may meet this requirement with a course option only.

Computing

Met with required major coursework.

Cultural Diversity (Language & Culture)^* (0-9 credits)

Choose courses from this list to fulfill each Option below (select courses COULD satisfy Humanities for core).

- Language & Culture Option I
- Language & Culture Option II
- Language & Culture Option III

General Education^ (9 credits)

Choose courses from this list to fulfill each Option below (select courses COULD satisfy Behavioral/Social Science for core).

- General Education Option I
- General Education Option II
- General Education Option III

Great Issues In Science (3 credits)

Choose one from this list.

Laboratory Science (6-8 credits)

Choose courses from this list to fulfill each Option below (satisfies Science for core).

- Laboratory Science Option I
- Laboratory Science Option II

Mathematics (8-10 credits)

(satisfies Quantitative Reasoning for core) Must have C or better.

- MA 16100 - Plane Analytic Geometry And Calculus I **Credits:** 5.00 or
- MA 16500 - Analytic Geometry And Calculus I **Credits:** 4.00
- MA 16200 - Plane Analytic Geometry And Calculus II **Credits:** 5.00 or
- MA 16600 - Analytic Geometry And Calculus II **Credits:** 4.00

Science, Technology, and Society^* (1-3 credits)

Choose one from the Science Technology and Society list here *(satisfies Science, Technology, Society for core)*

Statistics (3 credits)

- STAT 35000 - Introduction To Statistics **Credits:** 3.00 ♦ or
- STAT 51100 - Statistical Methods **Credits:** 3.00 ♦

Team-Building and Collaboration

Met with required major coursework.

Electives (16-42 credits)

CS 19300 - ToolsEnrollment in freshman seminar course - CS 19300 - Tools is strongly encouraged to be taken with CS 18000. *CS 19300 is not a degree requirement.* CS 29100 - Sophomore Development Seminar *and* CS 39100 - Junior Resources Seminar *are optional but recommended.*

Grade Requirements

- All major required courses, all track requirements and track selectives and their pre-requisites, regardless of department, must be completed with a grade of C or better.

GPA Requirements

- 2.0 Major and Graduation GPA required for Bachelor of Science degree.

Course Requirements & Notes

- Non-CS courses and graduate level courses may have additional prerequisites that must be met in order to be eligible to take the course.
- No course can be counted both for a required and selective course within the same track.

College of Science Pass/No Pass Option Policy

- Only electives and courses at the 50000-level general education requirement may be taken under the pass/no pass option.
- The pass/no pass grade mode may be entered for courses which are not required by a student's major(s), minor(s) or science core curriculum.
- Grade mode Passing is equivalent to at a minimum grade of C- had a letter grade been awarded.
- Students may elect to use the pass/no pass option for no more than 20% of the 124/120 credit requirement for graduation and for no more than two courses per academic year (Fall-Summer).
- The pass/no pass option cannot be elected for a course that has already been completed with a letter grade. University Regulation.
- Students may take elective credit while abroad using the P/NP mode. In the case of universities which only post P/NP, the University will apply a calculation process to determine a letter grade.
- Department of Languages and Cultures P/NP policy and Language Placement results. Students must take advanced coursework for a letter grade to receive credit for lower-level language courses.

College of Science Transfer Credit Policy

College of Science degree programs vary widely in their approval and use of non-Purdue originated credit (AP, IB, CLEP, and transfer credit). Students work closely with their academic advisors and degree plan audits to review the use and approval of each non-Purdue credit option.

University Requirements

University Core Requirements

For a complete listing of University Core Course Selectives, visit the <u>Provost's Website</u>.

- Human Cultures: Behavioral/Social Science (BSS)
- Human Cultures: Humanities (HUM)
- Information Literacy (IL)
- Oral Communication (OC)
- Quantitative Reasoning (QR)
- Science #1 (SCI)
- Science #2 (SCI)
- Science, Technology, and Society (STS)
- Written Communication (WC)

Civics Literacy Proficiency Requirement

The Civics Literacy Proficiency activities are designed to develop civic knowledge of Purdue students in an effort to graduate a more informed citizenry. For more information visit the Civics Literacy Proficiency website.

Students will complete the Proficiency by passing a test of civic knowledge, and completing <u>one of three</u> paths:

- Attending six approved civics-related events and completing an assessment for each; or
- Completing 12 podcasts created by the Purdue Center for C-SPAN Scholarship and Engagement that use C-SPAN material and completing an assessment for each; or
- Earning a passing grade for one of **these approved courses** (or transferring in approved AP or departmental credit in lieu of taking a course).

Upper Level Requirement

- Resident study at Purdue University for at least two semesters and the enrollment in and completion of at least 32 semester hours of coursework required and approved for the completion of the degree. These courses are expected to be at least junior-level (30000+) courses.
- Students should be able to fulfill *most*, *if not all*, of these credits within their major requirements; there should be a clear pathway for students to complete any credits not completed within their major.

Sample 4-Year Plan

Fall 1st Year

- CS 18000 - Problem Solving And Object-Oriented Programming **Credits:** 4.00 ♦ ***
- MA 16100 - Plane Analytic Geometry And Calculus I **Credits:** 5.00 or
- MA 16500 - Analytic Geometry And Calculus I **Credits:** 4.00
- Science Core Selection - Credit Hours: 3.00-4.00 (English Composition suggested.)
- Elective - Credit Hours: 3.00
- Elective - Credit Hours: 1.00 (CS 19300 suggested.)

15-17 Credits

Spring 1st Year

- CS 18200 - Foundations Of Computer Science **Credits:** 3.00 ♦ ***
- CS 24000 - Programming In C **Credits:** 3.00 ♦ ***
- MA 16200 - Plane Analytic Geometry And Calculus II **Credits:** 5.00 or
- MA 16600 - Analytic Geometry And Calculus II **Credits:** 4.00
- Science Core First-Year Composition Selection - Credit Hours: 3.00-4.00
- Electives - Credit Hours: 1.00 - 3.00

14-18 Credits

Fall 2nd Year

- CS 25000 - Computer Architecture **Credits:** 4.00 ***
- CS 25100 - Data Structures And Algorithms **Credits:** 3.00 ***

- MA 26100 - Multivariate Calculus **Credits:** 4.00 or
- MA 27101 - Honors Multivariate Calculus **Credits:** 5.00
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Elective - Credit Hours: 1.00 (CS 29100 recommended)

15-17 Credits

Spring 2nd Year

- CS 25200 - Systems Programming **Credits:** 4.00 ***
- MA 26500 - Linear Algebra **Credits:** 3.00 or
- MA 35100 - Elementary Linear Algebra **Credits:** 3.00
- Science Core Selection - Credit Hours: 3.00 - 4.00 (COM 21700 suggested.)
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Elective - Credit Hours: 3.00

16-17 Credits

Fall 3rd Year

- STAT 35000 - Introduction To Statistics **Credits:** 3.00 ♦ or
- STAT 51100 - Statistical Methods **Credits:** 3.00 ♦
- Machine Intelligence Concentration course- Credit Hours: 3.00 ***
- Machine Intelligence Concentration course - Credit Hours: 3.00 ***
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Elective - Credit Hours: 1.00 (CS 39100 recommended)
- Elective - Credit Hours: 3.00

16-17 Credits

Spring 3rd Year

- Machine Intelligence Concentration course - Credit Hours: 3.00 ***
- Machine Intelligence Concentration course - Credit Hours: 3.00 ***
- Great Issues In Science Selection - Credit Hours: 3.00
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Elective - Credit Hours: 3.00

15-17 Credits

Fall 4th Year

- Machine Intelligence Concentration course - Credit Hours: 3.00 ***
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Science Core Selection - Credit Hours: 3.00 - 4.00

- Elective - Credit Hours: 3.00
- Elective - Credit Hours: 3.00
- Elective - Credit Hours: 1.00

16-18 Credits

Spring 4th Year

- Machine Intelligence Concentration course - Credit Hours: 3.00 ***
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Elective - Credit Hours: 3.00
- Elective - Credit Hours: 3.00

15-17 Credits

World Language Courses

World Language proficiency requirements vary by program. The following list is inclusive of all world languages PWL offers for credit; for acceptable languages and proficiency levels, see your advisor. (ASL-American Sign Language; ARAB-Arabic; CHNS-Chinese; FR-French; GER-German; GREK-Greek(Ancient); HEBR-Hebrew(Biblical); HEBR-Hebrew(Modern); ITAL-Italian; JPNS-Japanese; KOR-Korean; LATN-Latin; PTGS=Portuguese; RUSS-Russian; SPAN-Spanish)

Critical Course

The ♦ course is considered critical.

In alignment with the Degree Map Guidance for Indiana's Public Colleges and Universities, published by the Commission for Higher Education (pursuant to HEA 1348-2013), a Critical Course is identified as "one that a student must be able to pass to persist and succeed in a particular major. Students who want to be nurses, for example, should know that they are expected to be proficient in courses like biology in order to be successful. These would be identified by the institutions for each degree program."

Disclaimer

The student is ultimately responsible for knowing and completing all degree requirements. Consultation with an advisor may result in an altered plan customized for an individual student. The myPurduePlan powered by DegreeWorks is the knowledge source for specific requirements and completion.

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Computer Science: Software Engineering, BS

About the Program

Purdue Computer Science is one of the country's top-ranked programs. Faculty members are shaping the future of information technology through cutting-edge research. Students can take courses that include such topics as graphics and animation, web programming, competitive programming, cryptography and security, networks, software engineering, distributed systems, information systems, artificial intelligence, and bioinformatics.

The flexible curriculum offers students the opportunity to be involved in a dynamic discipline that will continue to grow and to contribute significantly to progress in many other disciplines and ultimately to changes in human society that are nothing short of profound. Students learn communication skills, teamwork, and problem-solving skills and acquire the necessary technical skills for positions in computing throughout society.

Computer Science Website

Computer Science Major Change (CODO) Requirements

Computer Science students begin by taking six core courses that teach them the fundamentals of computer science. Students then take coursework in a concentration, which allows them to deepen their understanding in a specific area.

The Software Engineering track is designed to prepare students to become software engineers who:

- understand and can use the principles and techniques of software engineering essential for the design and development of large software products,
- are familiar with and can effectively use a variety of tools for software analysis, design, testing, and maintenance, and
- can effectively work in teams and communicate orally and in writing.

Degree Requirements

120 Credits Required

Curriculum and Degree Requirements for College of Science

A College of Science degree is conferred when a student successfully completes all requirements in their degree program. Students will complete coursework or approved experiential learning activities to meet the following three degree components:

1. Major
2. Science Core Curriculum
3. Electives

Students may use any of the following options to meet College of Science degree requirements:

- Purdue Coursework
- AP, IB, and CLEP credit. The use of AP and IB coursework varies between College of Science degree plans.
- Transfer Credit. Students should consult the Admissions Transfer Credit Resource page for all available transfer options.

College of Science degree programs vary widely in their approval and use of the proceeding options and thus students are strongly encouraged to work closely with their academic advisors and to regularly consult their MyPurduePlan to view the use of each option in their degree plan.

Most College of Science degree programs contain elective credits students may use to pursue courses that relate to their interests or which support their major area of study. The elective area of a degree plan may also be used to complete minors, second majors and certificates such as the Entrepreneurial Certificate. Any Purdue course may be used to meet the elective area of a student's degree plan.

College of Science Core Requirements

All Students starting Purdue University Fall semester, 2007 or later are required to pursue the 2007 Science Core curriculum.

The College of Science Core Curriculum requires the completion of approved coursework and/or experiential learning opportunities in the following academic areas:

- Composition and Presentation
- Computing
- Cultural Diversity (Language and Culture)
- General Education
- Great Issues in Science
- Laboratory Science
- Mathematics
- Science Technology and Society
- Statistics
- Teambuilding and Collaboration

Earning Core Curricular Requirements through Experience

Students may meet selected core curriculum requirements through approved experiential learning opportunities. Interested students should contact their academic advisor for more information on this option and incorporating experiential learning into their four-year program of study. For more information on earning requirements through experience, please click here.

Computer Science Major Courses (46-50 credits)

Must have a "C" or better in all courses.

Required CS Major Math Courses (7-8 credits)

Must have a "C" or better in all courses.

- MA 26100 - Multivariate Calculus **Credits:** 4.00 or
- MA 27101 - Honors Multivariate Calculus **Credits:** 5.00
- MA 26500 - Linear Algebra **Credits:** 3.00 or
- MA 35100 - Elementary Linear Algebra **Credits:** 3.00

Required CS Major Core Courses (21 credits)

Must have a "C" or better in all courses.

- CS 18000 - Problem Solving And Object-Oriented Programming **Credits:** 4.00 ♦ (satisfies Computing and Teambuilding requirements for College of Science core)
- CS 18200 - Foundations Of Computer Science **Credits:** 3.00 ♦
- CS 24000 - Programming In C **Credits:** 3.00 ♦
- CS 25000 - Computer Architecture **Credits:** 4.00
- CS 25100 - Data Structures And Algorithms **Credits:** 3.00
- CS 25200 - Systems Programming **Credits:** 4.00

Software Engineering Concentration (18 credits)

Must have a "C" or better in all courses.

Required Courses

Must have a "C" or better in all courses.

- CS 30700 - Software Engineering I **Credits:** 3.00
- CS 38100 - Introduction To The Analysis Of Algorithms **Credits:** 3.00
- CS 40700 - Software Engineering Senior Project **Credits:** 3.00
- CS 40800 - Software Testing **Credits:** 3.00
- CS 35200 - Compilers: Principles And Practice **Credits:** 3.00 or
- CS 35400 - Operating Systems **Credits:** 3.00

Selectives

Must have a "C" or better in all courses. **Choose one**.

- CS 31100 - Competitive Programming II **Credits:** 2.00 and
- CS 41100 - Competitive Programming III **Credits:** 2.00 *The combination of CS 31100 and CS 41100 satisfies one selective.*
- CS 34800 - Information Systems **Credits:** 3.00
- CS 35100 - Cloud Computing **Credits:** 3.00
- CS 35200 - Compilers: Principles And Practice **Credits:** 3.00
- CS 35300 - Principles Of Concurrency And Parallelism **Credits:** 3.00
- CS 35400 - Operating Systems **Credits:** 3.00
- CS 37300 - Data Mining And Machine Learning **Credits:** 3.00
- CS 42200 - Computer Networks **Credits:** 3.00
- CS 42600 - Computer Security **Credits:** 3.00
- CS 44800 - Introduction To Relational Database Systems **Credits:** 3.00
- CS 45600 - Programming Languages **Credits:** 3.00
- CS 47300 - Web Information Search And Management **Credits:** 3.00
- CS 48900 - Embedded Systems **Credits:** 3.00
- CS 49000 - Topics In Computer Sciences For Undergraduates **Credits:** 1.00 to 5.00 - Titles: DSO - Distributed Systems; SWS - Software Security
- CS 51000 - Software Engineering **Credits:** 3.00
- CS 59000 - Topics In Computer Sciences **Credits:** 1.00 to 5.00 - Title: SRS - Software Reliability and Security

Software Engineering Senior Project

- The Software Engineering Senior Project (CS 40700) must be completed in the student's last or next-to-last semester.
- It must be a team project involving 4-6 people.
- CS 30700 is a pre-requisite for the Software Engineering Senior Project.

Concentration Notes

- No course can be counted both for a required and selective course within the same concentration.

Other Departmental/Program Course Requirements (32-54 credits)

COLLEGE OF SCIENCE CORE REQUIREMENTS

^ - Labeled as a Science Core Selection in the four year plan of study

* - Requirement may be met with a zero credit experiential learning option. See your advisor for more information.

Composition & Presentation

Written Communication (3-4 credits)

Choose one course from the Written Communication list here. (satisfies Written Communication and Information Literacy for core)

Technical Writing And Presentation* (0-6 credits)

Students may elect to take one course (COM 21700), a combination of courses, or experiences to meet the TWTP requirement. The list of approved courses and experiences can be found here. (satisfies OC for core)

Special Note: Students completing both COM 11400 (elective) and COM 21700 (Technical Writing and Presentation requirement) may use both courses to meet degree requirements.

*Students wishing to meet the Technical Presentation and/or Technical Writing requirement through experience are required to complete the Experiential Learning Contract process.

International Students Only: International students whose primary high school/equivalent instruction was not in English may meet this requirement with a course option only.

Computing

Met with required major coursework.

Cultural Diversity (Language & Culture)^* (0-9 credits)

Choose courses from this list to fulfill each Option below (select courses COULD satisfy Humanities for core).

- Language & Culture Option I
- Language & Culture Option II
- Language & Culture Option III

General Education^ (9 credits)

Choose courses from this list to fulfill each Option below (select courses COULD satisfy Behavioral/Social Science for core).

- General Education Option I
- General Education Option II
- General Education Option III

Great Issues In Science (3 credits)

Choose one from this list.

Laboratory Science (6-8 credits)

Choose courses from this list to fulfill each Option below (satisfies Science for core).

- Laboratory Science Option I
- Laboratory Science Option II

Mathematics (8-10 credits)

(satisfies Quantitative Reasoning for core) Must have C or better.

- MA 16100 - Plane Analytic Geometry And Calculus I **Credits:** 5.00 or
- MA 16500 - Analytic Geometry And Calculus I **Credits:** 4.00
- MA 16200 - Plane Analytic Geometry And Calculus II **Credits:** 5.00 or
- MA 16600 - Analytic Geometry And Calculus II **Credits:** 4.00

Science, Technology, and Society^* (1-3 credits)

Choose one from the Science Technology and Society list here *(satisfies Science, Technology, Society for core)*

Statistics (3 credits)

Must have a C or better in all courses.

- STAT 35000 - Introduction To Statistics **Credits:** 3.00 ♦ or
- STAT 51100 - Statistical Methods **Credits:** 3.00 ♦

Team-Building and Collaboration

Met with required major coursework.

Electives (16-42 credits)

CS 19300 - ToolsEnrollment in freshman seminar course - CS 19300 - Tools is strongly encouraged to be taken with CS 18000. *CS 19300 is not a degree requirement.* CS 29100 - Sophomore Development Seminar *and* CS 39100 - Junior Resources Seminar *are optional but recommended.*

Grade Requirements

- All major required courses, all track requirements and track selectives, and their pre-requisites, regardless of department, must be completed with a grade of C or better.

GPA Requirements

- 2.0 Major and Graduation GPA required for Bachelor of Science degree.

College of Science Pass/No Pass Option Policy

- Only electives and courses at the 50000-level general education requirement may be taken under the pass/no pass option.
- The pass/no pass grade mode may be entered for courses which are not required by a student's major(s), minor(s) or science core curriculum.
- Grade mode Passing is equivalent to at a minimum grade of C- had a letter grade been awarded.
- Students may elect to use the pass/no pass option for no more than 20% of the 124/120 credit requirement for graduation and for no more than two courses per academic year (Fall-Summer).
- The pass/no pass option cannot be elected for a course that has already been completed with a letter grade. University Regulation.
- Students may take elective credit while abroad using the P/NP mode. In the case of universities which only post P/NP, the University will apply a calculation process to determine a letter grade.
- Department of Languages and Cultures P/NP policy and Language Placement results. Students must take advanced coursework for a letter grade to receive credit for lower-level language courses.

College of Science Transfer Credit Policy

College of Science degree programs vary widely in their approval and use of non-Purdue originated credit (AP, IB, CLEP, and transfer credit). Students work closely with their academic advisors and degree plan audits to review the use and approval of each non-Purdue credit option.

University Requirements

University Core Requirements

For a complete listing of University Core Course Selectives, visit the <u>Provost's Website</u>.

- Human Cultures: Behavioral/Social Science (BSS)
- Human Cultures: Humanities (HUM)
- Information Literacy (IL)
- Oral Communication (OC)
- Quantitative Reasoning (QR)
- Science #1 (SCI)
- Science #2 (SCI)
- Science, Technology, and Society (STS)
- Written Communication (WC)

Civics Literacy Proficiency Requirement

The Civics Literacy Proficiency activities are designed to develop civic knowledge of Purdue students in an effort to graduate a more informed citizenry. For more information visit the Civics Literacy Proficiency website.

Students will complete the Proficiency by passing a test of civic knowledge, and completing <u>one of three</u> paths:

- Attending six approved civics-related events and completing an assessment for each; or
- Completing 12 podcasts created by the Purdue Center for C-SPAN Scholarship and Engagement that use C-SPAN material and completing an assessment for each; or
- Earning a passing grade for one of **these approved courses** (or transferring in approved AP or departmental credit in lieu of taking a course).

Upper Level Requirement

- Resident study at Purdue University for at least two semesters and the enrollment in and completion of at least 32 semester hours of coursework required and approved for the completion of the degree. These courses are expected to be at least junior-level (30000+) courses.
- Students should be able to fulfill *most, if not all*, of these credits within their major requirements; there should be a clear pathway for students to complete any credits not completed within their major.

Sample 4-Year Plan

Fall 1st Year

- CS 18000 - Problem Solving And Object-Oriented Programming **Credits:** 4.00 ♦ ***
- MA 16100 - Plane Analytic Geometry And Calculus I **Credits:** 5.00 or
- MA 16500 - Analytic Geometry And Calculus I **Credits:** 4.00
- Science Core Selection - Credit Hours: 3.00-4.00 (English Composition suggested.)
- Elective - Credit Hours: 3.00
- Elective - Credit Hours: 1.00 (CS 19300 suggested.)

15-17 Credits

Spring 1st Year

- CS 18200 - Foundations Of Computer Science **Credits:** 3.00 ♦ ***
- CS 24000 - Programming In C **Credits:** 3.00 ♦ ***
- MA 16200 - Plane Analytic Geometry And Calculus II **Credits:** 5.00 or
- MA 16600 - Analytic Geometry And Calculus II **Credits:** 4.00
- Science Core First-Year Composition Selection - Credit Hours: 3.00-4.00
- Electives - Credit Hours: 1.00 - 3.00

14-18 Credits

Fall 2nd Year

- CS 25000 - Computer Architecture **Credits:** 4.00 ***
- CS 25100 - Data Structures And Algorithms **Credits:** 3.00 ***
- MA 26100 - Multivariate Calculus **Credits:** 4.00 or
- MA 27101 - Honors Multivariate Calculus **Credits:** 5.00
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Elective - Credit Hours: 1.00 (CS 29100 recommended)

15-17 Credits

Spring 2nd Year

- CS 25200 - Systems Programming **Credits:** 4.00 ***
- MA 26500 - Linear Algebra **Credits:** 3.00 or
- MA 35100 - Elementary Linear Algebra **Credits:** 3.00
- Science Core Selection - Credit Hours: 3.00 - 4.00 (COM 21700 suggested.)
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Elective - Credit Hours: 3.00

16-17 Credits

Fall 3rd Year

- STAT 35000 - Introduction To Statistics **Credits:** 3.00 ♦ or
- STAT 51100 - Statistical Methods **Credits:** 3.00 ♦
- Software Engineering Concentration course - Credit Hours: 3.00 ***
- Software Engineering Concentration course - Credit Hours: 3.00 ***
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Elective - Credit Hours: 1.00 (CS 39100 recommended)
- Elective - Credit Hours: 3.00

16-17 Credits

Spring 3rd Year

- Software Engineering Concentration course - Credit Hours: 3.00 ***
- Software Engineering Concentration course - Credit Hours: 3.00 ***
- Great Issues In Science Selection - Credit Hours: 3.00
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Elective - Credit Hours: 3.00

15-17 Credits

Fall 4th Year

- Software Engineering Concentration course - Credit Hours: 3.00 ***
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Elective - Credit Hours: 3.00
- Elective - Credit Hours: 3.00
- Elective - Credit Hours: 1.00

16-18 Credits

Spring 4th Year

- Software Engineering Concentration course - Credit Hours: 3.00 ***
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Elective - Credit Hours: 3.00
- Elective - Credit Hours: 3.00

15-17 Credits

World Language Courses

World Language proficiency requirements vary by program. The following list is inclusive of all world languages PWL offers for credit; for acceptable languages and proficiency levels, see your advisor. (ASL-American Sign Language; ARAB-Arabic; CHNS-Chinese; FR-French; GER-German; GREK-Greek(Ancient); HEBR-Hebrew(Biblical); HEBR-Hebrew(Modern); ITAL-Italian; JPNS-Japanese; KOR-Korean; LATN-Latin; PTGS=Portuguese; RUSS-Russian; SPAN-Spanish)

Critical Course

The ♦ course is considered critical.

In alignment with the Degree Map Guidance for Indiana's Public Colleges and Universities, published by the Commission for Higher Education (pursuant to HEA 1348-2013), a Critical Course is identified as "one that a student must be able to pass to persist and succeed in a particular major. Students who want to be nurses, for example, should know that they are expected to be proficient in courses like biology in order to be successful. These would be identified by the institutions for each degree program."

Disclaimer

The student is ultimately responsible for knowing and completing all degree requirements. Consultation with an advisor may result in an altered plan customized for an individual student. The myPurduePlan powered by DegreeWorks is the knowledge source for specific requirements and completion.

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Computing Infrastructure and Network Engineering Technology, BS

About the Program

The Network Engineering Technology major is part of the Computer and Information Technology program. The Computer and Information Technology program is accredited by the Computing Accreditation Commission of ABET.

The world operates on the back of computers - networks of computers. Whether it is wired or wireless, information must be able to travel the network securely, efficiently and accurately. The network engineering technology major provides the necessary background about hardware and software needs to solve networking problems.

Network Engineering Technology Website

Computer and Information Technology Department Major Change (CODO) Requirements

Degree Requirements

120 Credits Required

Departmental/Program Major Courses (60 credits)

A C- GPA is required across all CNIT courses.

Computer and Information Technology Major Courses (48 credits)

- CNIT 15501 - Introduction To Software Development Concepts **Credits:** 3.00
- CNIT 17600 - Information Technology Architectures **Credits:** 3.00
- CNIT 18000 - Introduction To Systems Development **Credits:** 3.00 or
- CNIT 18200 - System And Organizational Security **Credits:** 3.00
- CNIT 24200 - System Administration **Credits:** 3.00
- CNIT 25501 - Object-Oriented Programming Introduction **Credits:** 3.00
- CNIT 27000 - Cybersecurity Fundamentals I **Credits:** 3.00
- CNIT 27200 - Database Fundamentals **Credits:** 3.00
- CNIT 31500 - Systems Programming **Credits:** 3.00
- CNIT 34400 - Network Engineering Fundamentals **Credits:** 3.00
- CNIT 32000 - Policy, Regulation, And Globalization In Information Technology **Credits:** 3.00 or
- CNIT 37100 - Cyberlaw And Ethics **Credits:** 3.00
- CNIT 34000 - UNIX Administration **Credits:** 3.00
- CNIT 34220 - Network Administration **Credits:** 2.00 or 3.00 3 credits required
- CNIT 34500 - Internetwork Design And Implementation **Credits:** 3.00 or 4.00 3 credits required
- CNIT 34600 - Wireless Networks **Credits:** 3.00 or 4.00 3 credits required
- CNIT 45500 - Network Security **Credits:** 3.00
- CNIT 48000 - Managing Information Technology Projects **Credits:** 3.00

Computing Infrastructure Selective (6 credits)

- CNIT 41700 - Critical Infrastructure Security **Credits:** 3.00
- CNIT 43500 - Advanced Network Services **Credits:** 3.00
- CNIT 44500 - Advanced Internetwork Routing And Switching **Credits:** 3.00
- CNIT 44600 - Advanced Wireless Networks **Credits:** 3.00
- CNIT 45600 - Wireless Security And Management **Credits:** 3.00

Information Technology Selectives (6 credits)

Any non-required 30000 level or higher CNIT course or EPICS (EPCS): participation in EPICS requires responsibility for an IT component and CIT faculty approval; CGT courses 30000 level or higher

At least three credits must be CNIT courses.

CIT Common Core (42 credits)

Composition Selective (satisfies Written Communication for core) - Credit Hours: 3.00

- SCLA 10100 - Transformative Texts, Critical Thinking And Communication I: Antiquity To Modernity **Credits:** 3.00 or
- ENGL 10600 - First Year Composition With Conferences **Credits:** 4.00 or
- ENGL 10800 - First Year Composition **Credits:** 3.00 or
- HONR 19903 - Interdisciplinary Approaches In Writing **Credits:** 3.00

Introductory Oral Communication Selective (satisfies Oral Communication for core) - Credit Hours: 3.00

- SCLA 10200 - Transformative Texts, Critical Thinking And Communication II: Modern World **Credits:** 3.00 or
- COM 11400 - Fundamentals Of Speech Communication **Credits:** 3.00

Calculus I (satisfies Quantitative Reasoning for core) - Credit Hours: 3.00

- MA 16010 - Applied Calculus I **Credits:** 3.00

Calculus II (satisfies Quantitative Reasoning for core) - Credit Hours: 3.00

- MA 16020 - Applied Calculus II **Credits:** 3.00

Design Thinking (satisfies Information Literacy and Science, Technology & Society Selective for core) - Credit Hours: 3.00

- TECH 12000 - Design Thinking In Technology **Credits:** 3.00

Behavioral/Social Science Foundational Selective (satisfies Human Culture Behavioral/Social Science for core) - Credit Hours: 3.00

Human Cultures: Behavioral/Social Sciences (BSS)

Three credits required from the Human Cultures: Behavioral/Social Sciences (BSS) list.

Humanities Selective (satisfies Human Cultures: Humanities for core) - Credit Hours: 3.00

Human Cultures: Humanities (HUM)

Three credits required from the Human Cultures: Humanities (HUM) list.

Science Selective (satisfies Science for core) - Credit Hours: 3.00

Science(SCI)

Three credits required from the Science(SCI) list.

Lab Science Selective (satisfies Science for core) - Credit Hours: 3.00

Science (SCI) - with Lab Component

Three credits required from the Science(SCI) list.

Verify the course has a lab component when scheduling.

The following courses are typically offered with a lab component:

Accounting Selective - Credit Hours: 3.00

- MGMT 20000 - Introductory Accounting **Credits:** 3.00
- MGMT 21200 - Business Accounting **Credits:** 3.00

Economics Selective - Credit Hours: 3.00

AGEC 21700 or ECON 21000: credit can only be used for one of these courses to fulfill a degree requirement.

- AGEC 21700 - Economics **Credits:** 3.00
- ECON 21000 - Principles Of Economics **Credits:** 3.00
- ECON 25100 - Microeconomics **Credits:** 3.00
- ECON 25200 - Macroeconomics **Credits:** 3.00

Communication Selective - Credit Hours: 3.00

- COM 21000 - Addressing Public Issues **Credits:** 3.00 or
- COM 21200 - Approaches To The Study Of Interpersonal Communication **Credits:** 3.00 or
- COM 22400 - Communicating In The Global Workplace **Credits:** 3.00 or
- COM 25100 - Communication, Information, And Society **Credits:** 3.00 or
- COM 30300 - Intercultural Communication **Credits:** 3.00 or
- COM 31400 - Advanced Presentational Speaking **Credits:** 3.00 or
  (COM 31400 or COM 31500: credit can only be used for one of these courses to fulfill a degree requirement.)
- COM 31500 - Speech Communication Of Technical Information **Credits:** 3.00 or
  COM 31400 or COM 31500: credit can only be used for one of these courses to fulfill a degree requirement.
- COM 31800 - Principles Of Persuasion **Credits:** 3.00 or
- COM 32400 - Introduction To Organizational Communication **Credits:** 3.00

Professional Speaking Selective - Credit Hours: 3.00

- COM 31500 - Speech Communication Of Technical Information **Credits:** 3.00 or
- COM 32000 - Small Group Communication **Credits:** 3.00 or
- COM 32500 - Interviewing: Principles And Practice **Credits:** 3.00 or
- COM 41500 - Discussion Of Technical Problems **Credits:** 3.00

Professional Writing Selective - Credit Hours: 3.00

- ENGL 41900 - Multimedia Writing **Credits:** 3.00 or
- ENGL 42000 - Business Writing **Credits:** 3.00 or
- ENGL 42100 - Technical Writing **Credits:** 3.00

Professional IT Experience Requirement

If a student selects the course option, they must enroll in 3 credits total.

- CNIT 39000 - Supervised Practicum **Credits:** 1.00 to 3.00
- TDM 11100 - Corporate Partners I **Credits:** 3.00
- TDM 11200 - Corporate Partners II **Credits:** 3.00
- TDM 21100 - Corporate Partners III **Credits:** 3.00
- TDM 21200 - Corporate Partners IV **Credits:** 3.00
- TDM 31100 - Corporate Partners V **Credits:** 3.00
- TDM 31200 - Corporate Partners VI **Credits:** 3.00
- TDM 41100 - Corporate Partners VII **Credits:** 3.00
- TDM 41200 - Corporate Partners VIII **Credits:** 3.00

Globalization Requirement - Credit Hours: 0.00

All students must complete the Polytechnic Growth Plan for Global Awareness and Intercultural Competency.

Step 1: Complete the Pre-test Intercultural Development Inventory Assessments (1st year)

Step 2: Complete CNIT 32000 or CNIT 37100

Step 3: Complete the Post-test Intercultural Development Inventory Assessments (4th year)

NOTE FOR TRANSFER/CODO STUDENTS: Transfer and CODO students with less than 75 credit hours remaining to completed their Polytechnic Plan of Study are exempt from Step 1 (taking the IDI Pretest).

Other Departmental /Program Course Requirements (18 credits)

- TLI 11200 - Foundations Of Organizational Leadership **Credits:** 3.00
  Statistics Selective
- STAT 22500 - Introduction To Probability Models **Credits:** 3.00 or
- STAT 30100 - Elementary Statistical Methods **Credits:** 3.00 or
- STAT 50100 - Experimental Statistics I **Credits:** 3.00 or
- STAT 51100 - Statistical Methods **Credits:** 3.00

Interdisciplinary Selective - Credit Hours: 12.00

Supplemental List

Click here for Computing Infrastructure and Network Engineering Technology Supplemental Information.

Grade Requirements

- Students must earn a C- or better in all CNIT courses that are a prerequisite to another CNIT course
- Any course taken at Purdue can be attempted no more than three times (inclusive of W, WF, WN, I, and IF)

GPA Requirements

- 2.0 Cummulative GPA required for Bachelor of Science degree
- 2.0 Cummulative GPA in all CNIT courses required for Bachelor of Science degree

Course Requirements and Notes

- Courses with the ♦ are essential for the CIT degree critical path to graduation
- Credit cannot be earned for both AGEC 21700 and ECON 21000 to fulfill degree requirements
- Credit cannot be earned for both COM 31400 and COM 31500 to fulfill degree requirements
- A single course may not fulfill multiple requirements within the CIT BS degree

Non-course / Non-credit Requirements

- Co-Curricular Requirements include the following:
  - Professional IT Experience
  - Globalization requirement

University Requirements

University Core Requirements

For a complete listing of University Core Course Selectives, visit the Provost's Website.

- Human Cultures: Behavioral/Social Science (BSS)
- Human Cultures: Humanities (HUM)
- Information Literacy (IL)
- Oral Communication (OC)
- Quantitative Reasoning (QR)
- Science #1 (SCI)
- Science #2 (SCI)
- Science, Technology, and Society (STS)
- Written Communication (WC)

Civics Literacy Proficiency Requirement

The Civics Literacy Proficiency activities are designed to develop civic knowledge of Purdue students in an effort to graduate a more informed citizenry. For more information visit the Civics Literacy Proficiency website.

Students will complete the Proficiency by passing a test of civic knowledge, and completing <u>one of three</u> paths:

- Attending six approved civics-related events and completing an assessment for each; or
- Completing 12 podcasts created by the Purdue Center for C-SPAN Scholarship and Engagement that use C-SPAN material and completing an assessment for each; or
- Earning a passing grade for one of **these approved courses** (or transferring in approved AP or departmental credit in lieu of taking a course).

Upper Level Requirement

- Resident study at Purdue University for at least two semesters and the enrollment in and completion of at least 32 semester hours of coursework required and approved for the completion of the degree. These courses are expected to be at least junior-level (30000+) courses.
- Students should be able to fulfill *most*, *if not all*, of these credits within their major requirements; there should be a clear pathway for students to complete any credits not completed within their major.

Sample 4-Year Plan

Fall 1st Year

- CNIT 18000 - Introduction To Systems Development **Credits:** 3.00 or
- CNIT 18200 - System And Organizational Security **Credits:** 3.00
- TLI 11200 - Foundations Of Organizational Leadership **Credits:** 3.00 ♦
- SCLA 10100 - Transformative Texts, Critical Thinking And Communication I: Antiquity To Modernity **Credits:** 3.00 or
- ENGL 10600 - First Year Composition With Conferences **Credits:** 4.00 or
- ENGL 10800 - First Year Composition **Credits:** 3.00 or
- HONR 19903 - Interdisciplinary Approaches In Writing **Credits:** 3.00 ♦
- MA 16010 - Applied Calculus I **Credits:** 3.00
- TECH 12000 - Design Thinking In Technology **Credits:** 3.00 ♦

15 Credits

Spring 1st Year

- CNIT 15501 - Introduction To Software Development Concepts **Credits:** 3.00
- CNIT 17600 - Information Technology Architectures **Credits:** 3.00
- SCLA 10200 - Transformative Texts, Critical Thinking And Communication II: Modern World **Credits:** 3.00 or
- COM 11400 - Fundamentals Of Speech Communication **Credits:** 3.00 ♦
- MA 16020 - Applied Calculus II **Credits:** 3.00
- Behavioral/Social Sciences Foundational Selective - Credit Hours: 3.00

15 Credits

Fall 2nd Year

- CNIT 25501 - Object-Oriented Programming Introduction **Credits:** 3.00
- CNIT 27000 - Cybersecurity Fundamentals I **Credits:** 3.00
- CNIT 34400 - Network Engineering Fundamentals **Credits:** 3.00
- MGMT 21200 - Business Accounting **Credits:** 3.00 or
- MGMT 20000 - Introductory Accounting **Credits:** 3.00

- Science Selective - Credit Hours: 3.00

15 Credits

Spring 2nd Year

- CNIT 24200 - System Administration **Credits:** 3.00
- CNIT 27200 - Database Fundamentals **Credits:** 3.00
- STAT 22500 - Introduction To Probability Models **Credits:** 3.00 or
- STAT 30100 - Elementary Statistical Methods **Credits:** 3.00 or
- STAT 50100 - Experimental Statistics I **Credits:** 3.00 or
- STAT 51100 - Statistical Methods **Credits:** 3.00
- Lab Science Selective - Credit Hours: 3.00
- Humanities Foundational Selective: Credit Hours: 3.00

15 Credits

Fall 3rd Year

- CNIT 34000 - UNIX Administration **Credits:** 3.00
- CNIT 34500 - Internetwork Design And Implementation **Credits:** 3.00 or 4.00 (3 credit hours required)
- COM 31500 - Speech Communication Of Technical Information **Credits:** 3.00 or
- COM 32000 - Small Group Communication **Credits:** 3.00 or
- COM 32500 - Interviewing: Principles And Practice **Credits:** 3.00 or
- COM 41500 - Discussion Of Technical Problems **Credits:** 3.00
- AGEC 21700 - Economics **Credits:** 3.00 or
- ECON 21000 - Principles Of Economics **Credits:** 3.00 or
- ECON 25100 - Microeconomics **Credits:** 3.00 or
- ECON 25200 - Macroeconomics **Credits:** 3.00
- Interdisciplinary Selective: Credit Hours 3:00

15 Credits

Spring 3rd Year

- CNIT 34220 - Network Administration **Credits:** 2.00 or 3.00 (3 credits required)
- CNIT 34600 - Wireless Networks **Credits:** 3.00 or 4.00 (3 credits required)
- CNIT 32000 - Policy, Regulation, And Globalization In Information Technology **Credits:** 3.00 or
- CNIT 37100 - Cyberlaw And Ethics **Credits:** 3.00
- ENGL 41900 - Multimedia Writing **Credits:** 3.00 or
- ENGL 42000 - Business Writing **Credits:** 3.00 or
- ENGL 42100 - Technical Writing **Credits:** 3.00 or
- ENGL 42400 - Writing For High Technology Industries **Credits:** 3.00
- Interdisciplinary Selective: Credit Hours: 3.00

15 Credits

Fall 4th Year

- CNIT 45500 - Network Security **Credits:** 3.00
- CNIT 48000 - Managing Information Technology Projects **Credits:** 3.00
- Information Technology Selective - Credit Hours: 3.00
- Computing Infrastructure Selective - Credit Hours: 3.00
- COM 21000 - Addressing Public Issues **Credits:** 3.00 or
- COM 21200 - Approaches To The Study Of Interpersonal Communication **Credits:** 3.00 or
- COM 22400 - Communicating In The Global Workplace **Credits:** 3.00 or
- COM 25100 - Communication, Information, And Society **Credits:** 3.00 or
- COM 31400 - Advanced Presentational Speaking **Credits:** 3.00 or
- COM 31500 - Speech Communication Of Technical Information **Credits:** 3.00 or
- COM 31800 - Principles Of Persuasion **Credits:** 3.00 or
- COM 32000 - Small Group Communication **Credits:** 3.00 or
- COM 32400 - Introduction To Organizational Communication **Credits:** 3.00

15 Credits

Spring 4th Year

- CNIT 31500 - Systems Programming **Credits:** 3.00
- Information Technology Selective - Credit Hours: 3.00
- Computing Infrastructure Selective - Credit Hours: 3.00
- Interdisciplinary Selective - Credit Hours: 3.00
- Interdisciplinary Selective - Credit Hours: 3.00

15 Credits

Pre-Requisite Information

For pre-requisite information, log in to mypurdue.purdue.edu and click here.

Critical Course

The ♦ course is considered critical.

In alignment with the Degree Map Guidance for Indiana's Public Colleges and Universities, published by the Commission for Higher Education (pursuant to HEA 1348-2013), a Critical Course is identified as "one that a student must be able to pass to persist and succeed in a particular major. Students who want to be nurses, for example, should know that they are expected to be proficient in courses like biology in order to be successful. These would be identified by the institutions for each degree program."

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Construction Management, BS

About the Program

From the world's tallest building to the home being constructed down the block, all construction projects need leadership and management expertise. In Purdue's construction management program, you'll gain skills to be a leader in the growing global construction industry. You'll learn what it takes to successfully build all kinds of projects from idea to completion. The curriculum can prepare you to be a future executive in this increasingly fast-paced and high-tech sector.

SCMT offers students the opportunity to complete a bachelor's degree in construction management technology in three years, allowing students to enter the work force or graduate school a year earlier than traditional plans of study. For more information about the degree-in-3 reach out to the CM major advisors.

The Construction Management Technology major is part of the Construction Management Technology program. The Construction Management Technology program is accredited by the American Council for Construction Education, www.acce-hq.org.

Accredited by the American Council for Construction Education (ACCE)

Construction Management Website

Construction Management Major Change (CODO) Requirements

Degree Requirements

120 Credits Required

Departmental/Program Major Courses (62 credits)

- CM 10000 - Introduction To Construction Management **Credits:** 3.00
- CM 15000 - Construction Management Fundamentals **Credits:** 6.00

- CM 16000 - Surveying **Credits:** 3.00
- CM 16400 - Graphics For Civil Engineering And Construction **Credits:** 2.00 or
- CM 26200 - Introduction To Construction Graphics **Credits:** 3.00
- CM 20002 - Intermediate Pre-Construction Management **Credits:** 4.00
- CM 21500 - Mechanical Construction **Credits:** 3.00
- CM 21601 - Electrical Construction **Credits:** 2.00
- CM 27000 - Statics **Credits:** 3.00
- CM 30002 - Advanced Pre-Construction Management **Credits:** 4.00
- CM 30101 - Introduction To Construction Company Financial Management **Credits:** 2.00
- CM 31000 - Equipment And Field Operations **Credits:** 3.00
- CM 36400 - Jobsite Management **Credits:** 3.00
- CM 36500 - BIM For Project Managers And Field Supervision **Credits:** 2.00
- CM 38000 - Soils And Foundations **Credits:** 3.00
- CM 40000 - Construction Capstone I **Credits:** 6.00
- CM 43300 - Risk Management And Legal Issues In Design And Construction Integration **Credits:** 2.00
- CM 45001 - Construction Capstone II **Credits:** 3.00
- CM 47500 - Construction Costs **Credits:** 2.00
- CM Selective - Credit Hours: 3.00
- CM Selective - Credit Hours: 3.00
- CM 45701 - Construction Safety **Credits:** 3.00

Other Departmental/Program Course Requirements (46 credits)

Economics Selective - **Credit Hours: 3.00** (satisfies Human Cultures: Humanities for core)
- ECON 21000 - Principles Of Economics **Credits:** 3.00
- AGEC 21700 - Economics **Credits:** 3.00
- ECON 25100 - Microeconomics **Credits:** 3.00
- ECON 25200 - Macroeconomics **Credits:** 3.00
- MA 15800 - Precalculus - Functions And Trigonometry **Credits:** 3.00 (satisfies Quantitative Reasoning Selective for core)

Calculus Selective - **Credit Hours: 3.00-5.00** (satisfies Quantitative Reasoning Selective for core)
- MA 16010 - Applied Calculus I **Credits:** 3.00
- MA 16100 - Plane Analytic Geometry And Calculus I **Credits:** 5.00
- MA 16500 - Analytic Geometry And Calculus I **Credits:** 4.00
- MGMT 20000 - Introductory Accounting **Credits:** 3.00 ♦ or
- MGMT 21200 - Business Accounting **Credits:** 3.00
- MGMT 25400 - Legal Foundations Of Business I **Credits:** 3.00 ♦ or
- MGMT 45500 - Legal Background For Business I **Credits:** 3.00
- PHYS 22000 - General Physics **Credits:** 4.00 ♦ (satisfies Science for core) or
- PHYS 17200 - Modern Mechanics **Credits:** 4.00 ♦ (satisfies Science for core)
- TECH 12000 - Design Thinking In Technology **Credits:** 3.00 ♦ (satisfies Information Literacy & Science, Technology and Society for core)
  OR
- ENGR 13100 - Transforming Ideas To Innovation I **Credits:** 2.00 and
- ENGR 13200 - Transforming Ideas To Innovation II **Credits:** 2.00

Written Communication Selective - **Credit Hours: 3.00-4.00**
- ENGL 10600 - First Year Composition With Conferences **Credits:** 4.00
- ENGL 10800 - First Year Composition **Credits:** 3.00

- SCLA 10100 - Transformative Texts, Critical Thinking And Communication I: Antiquity To Modernity **Credits: 3.00**
  <u>Oral Communication Selective</u> **- Credit Hours: 3.00**
- COM 11400 - Fundamentals Of Speech Communication **Credits: 3.00**
- EDPS 31500 - Collaborative Leadership: Interpersonal Skills **Credits: 3.00**
- COM 21700 - Science Writing And Presentation **Credits: 3.00**
- SCLA 10200 - Transformative Texts, Critical Thinking And Communication II: Modern World **Credits: 3.00**
- Advanced Communication/English Selective - Credit Hours: 3.00
- Global Selective - Credit Hours: 3:00
- Human Cultures: Humanities Selective (satisfies Human Cultures Humanities for core) - Credit Hours: 3.00
- Management Selective - Credit Hours: 3.00
- Science Selective (satisfies Science #2 for core) - Credit Hours: 3.00
- Intercultural Requirement - Credit Hours: 0.00
  See Supplemental Information for Selective lists

Intercultural Requirement

1. Complete Intercultural Development Inventory (IDI) pre-test and post test.

2. Complete Beliefs, Events, and Values Inventory (BEVI) pre-test and post test.

Electives (12 credits)

- Electives - Credit Hours: 12.00

Optional Concentrations

- Disaster Recovery and Demolition Management Concentration for Construction Mgmt & Design and Construction Integration
- Healthcare Construction Management Concentration
- Infrastructure Construction Management Concentration for CM & DCI
- Mechanical and Electrical Construction Management Concentration
- Residential Construction Management Concentration

Supplemental List

Click here for Construction Management Supplemental Information.

Grade Requirements

- "C-" or better is required in all CM courses.
- Any course taken at Purdue can be attempted no more than three times (inclusive of W, WF, WN, and IF).
- Failure to meet these standards will require the student to CODO out of the School of Construction Management. The "C-" grade must be earned before enrolling in subsequent courses. CM courses can be repeated only once.

GPA Requirements

- 2.0 Graduation GPA required for Bachelor of Science degree.

Construction Work Experience Requirement

A minimum of 800 hours of post high school Architecture, Engineering or Construction (AEC) related work experience is required for graduation with a baccalaureate degree. Summer jobs, internships, or Co-op programs may be used to satisfy this requirement. If you have questions or doubts about this requirement, contact your advisor. To document your work hours, go to the CM website and look for Work Experience Form. You can also find the website in your advisor's email signature.

Pass/No Pass Policy

- Pass/No Pass may be allowed for electives only.

University Requirements

University Core Requirements

For a complete listing of University Core Course Selectives, visit the <u>Provost's Website</u>.

- Human Cultures: Behavioral/Social Science (BSS)
- Human Cultures: Humanities (HUM)
- Information Literacy (IL)
- Oral Communication (OC)
- Quantitative Reasoning (QR)
- Science #1 (SCI)
- Science #2 (SCI)
- Science, Technology, and Society (STS)
- Written Communication (WC)

Civics Literacy Proficiency Requirement

The Civics Literacy Proficiency activities are designed to develop civic knowledge of Purdue students in an effort to graduate a more informed citizenry. For more information visit the Civics Literacy Proficiency website.

Students will complete the Proficiency by passing a test of civic knowledge, and completing <u>one of three</u> paths:

- Attending six approved civics-related events and completing an assessment for each; or
- Completing 12 podcasts created by the Purdue Center for C-SPAN Scholarship and Engagement that use C-SPAN material and completing an assessment for each; or
- Earning a passing grade for one of **these approved courses** (or transferring in approved AP or departmental credit in lieu of taking a course).

Upper Level Requirement

- Resident study at Purdue University for at least two semesters and the enrollment in and completion of at least 32 semester hours of coursework required and approved for the completion of the degree. These courses are expected to be at least junior-level (30000+) courses.

- Students should be able to fulfill *most*, *if not all*, of these credits within their major requirements; there should be a clear pathway for students to complete any credits not completed within their major.

Sample 4-Year Plan

Fall 1st Year

- CM 10000 - Introduction To Construction Management **Credits: 3.00** ♦
- CM 16400 - Graphics For Civil Engineering And Construction **Credits: 2.00** ♦ or
- CM 26200 - Introduction To Construction Graphics **Credits: 3.00**
- MA 15800 - Precalculus - Functions And Trigonometry **Credits: 3.00**
- TECH 12000 - Design Thinking In Technology **Credits: 3.00** ♦
  OR
- ENGR 13100 - Transforming Ideas To Innovation I **Credits: 2.00** and
- ENGR 13200 - Transforming Ideas To Innovation II **Credits: 2.00**
  Written Communication - Credit Hours: 3.00-4.00
- ENGL 10600 - First Year Composition With Conferences **Credits: 4.00**
- ENGL 10800 - First Year Composition **Credits: 3.00**
- SCLA 10100 - Transformative Texts, Critical Thinking And Communication I: Antiquity To Modernity **Credits: 3.00**

14-17 Credits

Spring 1st Year

- CM 15000 - Construction Management Fundamentals **Credits: 6.00** ♦
- CM 16000 - Surveying **Credits: 3.00**
  Oral Communication Selective - Credit Hours: 3.00
- COM 11400 - Fundamentals Of Speech Communication **Credits: 3.00**
- EDPS 31500 - Collaborative Leadership: Interpersonal Skills **Credits: 3.00**
- SCLA 10200 - Transformative Texts, Critical Thinking And Communication II: Modern World **Credits: 3.00**
  Calculus Selective I - Credit Hours: 3.00-5.00
- MA 16010 - Applied Calculus I **Credits: 3.00**
- MA 16100 - Plane Analytic Geometry And Calculus I **Credits: 5.00**
- MA 16500 - Analytic Geometry And Calculus I **Credits: 4.00**

15-17 Credits

Fall 2nd Year

- CM 20002 - Intermediate Pre-Construction Management **Credits: 4.00**
- CM 21601 - Electrical Construction **Credits: 2.00**
- MGMT 20000 - Introductory Accounting **Credits: 3.00** or
- MGMT 21200 - Business Accounting **Credits: 3.00**
- PHYS 17200 - Modern Mechanics **Credits: 4.00** ♦ or
- PHYS 22000 - General Physics **Credits: 4.00** ♦

- Human Cultures: Humanities Selective - Credit Hours: 3.00

16 Credits

Spring 2nd Year

- CM 21500 - Mechanical Construction **Credits:** 3.00
- CM 27000 - Statics **Credits:** 3.00
- CM 31000 - Equipment And Field Operations **Credits:** 3.00
- Science Selective - Credit Hours: 3.00
- Elective - Credit Hours: 3.00

15 Credits

Fall 3rd Year

- CM 30002 - Advanced Pre-Construction Management **Credits:** 4.00
- CM 36500 - BIM For Project Managers And Field Supervision **Credits:** 2.00
- CM 38000 - Soils And Foundations **Credits:** 3.00
- CM Selective - Credit Hours: 3.00
- Elective - Credit Hours: 3.00

15 Credits

Spring 3rd Year

- CM 30101 - Introduction To Construction Company Financial Management **Credits:** 2.00
- CM 36400 - Jobsite Management **Credits:** 3.00
- CM 45701 - Construction Safety **Credits:** 3.00
- MGMT 25400 - Legal Foundations Of Business I **Credits:** 3.00 ♦ or
- MGMT 45500 - Legal Background For Business I **Credits:** 3.00
- CM Selective - Credit Hours: 3.00
- Elective - Credit Hours: 3.00

17 Credits

Fall 4th Year

- CM 40000 - Construction Capstone I **Credits:** 6.00
- CM 47500 - Construction Costs **Credits:** 2.00
  Economics Selective - Credit Hours: 3.00
- ECON 21000 - Principles Of Economics **Credits:** 3.00
- AGEC 21700 - Economics **Credits:** 3.00
- ECON 25100 - Microeconomics **Credits:** 3.00
- ECON 25200 - Macroeconomics **Credits:** 3.00
- Advanced Communication/English Selective - Credit Hours: 3.00

14 Credits

Spring 4th Year

- CM 43300 - Risk Management And Legal Issues In Design And Construction Integration **Credits:** 2.00
- CM 45001 - Construction Capstone II **Credits:** 3.00
- Global Selective - Credit Hours: 3.00
- Management Selective - Credit Hours: 3.00
- Elective - Credit Hours: 3.00

14 Credits

World Language Courses

World Language proficiency requirements vary by program. The following list is inclusive of all world languages PWL offers for credit; for acceptable languages and proficiency levels, see your advisor. (ASL-American Sign Language; ARAB-Arabic; CHNS-Chinese; FR-French; GER-German; GREK-Greek(Ancient); HEBR-Hebrew(Biblical); HEBR-Hebrew(Modern); ITAL-Italian; JPNS-Japanese; KOR-Korean; LATN-Latin; PTGS=Portuguese; RUSS-Russian; SPAN-Spanish)

Pre-Requisite Information

For pre-requisite information, log in to mypurdue.purdue.edu and click here.

Critical Course

The ♦ course is considered critical.

In alignment with the Degree Map Guidance for Indiana's Public Colleges and Universities, published by the Commission for Higher Education (pursuant to HEA 1348-2013), a Critical Course is identified as "one that a student must be able to pass to persist and succeed in a particular major. Students who want to be nurses, for example, should know that they are expected to be proficient in courses like biology in order to be successful. These would be identified by the institutions for each degree program."

Disclaimer

The student is ultimately responsible for knowing and completing all degree requirements. Consultation with an advisor may result in an altered plan customized for an individual student. The myPurduePlan powered by DegreeWorks is the knowledge source for specific requirements and completion.

Comparative information about Purdue University and other U.S. educational institutions is also available through the College Navigator tool, provided by the National Center for Education Statistics, and through the U.S. Department of Education College Scorecard.

Cybersecurity, BS

About the Program

The Cybersecurity major is part of the Computer and Information Technology program. The Computer and Information Technology program is accredited by the Computing Accreditation Commission of ABET, www.abet.org.

Keeping data secure is an important goal of any good IT system. Once a system has been breached, personal, financial or classified data becomes vulnerable to exploitation. When you major in cybersecurity at Purdue University, you will learn the skills to create and maintain secure networks as well as ways to track down hackers who aim to breach that security.

The demand for professionals with cybersecurity skills is high, and it will continue to grow as more companies and industries work to safeguard their records and their reputations. The cybersecurity plan of study at Purdue will be able to help meet this need by providing a comprehensive IT education that also emphasizes key security concepts. The major's holistic approach combines skills such as secure coding, cryptography, digital forensics and UNIX fundamentals with analytical thinking and criminology.

You will have plenty of opportunity for hands-on projects. Whether you are testing vulnerabilities or creating a new security protocol, you will put theories into practice daily. Because of industry partnerships, you will have access to internships that will put your cybersecurity knowledge to use quickly.

Cybersecurity Website

Computer and Information Technology Department Major Change (CODO) Requirements

Degree Requirements

120 Credits Required

Departmental/Program Major Courses (66 credits)

A C- GPA is required across all CNIT courses

Computer and Information Technology Required Major Courses (57 credits)

Computer and Information Technology Courses
- CNIT 15501 - Introduction To Software Development Concepts **Credits:** 3.00
- CNIT 17600 - Information Technology Architectures **Credits:** 3.00
- CNIT 18200 - System And Organizational Security **Credits:** 3.00

- CNIT 24200 - System Administration **Credits:** 3.00
- CNIT 25501 - Object-Oriented Programming Introduction **Credits:** 3.00
- CNIT 27000 - Cybersecurity Fundamentals I **Credits:** 3.00
- CNIT 27200 - Database Fundamentals **Credits:** 3.00
- CNIT 34000 - UNIX Administration **Credits:** 3.00
- CNIT 34220 - Network Administration **Credits:** 2.00 or 3.00 3 credits required
- CNIT 34400 - Network Engineering Fundamentals **Credits:** 3.00
- CNIT 48000 - Managing Information Technology Projects **Credits:** 3.00
  Cybersecurity Courses
- CNIT 27100 - Cybersecurity Fundamentals II **Credits:** 3.00
- CNIT 37000 - Introduction To Cryptography **Credits:** 3.00
- CNIT 37100 - Cyberlaw And Ethics **Credits:** 3.00
- CNIT 32300 - Basic Cyberforensics **Credits:** 3.00
- CNIT 42200 - Cyber Criminology **Credits:** 3.00
- CNIT 45500 - Network Security **Credits:** 3.00
- CNIT 47000 - Incident Response Management **Credits:** 3.00
- CNIT 47100 - Vulnerability Analysis And Testing **Credits:** 3.00

Cybersecurity Selectives (9 credits)

Not all courses will be available every semester.

- CNIT 32200 - Research Methodology And Design **Credits:** 3.00
- CNIT 41500 - Advanced Coding Security **Credits:** 3.00
- CNIT 41700 - Critical Infrastructure Security **Credits:** 3.00
- CNIT 42100 - Mobile Forensics **Credits:** 3.00
- CNIT 44500 - Advanced Internetwork Routing And Switching **Credits:** 3.00
- CNIT 45600 - Wireless Security And Management **Credits:** 3.00
- CNIT 47700 - Blockchain **Credits:** 3.00
- CNIT 48300 - Applied Machine Learning **Credits:** 3.00
- CNIT 51100 - Foundations In Homeland Security Studies **Credits:** 3.00
- CNIT 51200 - Managing Resources And Applications For Homeland Security **Credits:** 3.00
- CNIT 52300 - File System Forensics **Credits:** 3.00
- CNIT 52500 - Mobile And Embedded Device Forensics **Credits:** 3.00
- CNIT 55500 - Advanced Network Security **Credits:** 3.00
- CNIT 55700 - Advanced Research Topics In Cyber Forensics **Credits:** 3.00

CIT Common Core (42 credits)

Composition Selective (satisfies Written Communication for core) - Credit Hours: 3.00

- SCLA 10100 - Transformative Texts, Critical Thinking And Communication I: Antiquity To Modernity **Credits:** 3.00 or
- ENGL 10600 - First Year Composition With Conferences **Credits:** 4.00 or
- ENGL 10800 - First Year Composition **Credits:** 3.00 or
- HONR 19903 - Interdisciplinary Approaches In Writing **Credits:** 3.00

Introductory Oral Communication Selective (satisfies Oral Communication for core) - Credit Hours: 3.00

- SCLA 10200 - Transformative Texts, Critical Thinking And Communication II: Modern World **Credits:** 3.00 or
- COM 11400 - Fundamentals Of Speech Communication **Credits:** 3.00

Calculus I (satisfies Quantitative Reasoning for core) - Credit Hours: 3.00

- MA 16010 - Applied Calculus I **Credits:** 3.00

Calculus II (satisfies Quantitative Reasoning for core) - Credit Hours: 3.00

- MA 16020 - Applied Calculus II **Credits:** 3.00

Design Thinking (satisfies Information Literacy and Science, Technology & Society Selective for core) - Credit Hours: 3.00

- TECH 12000 - Design Thinking In Technology **Credits:** 3.00

Behavioral/Social Science Foundational Selective (satisfies Human Culture Behavioral/Social Science for core) - Credit Hours: 3.00

Human Cultures: Behavioral/Social Sciences (BSS)

Three credits required from the Human Cultures: Behavioral/Social Sciences (BSS) list.

Humanities Selective (satisfies Human Cultures: Humanities for core) - Credit Hours: 3.00

Human Cultures: Humanities (HUM)

Three credits required from the Human Cultures: Humanities (HUM) list.

Science Selective (satisfies Science for core) - Credit Hours: 3.00

Science(SCI)

Three credits required from the Science(SCI) list.

Lab Science Selective (satisfies Science for core) - Credit Hours: 3.00

Science (SCI) - with Lab Component

Three credits required from the Science(SCI) list.

Verify the course has a lab component when scheduling.

The following courses are typically offered with a lab component:

Accounting Selective - Credit Hours: 3.00

- MGMT 20000 - Introductory Accounting **Credits:** 3.00
- MGMT 21200 - Business Accounting **Credits:** 3.00

Economics Selective - Credit Hours: 3.00

AGEC 21700 or ECON 21000: credit can only be used for one of these courses to fulfill a degree requirement.

- AGEC 21700 - Economics **Credits:** 3.00
- ECON 21000 - Principles Of Economics **Credits:** 3.00
- ECON 25100 - Microeconomics **Credits:** 3.00
- ECON 25200 - Macroeconomics **Credits:** 3.00

Communication Selective - Credit Hours: 3.00

- COM 21000 - Addressing Public Issues **Credits:** 3.00 or
- COM 21200 - Approaches To The Study Of Interpersonal Communication **Credits:** 3.00 or
- COM 22400 - Communicating In The Global Workplace **Credits:** 3.00 or
- COM 25100 - Communication, Information, And Society **Credits:** 3.00 or
- COM 30300 - Intercultural Communication **Credits:** 3.00 or
- COM 31400 - Advanced Presentational Speaking **Credits:** 3.00 or
  (COM 31400 or COM 31500: credit can only be used for one of these courses to fulfill a degree requirement.)
- COM 31500 - Speech Communication Of Technical Information **Credits:** 3.00 or
  COM 31400 or COM 31500: credit can only be used for one of these courses to fulfill a degree requirement.
- COM 31800 - Principles Of Persuasion **Credits:** 3.00 or
- COM 32400 - Introduction To Organizational Communication **Credits:** 3.00

Professional Speaking Selective - Credit Hours: 3.00

- COM 31500 - Speech Communication Of Technical Information **Credits:** 3.00 or
- COM 32000 - Small Group Communication **Credits:** 3.00 or
- COM 32500 - Interviewing: Principles And Practice **Credits:** 3.00 or
- COM 41500 - Discussion Of Technical Problems **Credits:** 3.00

Professional Writing Selective - Credit Hours: 3.00

- ENGL 41900 - Multimedia Writing **Credits:** 3.00 or
- ENGL 42000 - Business Writing **Credits:** 3.00 or
- ENGL 42100 - Technical Writing **Credits:** 3.00

Professional IT Experience Requirement

If a student selects the course option, they must enroll in 3 credits total.

- CNIT 39000 - Supervised Practicum **Credits:** 1.00 to 3.00
- TDM 11100 - Corporate Partners I **Credits:** 3.00
- TDM 11200 - Corporate Partners II **Credits:** 3.00
- TDM 21100 - Corporate Partners III **Credits:** 3.00
- TDM 21200 - Corporate Partners IV **Credits:** 3.00
- TDM 31100 - Corporate Partners V **Credits:** 3.00
- TDM 31200 - Corporate Partners VI **Credits:** 3.00
- TDM 41100 - Corporate Partners VII **Credits:** 3.00
- TDM 41200 - Corporate Partners VIII **Credits:** 3.00

Globalization Requirement - Credit Hours: 0.00

All students must complete the Polytechnic Growth Plan for Global Awareness and Intercultural Competency.

Step 1: Complete the Pre-test Intercultural Development Inventory Assessments (1st year)

Step 2: Complete CNIT 32000 or CNIT 37100

Step 3: Complete the Post-test Intercultural Development Inventory Assessments (4th year)

NOTE FOR TRANSFER/CODO STUDENTS: Transfer and CODO students with less than 75 credit hours remaining to completed their Polytechnic Plan of Study are exempt from Step 1 (taking the IDI Pretest).

Other Departmental /Program Course Requirements (12 credits)

Statistics Selective
- STAT 22500 - Introduction To Probability Models **Credits:** 3.00 or
- STAT 30100 - Elementary Statistical Methods **Credits:** 3.00 or
- STAT 50100 - Experimental Statistics I **Credits:** 3.00 or
- STAT 51100 - Statistical Methods **Credits:** 3.00
- Cybersecurity Interdisciplinary Selective - Credit Hours: 9.00
- IT Professional Experience Requirement - Credit Hours: 0.00
- Globalization Requirement - Credit Hours: 0.00

Supplemental List

Click here for Cybersecurity Supplemental Information.

Grade Requirements

- Students must earn a C- or better in all CNIT courses that are a prerequisite to another CNIT course
- Any course taken at Purdue can be attempted no more than three times (inclusive of W, WF, WN, I, and IF)

GPA Requirements

- 2.0 Cummulative GPA required for Bachelor of Science degree
- 2.0 Cummulative GPA in all CNIT courses required for Bachelor of Science degree

Course Requirements and Notes

- Students must select courses from Cybersecurity Supplemental Information.
- Courses with the ♦ are essential for the CIT degree critical path to graduation
- Credit cannot be earned for both AGEC 21700 and ECON 21000 to fulfill degree requirements
- Credit cannot be earned for both COM 31400 and COM 31500 to fulfill degree requirements
- A single course may not fulfill multiple requirements within the CIT BS degree

Non-course / Non-credit Requirements

- Co-Curricular Requirements include the following:
  - Professional IT Experience
  - Globalization requirement

University Requirements

University Core Requirements

For a complete listing of University Core Course Selectives, visit the <u>Provost's Website</u>.

- Human Cultures: Behavioral/Social Science (BSS)
- Human Cultures: Humanities (HUM)
- Information Literacy (IL)
- Oral Communication (OC)
- Quantitative Reasoning (QR)
- Science #1 (SCI)
- Science #2 (SCI)
- Science, Technology, and Society (STS)
- Written Communication (WC)

Civics Literacy Proficiency Requirement

The Civics Literacy Proficiency activities are designed to develop civic knowledge of Purdue students in an effort to graduate a more informed citizenry. For more information visit the Civics Literacy Proficiency website.

Students will complete the Proficiency by passing a test of civic knowledge, and completing <u>one of three</u> paths:

- Attending six approved civics-related events and completing an assessment for each; or
- Completing 12 podcasts created by the Purdue Center for C-SPAN Scholarship and Engagement that use C-SPAN material and completing an assessment for each; or
- Earning a passing grade for one of **these approved courses** (or transferring in approved AP or departmental credit in lieu of taking a course).

Upper Level Requirement

- Resident study at Purdue University for at least two semesters and the enrollment in and completion of at least 32 semester hours of coursework required and approved for the completion of the degree. These courses are expected to be at least junior-level (30000+) courses.
- Students should be able to fulfill *most*, *if not all*, of these credits within their major requirements; there should be a clear pathway for students to complete any credits not completed within their major.

Sample 4-Year Plan

Fall 1st Year

- CNIT 17600 - Information Technology Architectures **Credits:** 3.00
- CNIT 18200 - System And Organizational Security **Credits:** 3.00 ♦
- SCLA 10100 - Transformative Texts, Critical Thinking And Communication I: Antiquity To Modernity **Credits:** 3.00 or
- ENGL 10600 - First Year Composition With Conferences **Credits:** 4.00 or
- ENGL 10800 - First Year Composition **Credits:** 3.00 or
- HONR 19903 - Interdisciplinary Approaches In Writing **Credits:** 3.00
- MA 16010 - Applied Calculus I **Credits:** 3.00
- TECH 12000 - Design Thinking In Technology **Credits:** 3.00 ♦

15 Credits

Spring 1st Year

- CNIT 15501 - Introduction To Software Development Concepts **Credits:** 3.00
- CNIT 27000 - Cybersecurity Fundamentals I **Credits:** 3.00
- SCLA 10200 - Transformative Texts, Critical Thinking And Communication II: Modern World **Credits:** 3.00 or
- COM 11400 - Fundamentals Of Speech Communication **Credits:** 3.00
- MA 16020 - Applied Calculus II **Credits:** 3.00
- Behavioral/Social Sciences Foundational Selective - Credit Hours: 3.00

15 Credits

Fall 2nd Year

- CNIT 25501 - Object-Oriented Programming Introduction **Credits:** 3.00
- CNIT 27100 - Cybersecurity Fundamentals II **Credits:** 3.00
- AGEC 21700 - Economics **Credits:** 3.00 or
- ECON 21000 - Principles Of Economics **Credits:** 3.00 or
- ECON 25100 - Microeconomics **Credits:** 3.00 or
- ECON 25200 - Macroeconomics **Credits:** 3.00
- Humanities Foundational Selective - Credit Hours: 3.00
- Science Selective - Credit Hours: 3.00

15 Credits

Spring 2nd Year

- CNIT 24200 - System Administration **Credits:** 3.00
- CNIT 27200 - Database Fundamentals **Credits:** 3.00
- COM 21000 - Addressing Public Issues **Credits:** 3.00 or
- COM 21200 - Approaches To The Study Of Interpersonal Communication **Credits:** 3.00 or
- COM 22400 - Communicating In The Global Workplace **Credits:** 3.00 or
- COM 25100 - Communication, Information, And Society **Credits:** 3.00 or
- COM 30300 - Intercultural Communication **Credits:** 3.00 or
- COM 31400 - Advanced Presentational Speaking **Credits:** 3.00 or
- COM 31500 - Speech Communication Of Technical Information **Credits:** 3.00 or
- COM 31800 - Principles Of Persuasion **Credits:** 3.00 or
- COM 32000 - Small Group Communication **Credits:** 3.00 or
- COM 32400 - Introduction To Organizational Communication **Credits:** 3.00 or
- STAT 22500 - Introduction To Probability Models **Credits:** 3.00 or
- STAT 30100 - Elementary Statistical Methods **Credits:** 3.00 or
- STAT 50100 - Experimental Statistics I **Credits:** 3.00 or
- STAT 51100 - Statistical Methods **Credits:** 3.00
- Lab Science Selective - Credit Hours: 3.00

15 Credits

Fall 3rd Year

- CNIT 34000 - UNIX Administration **Credits:** 3.00
- CNIT 34400 - Network Engineering Fundamentals **Credits:** 3.00
- CNIT 37000 - Introduction To Cryptography **Credits:** 3.00
- Cybersecurity Interdisciplinary Selective - Credit Hours: 3.00
- Cybersecurity Selective - Credit Hours: 3.00

15 Credits

Spring 3rd Year

- CNIT 37100 - Cyberlaw And Ethics **Credits:** 3.00
- CNIT 32300 - Basic Cyberforensics **Credits:** 3.00
- CNIT 34220 - Network Administration **Credits:** 2.00 or 3.00
  3.00 credits required
- MGMT 20000 - Introductory Accounting **Credits:** 3.00 or
- MGMT 21200 - Business Accounting **Credits:** 3.00
- Cybersecurity Selective- Credit Hours: 3.00

15 Credits

Fall 4th Year

- CNIT 45500 - Network Security **Credits:** 3.00
- CNIT 47000 - Incident Response Management **Credits:** 3.00 Cybersecurity Selective - Credit Hours: 3.00 Cybersecurity Interdisciplinary Selective - Credit Hours: 3.00
- COM 31500 - Speech Communication Of Technical Information **Credits:** 3.00 or
- COM 32000 - Small Group Communication **Credits:** 3.00 or
- COM 32500 - Interviewing: Principles And Practice **Credits:** 3.00 or
- COM 41500 - Discussion Of Technical Problems **Credits:** 3.00

15 Credits

Spring 4th Year

- CNIT 42200 - Cyber Criminology **Credits:** 3.00
- CNIT 47100 - Vulnerability Analysis And Testing **Credits:** 3.00
- CNIT 48000 - Managing Information Technology Projects **Credits:** 3.00
- ENGL 41900 - Multimedia Writing **Credits:** 3.00 or
- ENGL 42000 - Business Writing **Credits:** 3.00 or
- ENGL 42100 - Technical Writing **Credits:** 3.00
- Cybersecurity Selective - Credit Hours: 3.00

15 Credits

Critical Course

The ♦ course is considered critical.

In alignment with the Degree Map Guidance for Indiana's Public Colleges and Universities, published by the Commission for Higher Education (pursuant to HEA 1348-2013), a Critical Course is identified as "one that a student must be able to pass to persist and succeed in a particular major. Students who want to be nurses, for example, should know that they are expected to be proficient in courses like biology in order to be successful. These would be identified by the institutions for each degree program."

Pre-Requisite Information

For pre-requisite information, log in to mypurdue.purdue.edu and click here.

Disclaimer

The student is ultimately responsible for knowing and completing all degree requirements. Consultation with an advisor may result in an altered plan customized for an individual student. The myPurduePlan powered by DegreeWorks is the knowledge source for specific requirements and completion.

Comparative information about Purdue University and other U.S. educational institutions is also available through the College Navigator tool, provided by the National Center for Education Statistics, and through the U.S. Department of Education College Scorecard.

Data Science, BS (CS)

About the Program

Majoring in data science at Purdue will place you at the forefront of an emerging field and prepare you for an exciting career at the intersection of computer science and statistics.

Created jointly by Purdue's Department of Computer Science and Department of Statistics, the data science major will open pathways to careers in virtually every area of society, from healthcare, security and sustainability to education, business and economics.

Curriculum and Degree Requirements for College of Science

A College of Science degree is conferred when a student successfully completes all requirements in their degree program. Students will complete coursework or approved experiential learning activities to meet the following three degree components:

1. Major
2. Science Core Curriculum
3. Electives

Students may use any of the following options to meet College of Science degree requirements:

- Purdue Coursework
- AP, IB, and CLEP credit. The use of AP and IB coursework varies between College of Science degree plans.
- Transfer Credit. Students should consult the Admissions Transfer Credit Resource page for all available transfer options.

College of Science degree programs vary widely in their approval and use of the proceeding options and thus students are strongly encouraged to work closely with their academic advisors and to regularly consult their MyPurduePlan to view the use of each option in their degree plan.

Most College of Science degree programs contain elective credits students may use to pursue courses that relate to their interests or which support their major area of study. The elective area of a degree plan may also be used to complete minors, second majors and certificates such as the Entrepreneurial Certificate. Any Purdue course may be used to meet the elective area of a student's degree plan.

College of Science Core Requirements

All Students starting Purdue University Fall semester, 2007 or later are required to pursue the 2007 Science Core curriculum.

The College of Science Core Curriculum requires the completion of approved coursework and/or experiential learning opportunities in the following academic areas:

- Composition and Presentation
- Computing
- Cultural Diversity (Language and Culture)
- General Education
- Great Issues in Science
- Laboratory Science
- Mathematics
- Science Technology and Society
- Statistics
- Teambuilding and Collaboration

Earning Core Curricular Requirements through Experience

Students may meet selected core curriculum requirements through approved experiential learning opportunities. Interested students should contact their academic advisor for more information on this option and incorporating experiential learning into their four-year program of study. For more information on earning requirements through experience, please click here.

Degree Requirements

120 Credits Required

Data Science Major Courses (47-51 credits)

Must have "C" or better in all courses.

Required Data Science Courses (36-37 credits)

Must have "C" or better in all courses.

- CS 18000 - Problem Solving And Object-Oriented Programming **Credits:** 4.00 ♦ *(satisfies Computing, and Team-Building and Collaboration, for College of Science core)*
- CS 18200 - Foundations Of Computer Science **Credits:** 3.00
- CS 25300 - Data Structures And Algorithms For DS/AI **Credits:** 3.00
- CS 37300 - Data Mining And Machine Learning **Credits:** 3.00 (must be completed with a grade of C or better prior to the start of the Capstone Experience)
- CS 38003 - Python Programming **Credits:** 1.00
- CS 44000 - Large Scale Data Analytics **Credits:** 3.00
- MA 35100 - Elementary Linear Algebra **Credits:** 3.00
- STAT 35500 - Statistics For Data Science **Credits:** 3.00 *(satisfies Statistics for College of Science core)*
- STAT 41600 - Probability **Credits:** 3.00
- STAT 41700 - Statistical Theory **Credits:** 3.00
- CS 24200 - Introduction To Data Science **Credits:** 3.00 or
- STAT 24200 - Introduction To Data Science **Credits:** 3.00
- MA 26100 - Multivariate Calculus **Credits:** 4.00 or
- MA 27101 - Honors Multivariate Calculus **Credits:** 5.00

CS Selectives (6 credits)

Must have "C" or better in all courses. **Choose two.**

- CS 31100 - Competitive Programming II **Credits:** 2.00 and
- CS 41100 - Competitive Programming III **Credits:** 2.00
- CS 31400 - Numerical Methods **Credits:** 3.00
- CS 35500 - Introduction To Cryptography **Credits:** 3.00
- CS 43900 - Introduction To Data Visualization **Credits:** 3.00
- CS 45800 - Introduction To Robotics **Credits:** 3.00
- CS 47100 - Introduction To Artificial Intelligence **Credits:** 3.00
- CS 47300 - Web Information Search And Management **Credits:** 3.00
- CS 47500 - Human-Computer Interaction **Credits:** 3.00
- CS 30700 - Software Engineering I **Credits:** 3.00 or

- CS 40800 - Software Testing **Credits:** 3.00
- CS 34800 - Information Systems **Credits:** 3.00 or
- CS 44800 - Introduction To Relational Database Systems **Credits:** 3.00
- CS 38100 - Introduction To The Analysis Of Algorithms **Credits:** 3.00 or
- CS 48300 - Introduction To The Theory Of Computation **Credits:** 3.00

Ethics Selective (3 credits)

Must have "C" or better in all courses. **Choose one.**

- ILS 23000 - Data Science And Society: Ethical Legal Social Issues **Credits:** 3.00 *(satisfies 3.0 credits of GE for College of Science core)*
- PHIL 20700 - Ethics For Technology, Engineering, And Design **Credits:** 3.00 *(satisfies Science, Technology & Society for core and 3.0 credits of GE for College of Science core)*
- PHIL 20800 - Ethics Of Data Science **Credits:** 3.00 *(must be 3.00 Credit Hour option; satisfies Multidisciplinary Experience and 3.0 credits of GE for College of Science core)*

Statistics Selective (3 credits)

Must have "C" or better in all courses. **Choose one.**

- MA 43200 - Elementary Stochastic Processes **Credits:** 3.00
- STAT 42000 - Introduction To Time Series **Credits:** 3.00
- STAT 50600 - Statistical Programming And Data Management **Credits:** 3.00
- STAT 51200 - Applied Regression Analysis **Credits:** 3.00
- STAT 51300 - Statistical Quality Control **Credits:** 3.00
- STAT 51400 - Design Of Experiments **Credits:** 3.00
- STAT 52200 - Sampling And Survey Techniques **Credits:** 3.00
- STAT 52500 - Intermediate Statistical Methodology **Credits:** 3.00

Capstone Experience (3 credits)

Choose one option below.

- *STAT 49000 and Data Mine projects/courses do not fulfill the Capstone requirement.*
- CS 37300 must be completed with a grade of C or better prior to the start of the Capstone Experience.

Credit Course Options

- CS 49000 - Topics In Computer Science For Undergraduates (Individual Study) - a preapproved unpaid research opportunity in Data Science fulfills the capstone.
- CS 44100 - Data Science Capstone **Credits:** 3.00

Zero Credit Option

Students choosing a Zero-Credit Capstone Experience Option must complete an additional selective from either the CS Selectives or the Statistics Selectives lists.

- CS 49000 - Topics In Computer Sciences For Undergraduates **Credits:** 1.00 to 5.00 -- (Individual Study) - a preapproved paid research opportunity in Data Science fulfills the capstone.

Other Departmental/Program Course Requirements (29-52 credits)

COLLEGE OF SCIENCE CORE REQUIREMENTS

^ - Labeled as a Science Core Selection in the four year plan of study

* - Requirement may be met with a zero credit experiential learning option. See your advisor for more information.

Composition & Presentation

Written Communication

Choose one course from the Written Communication list here. (satisfies Written Communication and Information Literacy for core)

Technical Writing And Presentation* (0 or 3 credits)

Students may elect to take one course (COM 21700), a combination of courses, or experiences to meet the TWTP requirement. The list of approved courses and experiences can be found here. (satisfies OC for core)

Special Note: Students completing both COM 11400 (elective) and COM 21700 (Technical Writing and Presentation requirement) may use both courses to meet degree requirements.

*Students wishing to meet the Technical Presentation and/or Technical Writing requirement through experience are required to complete the Experiential Learning Contract process.

International Students Only: International students whose primary high school/equivalent instruction was not in English may meet this requirement with a course option only.

Computing

Met with required major coursework.

Cultural Diversity (Language & Culture)^* (0-9 credits)

Choose courses from this list to fulfill each Option below (select courses COULD satisfy Humanities for core).

- Language & Culture Option I
- Language & Culture Option II
- Language & Culture Option III

General Education^ (6 credits)

Choose courses from this list to fulfill each Option below (select courses COULD satisfy Behavioral/Social Science for core).

- General Education Option I (*Met with required major coursework*)

- General Education Option II
- General Education Option III

Great Issues In Science (3 credits)

Choose one from this list.

Laboratory Science (6-8 credits)

Choose courses from this list to fulfill each Option below (*satisfies Science for core*).

- Laboratory Science Option I
- Laboratory Science Option II

Mathematics (8-10 credits)

(satisfies Quantitative Reasoning for core) Must have C or better.

- MA 16100 - Plane Analytic Geometry And Calculus I **Credits:** 5.00 or
- MA 16500 - Analytic Geometry And Calculus I **Credits:** 4.00
- MA 16200 - Plane Analytic Geometry And Calculus II **Credits:** 5.00 or
- MA 16600 - Analytic Geometry And Calculus II **Credits:** 4.00

Science, Technology, & Society^* (3 credits)

Choose one from the Science, Technology, and Society list. (satisfies STS for core)

Statistics

Met with required major coursework.

Team-Building and Collaboration

Met with required major coursework.

Electives (17-44 credits)

Enrollment in freshman seminar course - CS 19300 - Tools is strongly encouraged to be taken with CS 18000. CS 19300 is not a degree requirement. CS 29100 - Sophomore Development Seminar and CS 39100 are optional but recommended.

Grade Requirements

- For this degree, all major required courses, all major electives (selectives), and their pre-requisites, regardless of department, must be completed with a grade of C or better.

GPA Requirements

- 2.0 Major and Graduation GPA required for Bachelor of Science degree.

College of Science Pass/No Pass Option Policy

- Only electives and courses at the 50000-level general education requirement may be taken under the pass/no pass option.
- The pass/no pass grade mode may be entered for courses which are not required by a student's major(s), minor(s) or science core curriculum.
- Grade mode Passing is equivalent to at a minimum grade of C- had a letter grade been awarded.
- Students may elect to use the pass/no pass option for no more than 20% of the 124/120 credit requirement for graduation and for no more than two courses per academic year (Fall-Summer).
- The pass/no pass option cannot be elected for a course that has already been completed with a letter grade. University Regulation.
- Students may take elective credit while abroad using the P/NP mode. In the case of universities which only post P/NP, the University will apply a calculation process to determine a letter grade.
- Department of Languages and Cultures P/NP policy and Language Placement results. Students must take advanced coursework for a letter grade to receive credit for lower-level language courses.

College of Science Transfer Credit Policy

College of Science degree programs vary widely in their approval and use of non-Purdue originated credit (AP, IB, CLEP, and transfer credit). Students work closely with their academic advisors and degree plan audits to review the use and approval of each non-Purdue credit option.

Computer Science Transfer Credit Policy

- Equivalent 10000 and 20000-level Computer Science (CS) transfer credit courses (including credit from regional campuses) may be used to meet degree requirements if those courses were taken prior to admission to the Purdue West Lafayette Data Science, B.S. CS program.
- CS transfer credit at the 30000-40000-level may not be used to meet degree requirements. As exception to this policy is the application of pre-approved Study Abroad coursework.

University Requirements

University Core Requirements

For a complete listing of University Core Course Selectives, visit the Provost's Website.

- Human Cultures: Behavioral/Social Science (BSS)
- Human Cultures: Humanities (HUM)
- Information Literacy (IL)
- Oral Communication (OC)
- Quantitative Reasoning (QR)
- Science #1 (SCI)
- Science #2 (SCI)
- Science, Technology, and Society (STS)
- Written Communication (WC)

Civics Literacy Proficiency Requirement

The Civics Literacy Proficiency activities are designed to develop civic knowledge of Purdue students in an effort to graduate a more informed citizenry. For more information visit the Civics Literacy Proficiency website.

Students will complete the Proficiency by passing a test of civic knowledge, and completing <u>one of three</u> paths:

- Attending six approved civics-related events and completing an assessment for each; or
- Completing 12 podcasts created by the Purdue Center for C-SPAN Scholarship and Engagement that use C-SPAN material and completing an assessment for each; or
- Earning a passing grade for one of **these approved courses** (or transferring in approved AP or departmental credit in lieu of taking a course).

Upper Level Requirement

- Resident study at Purdue University for at least two semesters and the enrollment in and completion of at least 32 semester hours of coursework required and approved for the completion of the degree. These courses are expected to be at least junior-level (30000+) courses.
- Students should be able to fulfill *most*, *if not all*, of these credits within their major requirements; there should be a clear pathway for students to complete any credits not completed within their major.

Sample 4-Year Plan

Fall 1st Year

- CS 18000 - Problem Solving And Object-Oriented Programming **Credits:** 4.00 ♦ *
- MA 16100 - Plane Analytic Geometry And Calculus I **Credits:** 5.00 or
- MA 16500 - Analytic Geometry And Calculus I **Credits:** 4.00
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Elective - Credit Hour: 1.00 (CS 19300 strongly recommended)
- Elective - Credit Hour: 1.00
- Electives - Credit Hours: 3.00

16-18 Credits

Spring 1st Year

- CS 18200 - Foundations Of Computer Science **Credits:** 3.00 *
- CS 38003 - Python Programming **Credits:** 1.00
- MA 16200 - Plane Analytic Geometry And Calculus II **Credits:** 5.00 or
- MA 16600 - Analytic Geometry And Calculus II **Credits:** 4.00
- Science Core First Year Composition Selection - Credit Hours: 3.00 - 4.00
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Electives - Credit Hours: 1.00

15-18 Credits

Fall 2nd Year

- STAT 35500 - Statistics For Data Science **Credits:** 3.00
- CS 24200 - Introduction To Data Science **Credits:** 3.00 or
- STAT 24200 - Introduction To Data Science **Credits:** 3.00
- MA 26100 - Multivariate Calculus **Credits:** 4.00 or
- MA 27101 - Honors Multivariate Calculus **Credits:** 5.00
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Elective - Credit Hours: 1.00 - 3.00

14-18 Credits

Spring 2nd Year

- CS 25300 - Data Structures And Algorithms For DS/AI **Credits:** 3.00
- MA 35100 - Elementary Linear Algebra **Credits:** 3.00
- STAT 41600 - Probability **Credits:** 3.00
- Ethics Selective♦ - Credit Hours: 3.00
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Elective - Credit Hours: 1.00 - 2.00

16-18 Credits

Fall 3rd Year

- CS 37300 - Data Mining And Machine Learning **Credits:** 3.00
- STAT 41700 - Statistical Theory **Credits:** 3.00
- COM 21700 - Science Writing And Presentation **Credits:** 3.00
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Elective - Credit Hours: 3.00

15-16 Credits

Spring 3rd Year

- CS Selective - Credit Hours 3.00
- Statistics Selective - Credit Hours: 3.00
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Elective - Credit Hours: 3.00

15-17 Credits

Fall 4th Year

- CS 44000 - Large Scale Data Analytics **Credits:** 3.00
- CS Selective - Credit Hours: 3.00
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Elective - Credit Hours: 3.00
- Elective - Credit Hours: 3.00
- Elective - Credit Hours: 1.00 - 3.00

16-17 Credits

Spring 4th Year

- Capstone Experience/Course - Credit Hours: 0.00 - 3.00
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Science Core Selection - Credit Hours: 3.00 - 4.00
- Elective - Credit Hours: 3.00
- Elective - Credit Hours: 3.00
- Elective - Credit Hours: 1.00

13-18 Credits

Pre-Requisite Information

For pre-requisite information, log in to mypurdue.purdue.edu and click here.

World Language Courses

World Language proficiency requirements vary by program. The following list is inclusive of all world languages PWL offers for credit; for acceptable languages and proficiency levels, see your advisor. (ASL-American Sign Language; ARAB-Arabic; CHNS-Chinese; FR-French; GER-German; GREK-Greek(Ancient); HEBR-Hebrew(Biblical); HEBR-Hebrew(Modern); ITAL-Italian; JPNS-Japanese; KOR-Korean; LATN-Latin; PTGS=Portuguese; RUSS-Russian; SPAN-Spanish)

Critical Course

The ♦ course is considered critical.

In alignment with the Degree Map Guidance for Indiana's Public Colleges and Universities, published by the Commission for Higher Education (pursuant to HEA 1348-2013), a Critical Course is identified as "one that a student must be able to pass to persist and succeed in a particular major. Students who want to be nurses, for example, should know that they are expected to be proficient in courses like biology in order to be successful. These would be identified by the institutions for each degree program."

Disclaimer

The student is ultimately responsible for knowing and completing all degree requirements. Consultation with an advisor may result in an altered plan customized for an individual student. The myPurduePlan powered by DegreeWorks is the knowledge source for specific requirements and completion.

Comparative information about Purdue University and other U.S. educational institutions is also available through the College Navigator tool, provided by the National Center for Education Statistics, and through the U.S. Department of Education College Scorecard.

Electrical Engineering Technology, BS

About the Program

The Electrical Engineering Technology major is part of the Electrical Engineering Technology program. The electrical engineering technology program is accredited by the Engineering Technology Accreditation Commission of ABET, https://www.abet.org, under the commission's general criteria and program criteria for Electrical/Electronic(s) Engineering Technology and similarly named programs.

When you study electrical engineering technology, you study the lifeblood of today's technology: electronics and computers. Electronics technology is a part of most everything society relies on, from air conditioning to airplanes, and from trains to televisions. And because technology is constantly evolving, you will be engaged in learning methods that will help you adapt to and embrace new technologies and their uses.

Students in this program can apply to participate in a five-year combined bachelor's/master's degree program in electrical engineering technology.

Electrical Engineering Technology Website

School of Engineering Technology Major Change (CODO) Requirements

Degree Requirements

120 Credits Required

Departmental/Program Major Courses (55 credits)

Required Major Courses (55 credits)

- ENGT 18200 - Gateway To Engineering Technology **Credits:** 4.00
- ECET 17700 - Data Acquisition And Systems Control **Credits:** 3.00
- ECET 17900 - Introduction To Digital Systems **Credits:** 3.00
- ECET 22700 - DC And Pulse Electronics **Credits:** 3.00
- ECET 22900 - Concurrent Digital Systems **Credits:** 3.00
- ECET 27000 - Electronics Prototype Development And Construction **Credits:** 3.00
- ECET 27400 - Wireless Communications **Credits:** 3.00
- ECET 27700 - AC And Power Electronics **Credits:** 3.00
- ECET 27900 - Embedded Digital Systems **Credits:** 3.00
- ECET 37600 - Electrical Energy Systems **Credits:** 3.00

- ECET Advanced Analysis Selective - Credit Hours: 3.00
- ECET Selectives - Credit Hours: 12.00
- Senior Capstone I Selective - Credit Hours: 3.00

- Senior Capstone II Selective - Credit Hours: 3.00

Other Departmental/Program Course Requirements (62 credits)

- TECH 12000 - Design Thinking In Technology **Credits:** 3.00 (satisfies Information Literacy and Science, Technology & Society for core)
Intro to C Programming Selective (3 credit)
- CNIT 10500 - Introduction To C Programming **Credits:** 3.00 (preferred) or
- CS 15900 - C Programming **Credits:** 3.00
<u>Applied Calculus I Selective (3 credits)</u> - satisfies Quantitative Reasoning for core
- MA 16010 - Applied Calculus I **Credits:** 3.00 (preferred) or
- MA 16100 - Plane Analytic Geometry And Calculus I **Credits:** 5.00 or
- MA 16500 - Analytic Geometry And Calculus I **Credits:** 4.00
Applied Calculus II Selective (4 credits)
- MA 16020 - Applied Calculus II **Credits:** 3.00 (preferred) or
- MA 16200 - Plane Analytic Geometry And Calculus II **Credits:** 5.00 or
- MA 16600 - Analytic Geometry And Calculus II **Credits:** 4.00
<u>General Physics I Selective (4 credits)</u> - satisfies Science for core
- PHYS 22000 - General Physics **Credits:** 4.00 (preferred) or
- PHYS 17200 - Modern Mechanics **Credits:** 4.00
<u>General Physics II Selective (3-4 credits)</u> - satisfies Science for core
- PHYS 22100 - General Physics **Credits:** 4.00 (preferred) or
- PHYS 24100 - Electricity And Optics **Credits:** 3.00 or
- PHYS 27200 - Electric And Magnetic Interactions **Credits:** 4.00
<u>Statistics Selective (3 credits)</u>
- STAT 22500 - Introduction To Probability Models **Credits:** 3.00 or
- STAT 30100 - Elementary Statistical Methods **Credits:** 3.00
<u>English Composition Selective (3-4 credits)</u> - satisfies Written Communication for core
- ENGL 10600 - First Year Composition With Conferences **Credits:** 4.00 or
- ENGL 10800 - First Year Composition **Credits:** 3.00 or
- HONR 19903 - Interdisciplinary Approaches In Writing **Credits:** 3.00 or
- SCLA 10100 - Transformative Texts, Critical Thinking And Communication I: Antiquity To Modernity **Credits:** 3.00
Written Communication Selective (3 credits)
- ENGL 20500 - Introduction To Creative Writing **Credits:** 3.00 or
- ENGL 30400 - Advanced Composition **Credits:** 3.00 or
- ENGL 42000 - Business Writing **Credits:** 3.00 or
- ENGL 42100 - Technical Writing **Credits:** 3.00 or
- ENGL 42400 - Writing For High Technology Industries **Credits:** 3.00
<u>Freshman Speech Selective (3 credits)</u> - satisfies Oral Communication for core
- COM 11400 - Fundamentals Of Speech Communication **Credits:** 3.00 or
- SCLA 10200 - Transformative Texts, Critical Thinking And Communication II: Modern World **Credits:** 3.00
Industrial Economics Selective (3 credits)
- AGEC 33000 - Management Methods For Agricultural Business **Credits:** 3.00 or
- AGEC 35200 - Quantitative Techniques For Firm Decision Making **Credits:** 3.00 or
- IET 33400 - Economic Analysis For Technology Systems **Credits:** 3.00 or
- MGMT 20000 - Introductory Accounting **Credits:** 3.00 or
- MGMT 21200 - Business Accounting **Credits:** 3.00

- **Business Selective** - Credit Hours: 3.00
- **General Education Selectives**: 12.00
- **Global/ Professional Selective** - Credit Hours: 3.00
- **Human Cultures: Humanities** requirement for core - Credit Hours: 3.00
- **Human Cultures: Behavioral/Social Sciences** requirement for core (can be met either through a General Education or Business Selective) - Credit Hours: 3.00
- **General Education Selective** - Credit Hours: 3.00
- **General Education Selective** - Credit Hourse: 3.00
- **Oral Communication Selective** - Credit Hours: 3.00
- **Technical Selectives** (9 additional credit hours of *technical courses*, including additional ECET courses) - Credit Hours 9.00
- **Intercultural Requirement** - 0.0 Credit Hours
- **Professional Requirement** - 0.0 Credit Hours

Elective (3 credits)

- Any non-remedial course.

Supplemental List

Click here for Electrical Engineering Technology Supplemental Information.

Professional Experience

The SOET Professional Experience requirement is intended to document those experiences which help expose SOET students to the expectations of their professional prior to graduation. This may occur through industrial experience, technical or administrative involvement with community service, military service, et cetera. Approval has been granted for the following experiences. Additional experiences may also satisfy this graduation requirement. Requests for approval should be submitted to the SOET Curriculum Subcommittee Chair for consideration, allowing at least four academic weeks for review and response. See supplemental information for approved experiences.

Grade Requirements

- Students must earn a "D-" or better in all courses.
- Courses at Purdue University may only be attempted a maximum of three (3) times, including W, WF, I, IF and all graded attempts.

GPA Requirements

- 2.0 Graduation GPA is required for the Bachelor of Science degree.

Course Requirements and Notes

- Human Cultures Behavioral/Social Science for University Core may be selected to satisfy either the Business Selective or a General Education Selective requirement.

- Senior Capstone Selective I/II and 12 hours of ECET lab-based courses at the 300-level or higher must be taken at Purdue University West Lafayette and/or Polytechnic Statewide.

Non-course / Non-credit Requirements

- Intercultural Requirement (ungraded) must be completed.
- Professional Requirement (ungraded) must be completed.
- Professional and Intercultural requirements will be satisfied by completion of experiences, assessments, and courses that are pre-approved by the ECET Curriculum Subcommittee. Approved courses may fulfill other degree requirements.
- Choose from list: Refer to the Electrical Engineering Technology Supplemental Information for a complete list of selectives and requirements (including ungraded requirements).

Pass/No Pass Policy

- Pass/no pass grading allowed for General Education Selectives and Electives (up to 15 hrs).

Transfer Credit Policy

- Transfer credit from other institutions, including courses taken as dual or concurrent credit in high school, and credit from testing such as Advanced Placement and International Baccalaureate that are an exact match for Purdue courses, may be applied to degree requirements.
- For undistributed credit to be applied to degree requirements, the course or courses will need to be evaluated by the ECET Curriculum Committee for approval. Additional approvals will be required for courses to meet University Core Curriculum requirements. In both cases approval is not automatic.

University Requirements

University Core Requirements

For a complete listing of University Core Course Selectives, visit the Provost's Website.

- Human Cultures: Behavioral/Social Science (BSS)
- Human Cultures: Humanities (HUM)
- Information Literacy (IL)
- Oral Communication (OC)
- Quantitative Reasoning (QR)
- Science #1 (SCI)
- Science #2 (SCI)
- Science, Technology, and Society (STS)
- Written Communication (WC)

Civics Literacy Proficiency Requirement

The Civics Literacy Proficiency activities are designed to develop civic knowledge of Purdue students in an effort to graduate a more informed citizenry. For more information visit the Civics Literacy Proficiency website.

Students will complete the Proficiency by passing a test of civic knowledge, and completing <u>one of three</u> paths:

- Attending six approved civics-related events and completing an assessment for each; or
- Completing 12 podcasts created by the Purdue Center for C-SPAN Scholarship and Engagement that use C-SPAN material and completing an assessment for each; or
- Earning a passing grade for one of **these approved courses** (or transferring in approved AP or departmental credit in lieu of taking a course).

Upper Level Requirement

- Resident study at Purdue University for at least two semesters and the enrollment in and completion of at least 32 semester hours of coursework required and approved for the completion of the degree. These courses are expected to be at least junior-level (30000+) courses.
- Students should be able to fulfill *most*, *if not all*, of these credits within their major requirements; there should be a clear pathway for students to complete any credits not completed within their major.

Additional Information

- The Electrical Engineering Technology (EETC) major is within the Electrical Engineering Technology program.

Sample 4-Year Plan

Fall 1st Year

- ENGT 18200 - Gateway To Engineering Technology **Credits:** 4.00
- TECH 12000 - Design Thinking In Technology **Credits:** 3.00

  Applied Calculus I Selective:
- MA 16010 - Applied Calculus I **Credits:** 3.00 (preferred) or
- MA 16500 - Analytic Geometry And Calculus I **Credits:** 4.00 or
- MA 16100 - Plane Analytic Geometry And Calculus I **Credits:** 5.00

  Intro to C Programming Selective:
- CNIT 10500 - Introduction To C Programming **Credits:** 3.00 (preferred) or
- CS 15900 - C Programming **Credits:** 3.00

  English Composition Selective:
- ENGL 10600 - First Year Composition With Conferences **Credits:** 4.00 or
- ENGL 10800 - First Year Composition **Credits:** 3.00 or
- SCLA 10100 - Transformative Texts, Critical Thinking And Communication I: Antiquity To Modernity **Credits:** 3.00

16 Credits

Spring 1st Year

- ECET 17700 - Data Acquisition And Systems Control **Credits:** 3.00

- ECET 17900 - Introduction To Digital Systems **Credits:** 3.00

  Applied Calculus II Selective:
- MA 16020 - Applied Calculus II **Credits:** 3.00 (preferred) or
- MA 16200 - Plane Analytic Geometry And Calculus II **Credits:** 5.00 or
- MA 16600 - Analytic Geometry And Calculus II **Credits:** 4.00

  General Physics I Selective:
- PHYS 22000 - General Physics **Credits:** 4.00 (preferred) or
- PHYS 17200 - Modern Mechanics **Credits:** 4.00

  Freshman Speech Selective:
- COM 11400 - Fundamentals Of Speech Communication **Credits:** 3.00 or
- SCLA 10200 - Transformative Texts, Critical Thinking And Communication II: Modern World **Credits:** 3.00

16 Credits

Fall 2nd Year

- ECET 22700 - DC And Pulse Electronics **Credits:** 3.00 ♦
- ECET 22900 - Concurrent Digital Systems **Credits:** 3.00

  General Physics II Selective:
- PHYS 22100 - General Physics **Credits:** 4.00 (preferred) or
- PHYS 24100 - Electricity And Optics **Credits:** 3.00
  or
- PHYS 27200 - Electric And Magnetic Interactions **Credits:** 4.00

  Written Communication Selective:
- ENGL 20500 - Introduction To Creative Writing **Credits:** 3.00 or
- ENGL 30400 - Advanced Composition **Credits:** 3.00 or
- ENGL 42000 - Business Writing **Credits:** 3.00 or
- ENGL 42100 - Technical Writing **Credits:** 3.00 or
- ENGL 42400 - Writing For High Technology Industries **Credits:** 3.00
- General Education Selective - Credit Hours: 3.00

16 Credits

Spring 2nd Year

- ECET 27000 - Electronics Prototype Development And Construction **Credits:** 3.00
- ECET 27400 - Wireless Communications **Credits:** 3.00
- ECET 27700 - AC And Power Electronics **Credits:** 3.00 ♦
- General Education Selective - Credit Hours: 3.00
- Oral Communication Selective - Credit Hours: 3.00

15 Credits

Fall 3rd Year

- ECET 37600 - Electrical Energy Systems **Credits:** 3.00
- ECET Advanced Analysis Selective - Credit Hours: 3.00
- ECET Selective - Credit Hours: 3.00
- Global/ Professional Selective - Credit Hours: 3.00

  Statistics Selective:
- STAT 22500 - Introduction To Probability Models **Credits:** 3.00 or
- STAT 30100 - Elementary Statistical Methods **Credits:** 3.00

15 Credits

Spring 3rd Year

- ECET 27900 - Embedded Digital Systems **Credits:** 3.00 ♦
- ECET Selective - Credit Hours: 3.00
- Business Selective - Credit Hours: 3.00
- Technical Selective - Credit Hours: 3.00

  Industrial Economics Selective:
- AGEC 33000 - Management Methods For Agricultural Business **Credits:** 3.00 or
- AGEC 35200 - Quantitative Techniques For Firm Decision Making **Credits:** 3.00 or
- IET 33400 - Economic Analysis For Technology Systems **Credits:** 3.00 or
- MGMT 20000 - Introductory Accounting **Credits:** 3.00 or
- MGMT 21200 - Business Accounting **Credits:** 3.00

15 Credits

Fall 4th Year

- Senior Capstone I Selective - Credit Hours: 3.00
- ECET Selective - Credit Hours: 3.00
- General Education Selective - Credit Hours: 3.00

- Technical Selective - Credit Hours: 3.00
- Technical Selective - Credit Hours: 3.00

15 Credits

Spring 4th Year

- Senior Capstone II Selective - Credit Hours: 3.00
- ECET Selective - Credit Hours: 3.00
- General Education Selective - Credit Hours: 3.00

- Elective - Credit Hours: 3.00

12 Credits

Pre-Requisite Information

For pre-requisite information, log in to mypurdue.purdue.edu and click here.

Critical Course

The ♦ course is considered critical.

In alignment with the Degree Map Guidance for Indiana's Public Colleges and Universities, published by the Commission for Higher Education (pursuant to HEA 1348-2013), a Critical Course is identified as "one that a student must be able to pass to persist and succeed in a particular major. Students who want to be nurses, for example, should know that they are expected to be proficient in courses like biology in order to be successful. These would be identified by the institutions for each degree program."

Disclaimer

The student is ultimately responsible for knowing and completing all degree requirements. Consultation with an advisor may result in an altered plan customized for an individual student. The myPurduePlan powered by DegreeWorks is the knowledge source for specific requirements and completion.

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Interior Architecture, BS (Indianapolis Only)

About the Program

Interior Architecture (Indianapolis Only) Major Change (CODO) Requirements

Degree Requirements

120 Credits Required

Departmental/Program Major Courses (78 credits)

- ARCH 11700 - Construction Drafting And CAD **Credits:** 3.00
- ARCH 12000 - Introduction To Construction Drafting With Building Information Modeling (BIM) **Credits:** 3.00
- ARCH 15500 - Residential Construction **Credits:** 3.00
- ARCH 21000 - History Of Architecture I **Credits:** 3.00

- ARCH 22200 - Commercial Construction **Credits:** 3.00
- ARCH 22300 - 3D Architectural Modeling I **Credits:** 3.00
- ARCH 32300 - 3D Architectural Modeling II **Credits:** 3.00
- ARCH 32500 - Building Science & Energy **Credits:** 3.00
- INT 10300 - Introduction To Interior Design **Credits:** 3.00
- INT 12400 - Space Planning For Interiors **Credits:** 3.00
- INT 12500 - Color And Lighting Of Interiors **Credits:** 3.00
- INT 15100 - Textiles For Interiors **Credits:** 3.00
- INT 20200 - Interior Materials And Applications **Credits:** 3.00
- INT 20400 - History Of Interiors And Furniture I **Credits:** 3.00
- INT 22400 - Residential Interior Design Studio **Credits:** 3.00
- INT 22600 - Commercial Interiors I **Credits:** 3.00
- INT 30200 - Three-Dimensional Design **Credits:** 3.00
- INT 30400 - History Of Interiors And Furniture II **Credits:** 3.00
- INT 32400 - Residential II: Housing Design **Credits:** 3.00
- INT 32600 - Commercial Interior Design Studio II **Credits:** 3.00
- INT 42600 - Evidence-Based Design **Credits:** 3.00
- INT 42800 - Interior Design Capstone Design Project **Credits:** 3.00
- INT 45200 - Interior Building Systems **Credits:** 3.00
- INT 45300 - Business Practices Of Interior Design **Credits:** 3.00
- INT 48000 - Senior Portfolio **Credits:** 3.00
- INT 49500 - Sustainable Design In Engineering And Technology **Credits:** 3.00

Other Departmental/Program Course Requirements (42 credits)

- AD 10500 - Design I **Credits:** 3.00
- AD 11300 - Basic Drawing **Credits:** 3.00 (satisfies Human Cultures: Humanities for core)
- AD 22700 - History Of Art Since 1400 **Credits:** 3.00
- CGT 21100 - Raster Imaging For Computer Graphics **Credits:** 3.00
- MA 15300 - College Algebra **Credits:** 3.00 (satisfies Quantitative Reasoning Selective for core)
- OLS 37100 - Project Management **Credits:** 3.00
- TECH 39699 - Professional Practice Internship **Credits:** 0.00 to 3.00 - Credit Hours: 3.00
- Human Cultures: Behavioral/Social Sciences Selective - Credit Hours: 3.00 (satisfies Human Cultures: BSS for core)
- Information Literacy Selective - Credit Hours: 3.00 (satisfies Information Literacy for core)
- Science #1 Selective - Credit Hours: 3.00 (satisfies Science #1 for core)
- Science #2 Selective - Credit Hours: 3.00 (satisfies Science #1 for core)
- Science, Technology & Society Selective - Credit Hours: 3.00 (satisfies Science, Technology & Society for core)
- Oral Communication Selective - Credit Hours: 3.00 (satisfies Oral Communication for core)
- Written Communication Selective - Credit Hours: 3.00 (satisfies Written Communication for core)

Supplemental List

Click here for Construction Management & Interior Architecture Supplemental Information.

Grade Requirements

- A grade of "C" or higher must be obtained in all INTR and ARCH courses in order to progress in the program..
- Any course taken at Purdue can be attempted no more than three times (inclusive of W, WF, WN, and IF).

GPA Requirements

- 2.0 Graduation GPA required for Bachelor of Science degree.

Pass/No Pass Policy

- Pass/No Pass may be allowed for electives only.

Transfer Credit Policy

- Pass/No Pass may be allowed for electives only.

University Requirements

University Core Requirements

For a complete listing of University Core Course Selectives, visit the <u>Provost's Website</u>.

- Human Cultures: Behavioral/Social Science (BSS)
- Human Cultures: Humanities (HUM)
- Information Literacy (IL)
- Oral Communication (OC)
- Quantitative Reasoning (QR)
- Science #1 (SCI)
- Science #2 (SCI)
- Science, Technology, and Society (STS)
- Written Communication (WC)

Civics Literacy Proficiency Requirement

The Civics Literacy Proficiency activities are designed to develop civic knowledge of Purdue students in an effort to graduate a more informed citizenry. For more information visit the Civics Literacy Proficiency website.

Students will complete the Proficiency by passing a test of civic knowledge, and completing <u>one of three</u> paths:

- Attending six approved civics-related events and completing an assessment for each; or
- Completing 12 podcasts created by the Purdue Center for C-SPAN Scholarship and Engagement that use C-SPAN material and completing an assessment for each; or
- Earning a passing grade for one of **these approved courses** (or transferring in approved AP or departmental credit in lieu of taking a course).

Upper Level Requirement

- Resident study at Purdue University for at least two semesters and the enrollment in and completion of at least 32 semester hours of coursework required and approved for the completion of the degree. These courses are expected to be at least junior-level (30000+) courses.
- Students should be able to fulfill *most*, *if not all*, of these credits within their major requirements; there should be a clear pathway for students to complete any credits not completed within their major.

Sample 4-Year Plan

Fall 1st Year

- AD 10500 - Design I **Credits:** 3.00
- INT 10300 - Introduction To Interior Design **Credits:** 3.00
- MA 15300 - College Algebra **Credits:** 3.00
- Information Literacy Selective - Credit Hours: 3.00
- Written Communication Selective - Credit Hours: 3.00

15 Credits

Spring 1st Year

- AD 11300 - Basic Drawing **Credits:** 3.00
- ARCH 11700 - Construction Drafting And CAD **Credits:** 3.00
- ARCH 12000 - Introduction To Construction Drafting With Building Information Modeling (BIM) **Credits:** 3.00
- INT 15100 - Textiles For Interiors **Credits:** 3.00
- Oral Communication Selective - Credit Hours: 3.00

15 Credits

Fall 2nd Year

- ARCH 15500 - Residential Construction **Credits:** 3.00
- CGT 21100 - Raster Imaging For Computer Graphics **Credits:** 3.00
- INT 12400 - Space Planning For Interiors **Credits:** 3.00
- INT 12500 - Color And Lighting Of Interiors **Credits:** 3.00
- INT 20200 - Interior Materials And Applications **Credits:** 3.00

15 Credits

Spring 2nd Year

- ARCH 21000 - History Of Architecture I **Credits:** 3.00
- ARCH 22200 - Commercial Construction **Credits:** 3.00
- INT 20400 - History Of Interiors And Furniture I **Credits:** 3.00
- INT 22400 - Residential Interior Design Studio **Credits:** 3.00
- INT 22600 - Commercial Interiors I **Credits:** 3.00

15 Credits

Fall 3rd Year

- ARCH 22300 - 3D Architectural Modeling I **Credits:** 3.00
- ARCH 32500 - Building Science & Energy **Credits:** 3.00
- INT 30200 - Three-Dimensional Design **Credits:** 3.00
- INT 30400 - History Of Interiors And Furniture II **Credits:** 3.00
- INT 32400 - Residential II: Housing Design **Credits:** 3.00

15 Credits

Spring 3rd Year

- AD 22700 - History Of Art Since 1400 **Credits:** 3.00
- ARCH 32300 - 3D Architectural Modeling II **Credits:** 3.00
- INT 32600 - Commercial Interior Design Studio II **Credits:** 3.00
- OLS 37100 - Project Management **Credits:** 3.00
- Science, Technology & Society Selective - Credit Hours: 3.00

15 Credits

Fall 4th Year

- INT 42600 - Evidence-Based Design **Credits:** 3.00
- INT 45200 - Interior Building Systems **Credits:** 3.00
- INT 48000 - Senior Portfolio **Credits:** 3.00
- TECH 39699 - Professional Practice Internship **Credits:** 0.00 to 3.00 - Credit Hours: 3.00
- Science #1 Selective - Credit Hours: 3.00

15 Credits

Spring 4th Year

- INT 42800 - Interior Design Capstone Design Project **Credits:** 3.00
- INT 45300 - Business Practices Of Interior Design **Credits:** 3.00
- INT 49500 - Sustainable Design In Engineering And Technology **Credits:** 3.00
- Human Cultures: Behavior/Social Sciences Selective - Credit Hours: 3.00
- Science #2 Selective - Credit Hours: 3.00

15 Credits

World Language Courses

World Language proficiency requirements vary by program. The following list is inclusive of all world languages PWL offers for credit; for acceptable languages and proficiency levels, see your advisor. (ASL-American Sign Language; ARAB-Arabic; CHNS-Chinese; FR-French; GER-German; GREK-Greek(Ancient); HEBR-Hebrew(Biblical); HEBR-Hebrew(Modern); ITAL-Italian; JPNS-Japanese; KOR-Korean; LATN-Latin; PTGS=Portuguese; RUSS-Russian; SPAN-Spanish)

Pre-Requisite Information

For pre-requisite information, log in to mypurdue.purdue.edu and click here.

Critical Course

The ♦ course is considered critical.

In alignment with the Degree Map Guidance for Indiana's Public Colleges and Universities, published by the Commission for Higher Education (pursuant to HEA 1348-2013), a Critical Course is identified as "one that a student must be able to pass to persist and succeed in a particular major. Students who want to be nurses, for example, should know that they are expected to be proficient in courses like biology in order to be successful. These would be identified by the institutions for each degree program."

Disclaimer

The student is ultimately responsible for knowing and completing all degree requirements. Consultation with an advisor may result in an altered plan customized for an individual student. The myPurduePlan powered by DegreeWorks is the knowledge source for specific requirements and completion.

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Mechanical Engineering Technology, BS

About the Program

The Mechanical Engineering Technology major is part of the Mechanical Engineering Technology program. The mechanical engineering technology program is accredited by the Engineering Technology Accreditation Commission of ABET, https://www.abet.org, under the commission's general criteria and program criteria for Mechanical Engineering Technology and similarly named programs.

The careers of mechanical engineering technology graduates take them to a variety of employers (e.g. Rockwell Automation, Fender Guitars, Lockheed Martin, Caterpillar) yet they have many skills in common: problem-solving, leadership and teamwork. The program focuses on the methods, materials, machinery and manpower necessary to effectively operate in a manufacturing environment. You'll learn how to manage people, machines, and production resources to ensure maximum efficiency and safety.

Mechanical Engineering Technology Website

School of Engineering Technology Major Change (CODO) Requirements

Degree Requirements

120 Credits Required

Departmental/Program Major Courses (120 credits)

Required Major Courses (59 credits)

- MET 10200 - Production Design And Specifications **Credits:** 3.00
- MET 11100 - Applied Statics **Credits:** 3.00
- MET 14300 - Materials And Processes I **Credits:** 3.00
- MET 14400 - Materials And Processes II **Credits:** 3.00
- MET 21100 - Applied Strength Of Materials **Credits:** 4.00
- MET 21300 - Dynamics **Credits:** 3.00
- MET 22000 - Heat And Power **Credits:** 3.00
- MET 23000 - Fluid Power **Credits:** 3.00
- MET 24500 - Manufacturing Systems **Credits:** 3.00
- MET 28400 - Introduction To Industrial Controls **Credits:** 3.00
- MET 31400 - Applications Of Machine Elements **Credits:** 3.00
- MET 32000 - Applied Thermodynamics **Credits:** 3.00
- ENGT 18200 - Gateway To Engineering Technology **Credits:** 4.00
- ENGT 48000 - Engineering Technology Capstone I **Credits:** 3.00
- ENGT 48100 - Engineering Technology Capstone II **Credits:** 3.00
- Professional Requirement - Credit Hours: 0.00
- Intercultural Requirement - Credit Hours: 0.00

MET Selectives (12 credits included within major credits)

- MET Elective or approved Focus Area elective - Credit Hours: 9.00
- Technical Selective or approved Focus Area Selective - Credit Hours: 3.00

Other Departmental/Program Course Requirements (61 credits)

- CHM 11100 - General Chemistry **Credits:** 3.00
- MA 16010 - Applied Calculus I **Credits:** 3.00 (satisfies Quantitative Reasoning for core)
- MA 16020 - Applied Calculus II **Credits:** 3.00
- PHYS 22000 - General Physics **Credits:** 4.00 (satisfies Science for core)
- PHYS 22100 - General Physics **Credits:** 4.00 (satisfies Science for core)
- ECET 22400 - Electronic Systems **Credits:** 3.00
- STAT 30100 - Elementary Statistical Methods **Credits:** 3.00

- TECH 12000 - Design Thinking In Technology **Credits:** 3.00 (satisfies Information Literacy and Science, Technology & Society for core)
- IET 33400 - Economic Analysis For Technology Systems **Credits:** 3.00
  Freshman Composition Selective (satisfies Written Communication for core)
- ENGL 10600 - First Year Composition With Conferences **Credits:** 4.00 or
- ENGL 10800 - First Year Composition **Credits:** 3.00 or
- SCLA 10100 - Transformative Texts, Critical Thinking And Communication I: Antiquity To Modernity **Credits:** 3.00 or
- HONR 19903 - Interdisciplinary Approaches In Writing **Credits:** 3.00
  Computer Graphics Technology Selective
- CGT 11000 - Technical Graphics Communications **Credits:** 3.00 or
- ENGT 10500 - Industrial Technology Introduction To Design **Credits:** 3.00 or
- MFET 10301 - Geometric Modeling Applications **Credits:** 3.00 or
- MFET 16300 - Graphical Communication And Spatial Analysis **Credits:** 2.00
  Freshman Speech Selective (satisfies Oral Communication for Core)
- COM 11400 - Fundamentals Of Speech Communication **Credits:** 3.00 or
- SCLA 10200 - Transformative Texts, Critical Thinking And Communication II: Modern World **Credits:** 3.00
  Communications Selective
- COM 31500 - Speech Communication Of Technical Information **Credits:** 3.00 or
- COM 32000 - Small Group Communication **Credits:** 3.00 or
- COM 41500 - Discussion Of Technical Problems **Credits:** 3.00 or
- EDPS 31500 - Collaborative Leadership: Interpersonal Skills **Credits:** 3.00
  Technical Writing Selective
- ENGL 42000 - Business Writing **Credits:** 3.00 or
- ENGL 42100 - Technical Writing **Credits:** 3.00 or
- ENGL 42400 - Writing For High Technology Industries **Credits:** 3.00
- Economics/Finance Selective - Credit Hours 3.00
- Programming Selective - Credit Hours 3.00
- General Education Human Cultures: Humanities Selective (satisfies Human Cultures Humanities for core) - Credit Hours: 3.00
- General Education Human Cultures: Behavior/Social Sciences (satisfies Human Cultures: Behavioral Sciences for core) - Credit Hours: 3.00
- Global/Professional Selective - Credit Hours: 3.00
- Technical/Management Selective (TECH/MGMT Selective) - Credit Hours: 3.00
  - Course is a Management Selective. If ECET 38001 is the Global/Professional Selective then a Technical Selective is allowed.

Supplemental List

Click here for Mechanical Engineering Technology Supplemental Information.

Optional Concentrations

- Computer-Aided Design Technology Concentration for Mechanical Engineering Technology
- Fabrication and Welding Technology Concentration for Mechanical Engineering Technology
- Mechanics Concentration for Mechanical Engineering Technology
- Powertrains Concentration for Mechanical Engineering Technology

Professional Requirement

The SOET Professional Experience requirement is intended to document those experiences which help expose SOET students to the expectations of their professional prior to graduation. This may occur through industrial experience, technical or administrative involvement with community service, military service, et cetera. Approval has been granted for the following experiences. Additional experiences may also satisfy this graduation requirement. Requests for approval should be submitted to the SOET Curriculum Subcommittee Chair for consideration, allowing at least four academic weeks for review and response. See supplemental information for approved experiences.

Grade Requirements

- Students must earn a "D-" or better in all courses unless otherwise noted.

GPA Requirements

- 2.0 Graduation GPA required for the Bachelor of Science degree.

Course Requirements and Notes

- Courses at Purdue University may only be attempted a maximum of three (3) times, including W, WF, I, IF and all graded attempts.

Non-course / Non-credit Requirements

- Complete a Professional Requirement.
- Complete an Intercultural Requirement.

Pass/No Pass Policy

- MET does not allow P/NP grading for any classes that are used to meet degree requirements, all degree requirements must be taken for a grade.

Transfer Credit Policy

Transfer credit from other institutions, including courses taken as dual or concurrent credit in high school, and credit from testing such as Advanced Placement and International Baccalaureate that are an exact match for Purdue courses, may be applied to degree requirements.

For undistributed credit to be applied to degree requirements, the course or courses will need to be evaluated by the Curriculum Committee for approval. Additional approvals will be required for courses to meet University Core Curriculum requirements. In both cases approval is not automatic.

University Requirements

University Core Requirements

For a complete listing of University Core Course Selectives, visit the <u>Provost's Website</u>**.**

- Human Cultures: Behavioral/Social Science (BSS)
- Human Cultures: Humanities (HUM)
- Information Literacy (IL)
- Oral Communication (OC)
- Quantitative Reasoning (QR)
- Science #1 (SCI)
- Science #2 (SCI)
- Science, Technology, and Society (STS)
- Written Communication (WC)

Civics Literacy Proficiency Requirement

The Civics Literacy Proficiency activities are designed to develop civic knowledge of Purdue students in an effort to graduate a more informed citizenry. For more information visit the Civics Literacy Proficiency website.

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- Earning a passing grade for one of **these approved courses** (or transferring in approved AP or departmental credit in lieu of taking a course).

Upper Level Requirement

- Resident study at Purdue University for at least two semesters and the enrollment in and completion of at least 32 semester hours of coursework required and approved for the completion of the degree. These courses are expected to be at least junior-level (30000+) courses.
- Students should be able to fulfill *most, if not all*, of these credits within their major requirements; there should be a clear pathway for students to complete any credits not completed within their major.

Sample 4-Year Plan

Fall 1st Year

Freshman Speech Selective
- COM 11400 - Fundamentals Of Speech Communication **Credits:** 3.00 or
- SCLA 10200 - Transformative Texts, Critical Thinking And Communication II: Modern World **Credits:** 3.00
- ENGT 18200 - Gateway To Engineering Technology **Credits:** 4.00
- MA 16010 - Applied Calculus I **Credits:** 3.00 (Preferred) or
- MA 16100 - Plane Analytic Geometry And Calculus I **Credits:** 5.00 or
- MA 16500 - Analytic Geometry And Calculus I **Credits:** 4.00
- MET 14400 - Materials And Processes II **Credits:** 3.00
  Technical Graphics Selective
- MFET 10301 - Geometric Modeling Applications **Credits:** 3.00 or
- CGT 11000 - Technical Graphics Communications **Credits:** 3.00 or

- MFET 16300 - Graphical Communication And Spatial Analysis **Credits:** 2.00 or
- ENGT 10500 - Industrial Technology Introduction To Design **Credits:** 3.00

15 Credits

Spring 1st Year

Freshman Composition Selective
- ENGL 10600 - First Year Composition With Conferences **Credits:** 4.00 or
- ENGL 10800 - First Year Composition **Credits:** 3.00 or
- HONR 19903 - Interdisciplinary Approaches In Writing **Credits:** 3.00 or
- SCLA 10100 - Transformative Texts, Critical Thinking And Communication I: Antiquity To Modernity **Credits:** 3.00
- MA 16020 - Applied Calculus II **Credits:** 3.00 (Preferred) or
- MA 16200 - Plane Analytic Geometry And Calculus II **Credits:** 5.00 or
- MA 16600 - Analytic Geometry And Calculus II **Credits:** 4.00
- MET 11100 - Applied Statics **Credits:** 3.00
- MET 14300 - Materials And Processes I **Credits:** 3.00
- TECH 12000 - Design Thinking In Technology **Credits:** 3.00

15 Credits

Fall 2nd Year

- ECET 22400 - Electronic Systems **Credits:** 3.00
- MET 21100 - Applied Strength Of Materials **Credits:** 4.00 ♦
- PHYS 22000 - General Physics **Credits:** 4.00 (Preferred) or
- PHYS 17200 - Modern Mechanics **Credits:** 4.00
- Programming Selective - Credit Hours: 3.00

14 Credits

Spring 2nd Year

- MET 10200 - Production Design And Specifications **Credits:** 3.00 ♦
- MET 21300 - Dynamics **Credits:** 3.00
- MET 28400 - Introduction To Industrial Controls **Credits:** 3.00
- PHYS 22100 - General Physics **Credits:** 4.00 (Preferred) or
- PHYS 24100 - Electricity And Optics **Credits:** 3.00
- Humanities Selective - Credit Hours: 3.00

16 Credits

Fall 3rd Year

- CHM 11100 - General Chemistry **Credits:** 3.00 (Preferred) or

- CHM 11500 - General Chemistry **Credits:** 4.00
- MET 23000 - Fluid Power **Credits:** 3.00
- MET 22000 - Heat And Power **Credits:** 3.00 ♦
- MET 24500 - Manufacturing Systems **Credits:** 3.00
- STAT 30100 - Elementary Statistical Methods **Credits:** 3.00

15 Credits

Spring 3rd Year

- MET 32000 - Applied Thermodynamics **Credits:** 3.00
- MET 31400 - Applications Of Machine Elements **Credits:** 3.00
- Economics/Finance Selective - Credit Hours: 3.00
- Global/Professional Selective - Credit Hours: 3.00
- MET Elective or Approved Focus Area Elective - Credit Hours: 3.00

15 Credits

Fall 4th Year

Technical Writing Selective
- ENGL 42100 - Technical Writing **Credits:** 3.00 or
- ENGL 42400 - Writing For High Technology Industries **Credits:** 3.00 or
- ENGL 42000 - Business Writing **Credits:** 3.00
- IET 33400 - Economic Analysis For Technology Systems **Credits:** 3.00
- ENGT 48000 - Engineering Technology Capstone I **Credits:** 3.00
- MET Elective or Approved Focus Area Elective - Credit Hours: 3.00
- Technical/Management (TECH/MGMT) Selective - Credit Hours: 3.00
  - o Course is a Management Selective. If ECET 38001 is the Global/Professional Selective then a Technical Selective is allowed.

15 Credits

Spring 4th Year

Communications Selective
- COM 32000 - Small Group Communication **Credits:** 3.00 or
- COM 31500 - Speech Communication Of Technical Information **Credits:** 3.00 or
- COM 41500 - Discussion Of Technical Problems **Credits:** 3.00 or
- EDPS 31500 - Collaborative Leadership: Interpersonal Skills **Credits:** 3.00
- ENGT 48100 - Engineering Technology Capstone II **Credits:** 3.00
- MET Elective or approved Focus Area elective - Credit Hours: 3.00
- Technical Selective or approved Focus Area elective - Credit Hours: 3.00
- Behavioral Social Science Selective - Credit Hours: 3.00

15 Credits

Pre-Requisite Information

For pre-requisite information, log in to mypurdue.purdue.edu and click here.

Critical Course

The ♦ course is considered critical.

In alignment with the Degree Map Guidance for Indiana's Public Colleges and Universities, published by the Commission for Higher Education (pursuant to HEA 1348-2013), a Critical Course is identified as "one that a student must be able to pass to persist and succeed in a particular major. Students who want to be nurses, for example, should know that they are expected to be proficient in courses like biology in order to be successful. These would be identified by the institutions for each degree program."

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Organizational Leadership, BS

About the Program

With a major in organizational leadership, you will focus on leadership and innovation to develop skills as a leader for national and global technology enterprises. The broad curricula will help you learn how to lead in a variety of scenarios, from innovative technology organizations to global teams and organizational change. You will also take courses to understand how policies and law affect technology innovation and influence global technology and organizational leadership.

The Organizational Leadership major is part of the Organizational Leadership program. The Organizational Leadership program is accredited by the Association of Technology, Management, and Applied Engineering Commission of ATMAE, www.atmae.org.

Organizational Leadership Website

Organizational Leadership Major Change (CODO) Requirements

Degree Requirements

120 Credits Required

Department/Program Major Courses (57 credits)

- TLI 10000 - Organizational Leadership Career Orientation **Credits:** 1.00 *
- TLI 11200 - Foundations Of Organizational Leadership **Credits:** 3.00 *♦
- TLI 15200 - Business Principles For Organizational Leadership **Credits:** 3.00 *
- TLI 20000 - Organization Leadership Career Exploration **Credits:** 1.00 *
- TLI 21300 - Project Management **Credits:** 3.00 *
- TLI 30000 - Organizational Leadership Career Transition **Credits:** 1.00
- TLI 31400 - Leading Innovation In Organizations **Credits:** 3.00
- TLI 31500 - New Product Development **Credits:** 3.00 or
- TECH 34000 - Prototyping Technology For People **Credits:** 3.00
- TLI 45800 - Leadership For Competitive Advantage **Credits:** 3.00
- OLS 34600 - Critical Thinking And Ethics **Credits:** 3.00 ♦
- OLS 37500 - Training Methods **Credits:** 3.00
- OLS 37800 - Labor And Management Relations **Credits:** 3.00
- OLS 38600 - Leadership For Organizational Change **Credits:** 3.00 *
- OLS 38800 - Leadership Through Teams **Credits:** 3.00
- OLS 45000 - Advanced Project Management **Credits:** 3.00
- OLS 45400 - Gender And Diversity In Management **Credits:** 3.00
- OLS 47700 - Conflict Management **Credits:** 3.00
- OLS 48400 - Leadership Strategies For Quality And Productivity **Credits:** 3.00
- OLS 48700 - Leadership Philosophy **Credits:** 3.00
- OLS 58300 - Coaching And Mentoring In Organizations **Credits:** 3.00
- IET 41400 - Financial Analysis For Technology Systems **Credits:** 3.00 or
- MGMT 30400 - Introduction To Financial Management **Credits:** 3.00
- Globalization Experience - Credit Hours: 0.00

Other Departmental Courses (54-55 credits)

- ENGL 42100 - Technical Writing **Credits:** 3.00
- PSY 12000 - Elementary Psychology **Credits:** 3.00 *(satisfies Human Cultures: Behavioral Social Sciences for core)*
- PSY 27200 - Introduction To Industrial-Organizational Psychology **Credits:** 3.00
- STAT 11300 - Statistics And Society **Credits:** 3.00
- STAT 30100 - Elementary Statistical Methods **Credits:** 3.00 *
- TECH 12000 - Design Thinking In Technology **Credits:** 3.00 *(satisfies both Information Literacy <u>and</u> Science, Technology and Society for core)*
- TECH 22000 - Designing Technology For People **Credits:** 3.00
- TECH 33000 - Technology And The Global Society **Credits:** 3.00
- SCLA 10200 - Transformative Texts, Critical Thinking And Communication II: Modern World **Credits:** 3.00 or
- COM 11400 - Fundamentals Of Speech Communication **Credits:** 3.00 *(satisfies Oral Communication for core)*
- MA 15800 - Precalculus - Functions And Trigonometry **Credits:** 3.00 *(satisfies Quantitative Reasoning for core)*
- MGMT 20000 - Introductory Accounting **Credits:** 3.00 or
- MGMT 21200 - Business Accounting **Credits:** 3.00

- ECON 21000 - Principles Of Economics **Credits:** 3.00 or
- AGEC 21700 - Economics **Credits:** 3.00 or
- ECON 25100 - Microeconomics **Credits:** 3.00 or
- ECON 25200 - Macroeconomics **Credits:** 3.00
- Written Communication Selective - Credit Hours: 3.00-4.00 *(satisfies Written Communication for core)*
- Humanities Selective - Credit Hours: 3.00 *(satisfies Human Cultures: Humanities for core)*
- Science Foundation Selective - Credit Hours: 3.00 *(satisfies Science for core)*
- Science Foundation Selective - Credit Hours: 3.00 *(satisfies Science for core)*
- Specialization Selective - Credit Hours: 3.00
- Specialization Selective - Credit Hours: 3.00

Electives (8-9 credits)

Supplemental List

Click here for Organizational Leadership Supplemental Information.

Grade Requirements

- * A grade of C- or better must be earned to meet prerequisite requirements.

- ANY COURSE TAKEN AT PURDUE CAN BE ATTEMPTED NO MORE THAN THREE TIMES (INCLUSIVE OF W, WF, I AND IF).

GPA Requirements

- 2.0 Graduation GPA required for Bachelor of Science degree.

Pass/No Pass Policy

- OLSV does not allow Pass/No Pass grading for any classes that are required to meet degree requirements. Pass/No Pass grading is allowed for Free Electives only.

University Requirements

University Core Requirements

For a complete listing of University Core Course Selectives, visit the Provost's Website.

- Human Cultures: Behavioral/Social Science (BSS)
- Human Cultures: Humanities (HUM)
- Information Literacy (IL)
- Oral Communication (OC)
- Quantitative Reasoning (QR)
- Science #1 (SCI)

- Science #2 (SCI)
- Science, Technology, and Society (STS)
- Written Communication (WC)

Civics Literacy Proficiency Requirement

The Civics Literacy Proficiency activities are designed to develop civic knowledge of Purdue students in an effort to graduate a more informed citizenry. For more information visit the Civics Literacy Proficiency website.

Students will complete the Proficiency by passing a test of civic knowledge, and completing one of three paths:

- Attending six approved civics-related events and completing an assessment for each; or
- Completing 12 podcasts created by the Purdue Center for C-SPAN Scholarship and Engagement that use C-SPAN material and completing an assessment for each; or
- Earning a passing grade for one of **these approved courses** (or transferring in approved AP or departmental credit in lieu of taking a course).

Upper Level Requirement

- Resident study at Purdue University for at least two semesters and the enrollment in and completion of at least 32 semester hours of coursework required and approved for the completion of the degree. These courses are expected to be at least junior-level (30000+) courses.
- Students should be able to fulfill *most*, *if not all*, of these credits within their major requirements; there should be a clear pathway for students to complete any credits not completed within their major.

Sample 4-Year Plan

Fall 1st Year

- TLI 10000 - Organizational Leadership Career Orientation **Credits:** 1.00 *
- TLI 11200 - Foundations Of Organizational Leadership **Credits:** 3.00 *
- TECH 12000 - Design Thinking In Technology **Credits:** 3.00
- MA 15800 - Precalculus - Functions And Trigonometry **Credits:** 3.00
- Written Communication Selective - Credit Hours: 3.00
- Humanities Selective - Credit Hours: 3.00

16-17 Credits

Spring 1st Year

- PSY 12000 - Elementary Psychology **Credits:** 3.00
- STAT 11300 - Statistics And Society **Credits:** 3.00
- TLI 15200 - Business Principles For Organizational Leadership **Credits:** 3.00 *
- COM 11400 - Fundamentals Of Speech Communication **Credits:** 3.00 or
- SCLA 10200 - Transformative Texts, Critical Thinking And Communication II: Modern World **Credits:** 3.00
- Science Foundation Selective - Credit Hours: 3.00

15 Credits

Fall 2nd Year

- STAT 30100 - Elementary Statistical Methods **Credits:** 3.00 *
- PSY 27200 - Introduction To Industrial-Organizational Psychology **Credits:** 3.00
- TECH 22000 - Designing Technology For People **Credits:** 3.00
- Specialization Selective - Credit Hours: 3.00
- Elective - Credit Hours: 3.00

15 Credits

Spring 2nd Year

- TLI 20000 - Organization Leadership Career Exploration **Credits:** 1.00 *
- OLS 38600 - Leadership For Organizational Change **Credits:** 3.00 *
- TLI 21300 - Project Management **Credits:** 3.00 *
- AGEC 21700 - Economics **Credits:** 3.00 or
- ECON 21000 - Principles Of Economics **Credits:** 3.00 or
- ECON 25100 - Microeconomics **Credits:** 3.00 or
- ECON 25200 - Macroeconomics **Credits:** 3.00
- MGMT 20000 - Introductory Accounting **Credits:** 3.00 or
- MGMT 21200 - Business Accounting **Credits:** 3.00
- Science Foundation Selective - Credit Hours: 3.00

16 Credits

Fall 3rd Year

- TLI 30000 - Organizational Leadership Career Transition **Credits:** 1.00
- OLS 37500 - Training Methods **Credits:** 3.00
- TECH 33000 - Technology And The Global Society **Credits:** 3.00
- TLI 31400 - Leading Innovation In Organizations **Credits:** 3.00
- TLI 31500 - New Product Development **Credits:** 3.00 or
- TECH 34000 - Prototyping Technology For People **Credits:** 3.00
- Specialization Selective - Credit Hours: 3.00

16 Credits

Spring 3rd Year

- OLS 34600 - Critical Thinking And Ethics **Credits:** 3.00
- OLS 37800 - Labor And Management Relations **Credits:** 3.00
- OLS 38800 - Leadership Through Teams **Credits:** 3.00
- TLI 45800 - Leadership For Competitive Advantage **Credits:** 3.00

- Elective - Credit Hours: 2.00-3.00

14-15 Credits

Fall 4th Year

- OLS 45400 - Gender And Diversity In Management **Credits:** 3.00
- OLS 47700 - Conflict Management **Credits:** 3.00
- OLS 48700 - Leadership Philosophy **Credits:** 3.00
- OLS 58300 - Coaching And Mentoring In Organizations **Credits:** 3.00
- IET 41400 - Financial Analysis For Technology Systems **Credits:** 3.00 or
- MGMT 30400 - Introduction To Financial Management **Credits:** 3.00

15 Credits

Spring 4th Year

- OLS 48400 - Leadership Strategies For Quality And Productivity **Credits:** 3.00
- OLS 45000 - Advanced Project Management **Credits:** 3.00
- ENGL 42100 - Technical Writing **Credits:** 3.00
- Elective - Credit Hours: 3.00

12 Credits

Pre-Requisite Information

For pre-requisite information, log in to mypurdue.purdue.edu and click here.

Critical Course

The ♦ course is considered critical.

In alignment with the Degree Map Guidance for Indiana's Public Colleges and Universities, published by the Commission for Higher Education (pursuant to HEA 1348-2013), a Critical Course is identified as "one that a student must be able to pass to persist and succeed in a particular major. Students who want to be nurses, for example, should know that they are expected to be proficient in courses like biology in order to be successful. These would be identified by the institutions for each degree program."

Disclaimer

The student is ultimately responsible for knowing and completing all degree requirements. Consultation with an advisor may result in an altered plan customized for an individual student. The myPurduePlan powered by DegreeWorks is the knowledge source for specific requirements and completion.

Comparative information about Purdue University and other U.S. educational institutions is also available through the College Navigator tool, provided by the National Center for Education Statistics, and through the U.S. Department of Education College Scorecard.

Themed Entertainment Design, BS

About the Program

Computer animation is everywhere, not only in entertainment but also in education, product and packaging, construction, healthcare and courtrooms as well as new applications yet to be discovered. When you major in animation at Purdue University, you will focus on six areas of animation: 3-D modeling, texturing, lighting, rendering and character rigging (creating a digital skeleton) and motion. Your primary tool will be the powerful animation software, Maya, and you will experiment with other options.

Themed Entertainment Design at Purdue University in Indianapolis

Themed Entertainment Design Major Change (CODO) Requirements

Degree Requirements

120 Credits Required

Departmental/Program Major Courses (76 credits)

Required Major Courses (49 credits)

- CGT 11200 - Sketching For Visualization And Communication **Credits:** 3.00
- CGT 11600 - Geometric Modeling For Visualization And Communication **Credits:** 3.00
- CGT 11700 - Illustrating For Visualization And Communication **Credits:** 3.00
- CGT 11800 - Fundamentals Of Imaging Technology **Credits:** 3.00
- CGT 12300 - Animation Foundations **Credits:** 3.00
- CGT 14700 - Visual Effects Introduction **Credits:** 3.00
- CGT 20400 - Introduction To Themed Attraction Design **Credits:** 3.00
- CGT 20500 - Portfolio Review **Credits:** 0.00
- CGT 25001 - Computer Graphics Professional Practices I **Credits:** 1.00
- CGT 25100 - Principles Of Creative Design **Credits:** 3.00
- CGT 30505 - Portfolio II **Credits:** 0.00
- CGT 31300 - Digital Painting I For Computer Graphics **Credits:** 3.00
- CGT 31700 - Planning And Communicating Themed Attraction Design **Credits:** 3.00
- CGT 32800 - Business Of Themed Entertainment **Credits:** 3.00
- CGT 36700 - Previsualization In Themed Entertainment **Credits:** 3.00
- CGT 40500 - Senior Portfolio Review **Credits:** 0.00
- CGT 40700 - Current And Future Trends In Themed Attraction Design **Credits:** 3.00
- CGT 44200 - Production For Computer Animation **Credits:** 3.00
- CGT 45001 - Computer Graphics Professional Practices II **Credits:** 1.00
- CGT Globalization Selective - Credit Hours: 3.00

CGT Entertainment Selectives (15 credits)

- CGT Entertainment Selectives - Credit Hours: 15.00

Technical Selectives (12 credits)

- Technical Selectives - Credit Hours: 12.00

Other Departmental/Program Course Requirements (41 credits)

- MA 15800 - Precalculus - Functions And Trigonometry **Credits:** 3.00 (satisfies Quantitative Reasoning for core)
- MA 16010 - Applied Calculus I **Credits:** 3.00 (satisfies Quantitative Reasoning for core)
- SCLA 10100 - Transformative Texts, Critical Thinking And Communication I: Antiquity To Modernity **Credits:** 3.00 (satisfies Written Communication and Information Literacy for core)
- SCLA 10200 - Transformative Texts, Critical Thinking And Communication II: Modern World **Credits:** 3.00 (satisfies Oral Communication for core)
- PHYS 22000 - General Physics **Credits:** 4.00 (satisfies Science #1 for core)
- Advanced English Selective - Credit Hours: 3.00
- Human Cultures: Humanities Selective for core - Credit Hours: 3.00
- Human Cultures: Behavioral/Social Science Selective for core - Credit Hours: 3.00
- Humanities Selective - Credit Hours: 3.00
- Humanities Selective - Credit Hours: 3.00
- Science, Tech, & Society Selective for core - Credit Hours: 3.00
- Science #2 Selective for core - Credit Hours: 3.00
- Statistics Selective - Credit Hours: 3.00

Elective (4 credits)

- Elective - Credit Hours: 4.00

Supplemental Information

Click here for Animation And Visual Effects & Themed Entertainment Design Supplemental Information

GPA Requirements

- 2.00 Graduation GPA required for Bachelor of Science degree.

Non-course / Non-credit Requirements

- Intercultural Requirement - Credit Hours: 0.00
- Humanities Requirement - Credit Hours: 0.00
- Professional Requirement - Credit Hours: 0.00

Transfer Credit Policy

- CGT adheres to the admissions office Transfer Credit Course Equivalency Guide.

Pass/No Pass Policy

- Pass/No Pass may be allowed for Electives or Technical Selectives only.

Grade Requirements

- Students must earn a "C-" or better in all CGT courses.
- Purdue policy states that a student may attempt a course no more than three (3) times. An attempt is defined as all courses displayed on a student's transcript including, but not limited to A,B,C,D,E,F,W,WF,I and IF.

University Requirements

University Core Requirements

For a complete listing of University Core Course Selectives, visit the Provost's Website.

- Human Cultures: Behavioral/Social Science (BSS)
- Human Cultures: Humanities (HUM)
- Information Literacy (IL)
- Oral Communication (OC)
- Quantitative Reasoning (QR)
- Science #1 (SCI)
- Science #2 (SCI)
- Science, Technology, and Society (STS)
- Written Communication (WC)

Civics Literacy Proficiency Requirement

The Civics Literacy Proficiency activities are designed to develop civic knowledge of Purdue students in an effort to graduate a more informed citizenry. For more information visit the Civics Literacy Proficiency website.

Students will complete the Proficiency by passing a test of civic knowledge, and completing one of three paths:

- Attending six approved civics-related events and completing an assessment for each; or
- Completing 12 podcasts created by the Purdue Center for C-SPAN Scholarship and Engagement that use C-SPAN material and completing an assessment for each; or
- Earning a passing grade for one of **these approved courses** (or transferring in approved AP or departmental credit in lieu of taking a course).

Upper Level Requirement

- Resident study at Purdue University for at least two semesters and the enrollment in and completion of at least 32 semester hours of coursework required and approved for the completion of the degree. These courses are expected to be at least junior-level (30000+) courses.
- Students should be able to fulfill *most, if not all*, of these credits within their major requirements; there should be a clear pathway for students to complete any credits not completed within their major.

Sample 4-Year Plan

Fall 1st Year

- CGT 11200 - Sketching For Visualization And Communication **Credits:** 3.00
- CGT 11700 - Illustrating For Visualization And Communication **Credits:** 3.00
- CGT 11800 - Fundamentals Of Imaging Technology **Credits:** 3.00
- CGT 12300 - Animation Foundations **Credits:** 3.00
- MA 15800 - Precalculus - Functions And Trigonometry **Credits:** 3.00

15 Credits

Spring 1st Year

- CGT 11600 - Geometric Modeling For Visualization And Communication **Credits:** 3.00
- CGT 20400 - Introduction To Themed Attraction Design **Credits:** 3.00
- CGT 25100 - Principles Of Creative Design **Credits:** 3.00
- MA 16010 - Applied Calculus I **Credits:** 3.00
- CGT Globalization Selective - Credit Hours: 3.00

15 Credits

Fall 2nd Year

- CGT 14700 - Visual Effects Introduction **Credits:** 3.00
- SCLA 10100 - Transformative Texts, Critical Thinking And Communication I: Antiquity To Modernity **Credits:** 3.00
- CGT Entertainment Selective - Credit Hours: 3.00
- Human Cultures: Humanities Selective - Credit Hours: 3.00
- Technical Selective - Credit Hours: 3.00

15 Credits

Spring 2nd Year

- CGT 20500 - Portfolio Review **Credits:** 0.00
- CGT 31700 - Planning And Communicating Themed Attraction Design **Credits:** 3.00
- CGT 32800 - Business Of Themed Entertainment **Credits:** 3.00
- CGT 25001 - Computer Graphics Professional Practices I **Credits:** 1.00
- PHYS 22000 - General Physics **Credits:** 4.00
- SCLA 10200 - Transformative Texts, Critical Thinking And Communication II: Modern World **Credits:** 3.00
- Advanced English Selective - Credit Hours: 3.00

17 Credits

Fall 3rd Year

- CGT 44200 - Production For Computer Animation **Credits:** 3.00
- CGT 36700 - Previsualization In Themed Entertainment **Credits:** 3.00
- CGT Entertainment Selective - Credit Hours: 3.00
- Science #2 Selective - Credit Hours: 3.00
- Technical Elective - Credit Hours: 3.00

15 Credits

Spring 3rd Year

- CGT 30505 - Portfolio II **Credits:** 0.00
- CGT 31300 - Digital Painting I For Computer Graphics **Credits:** 3.00
- CGT Entertainment Selective - Credit Hours: 3.00
- CGT Entertainment Selective - Credit Hours: 3.00
- Human Cultures: Behavior/Social Sciences (BSS) Selective - Credit Hours: 3.00
- Statistics Selective - Credit Hours: 3.00

15 Credits

Fall 4th Year

- CGT 40700 - Current And Future Trends In Themed Attraction Design **Credits:** 3.00
- CGT 41101 - Contemporary Problems In Applied Computer Graphics I **Credits:** 2.00
- CGT Entertainment Selective - Credit Hours: 3.00
- Science, Technology & Society (STS) Selective - Credit Hours: 3.00
- Technical Elective - Credit Hours: 3.00

14 Credits

Spring 4th Year

- CGT 45001 - Computer Graphics Professional Practices II **Credits:** 1.00
- CGT 40500 - Senior Portfolio Review **Credits:** 0.00
- Humanities Selective - Credit Hours: 3.00
- Humanities Selective - Credit Hours: 3.00
- Technical Selective - Credit Hours: 3.00
- Elective - Credit Hours: 4.00

14 Credits

Pre-Requisite Information

For pre-requisite information, log in to mypurdue.purdue.edu and click here.

Critical Course

The ♦ course is considered critical.

In alignment with the Degree Map Guidance for Indiana's Public Colleges and Universities, published by the Commission for Higher Education (pursuant to HEA 1348-2013), a Critical Course is identified as "one that a student must be able to pass to persist and succeed in a particular major. Students who want to be nurses, for example, should know that they are expected to be proficient in courses like biology in order to be successful. These would be identified by the institutions for each degree program."

Disclaimer

The student is ultimately responsible for knowing and completing all degree requirements. Consultation with an advisor may result in an altered plan customized for an individual student. The myPurduePlan powered by DegreeWorks is the knowledge source for specific requirements and completion.

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Bachelor of Science in Biomedical Engineering

Biomedical Engineering, BSBME

About the Program

The Biomedical Engineering program is accredited by the Engineering Accreditation Commission of ABET.

Students in Biomedical Engineering learn to apply tools from engineering and life sciences to design solutions for challenges in human biology, medicine, and healthcare delivery.

Biomedical Engineering students complete coursework in math, physics, chemistry and the life science in combination with engineering principles and design courses to understand the physical and chemical properties of human tissues, computational modeling and analyses, molecular transport, biomechanics, human physiology, and biomedical systems and instrumentation. Essential experiential and practical training includes small group problem-based learning, study abroad programs, internships with a broad range of medically related companies, research in faculty labs, and engineering design projects to solve real medical needs.

The home for the **Weldon School of Biomedical Engineering** is a state-of-the-art building specifically designed to enhance both teaching and research. The $25-million, 91,000-square-foot facility accommodates the continued growth of biomedical engineering in the 21st century.

Programs of focus and faculty expertise include imaging, instrumentation, engineered biomaterials and biomechanics, and quantitative cellular and systems engineering.

For more information, please refer to the Purdue BME website.

Biomedical Engineering Major Change (CODO) Requirements

Degree Requirements

130 Credits Required

Biomedical Engineering Major Requirements (67-71 credits)

All major required courses below are included in the calculation of the BME major GPA requirement: 2.0

Biomedical Engineering Major Required Courses (43 credits)

- BME 21400 - Introduction To Biomechanical Analysis **Credits:** 3.00 ♦
- BME 21401 - Biomechanical Analysis Laboratory **Credits:** 1.00 ♦
- BME 22000 - Biomolecules: Structure, Function, And Engineering Applications **Credits:** 3.00
- BME 23100 - Bioinstrumentation and Circuit Theory **Credits:** 3.00
- BME 23101 - Bioinstrumentation and Circuit Theory Lab **Credits:** 1.00 ♦
- BME 25600 - Physiological Modeling In Human Health **Credits:** 3.00
- BME 28000 - Frontiers In Biomedical Engineering **Credits:** 1.00 ♦
- BME 32000 - Introduction To Biomaterials Science And Engineering **Credits:** 3.00
- BME 32001 - Biomolecules And Biomaterials Laboratory **Credits:** 1.00 ♦
- BME 38000 - Professionalization In Biomedical Engineering **Credits:** 2.00 ♦
- BME 38900 - Junior Experimental Design Laboratory **Credits:** 2.00 ♦
- BME 39000 - Professional Development And Design In Biomedical Engineering **Credits:** 2.00 ♦
- BME 48901 - Senior Design Project Lab **Credits:** 3.00 ♦ and
- BME 49000 - Professional Elements Of Design **Credits:** 1.00 ♦
  OR
- BME 49101 - Biomedical Engineering Design **Credits:** 2.00 ♦ and
- BME 49200 - Biomedical Engineering Design II **Credits:** 3.00 ♦
- BME 20200 - Thermodynamics In Biomedical Engineering **Credits:** 3.00 or
- ME 20000 - Thermodynamics I **Credits:** 3.00
  BME Depth Area Selectives - Credit Hours: 9.00 (see supplemental Information)
- Primary Depth Area I - Credit Hours: 3.00
- Primary Depth Area II - Credit Hours: 3.00
- Secondary Depth Area - Credit Hours: 3.00

Other Major Required Courses (24-28 credits)

- BIOL 23000 - Biology Of The Living Cell **Credits:** 3.00
- CHM 11600 - General Chemistry **Credits:** 4.00 or
- CHM 13600 - General Chemistry Honors **Credits:** 4.00
- CS 15900 - C Programming **Credits:** 3.00 or
- CS 17600 - Data Engineering In Python **Credits:** 3.00 or
- CS 18000 - Problem Solving And Object-Oriented Programming **Credits:** 4.00
- MA 26100 - Multivariate Calculus **Credits:** 4.00 ♦ or
- MA 27101 - Honors Multivariate Calculus **Credits:** 5.00 ♦
- MA 26200 - Linear Algebra And Differential Equations **Credits:** 4.00 ♦
  OR
- MA 26500 - Linear Algebra **Credits:** 3.00 ♦ and
- MA 26600 - Ordinary Differential Equations **Credits:** 3.00 ♦

- PHYS 24100 - Electricity And Optics **Credits:** 3.00 ♦ or
- PHYS 27200 - Electric And Magnetic Interactions **Credits:** 4.00 ♦
- STAT 35000 - Introduction To Statistics **Credits:** 3.00 or
- STAT 51100 - Statistical Methods **Credits:** 3.00 or
- BME 32200 - Probability, Statistics, And Applications In Biomedical Engineering **Credits:** 3.00

Engineering First-Year Requirements for BME Students

- BME students are highly encouraged to take CHM 11600 or CHM 13600 as their Science Selective in First Year Engineeing.
- Both CHM 11600 or CS 15900 (or their respective equivalents) are required for BME students.

Engineering Requirements for First Year (29-39 credits)

All courses in this area must have a C- or higher

Requirement #1 - Intro to Engineering I (2-4 credits)
- ENGR 13100 - Transforming Ideas To Innovation I **Credits:** 2.00
  OR
- ENGR 16100 - Honors Introduction To Innovation And The Physical Science Of Engineering Design I **Credits:** 4.00
  OR
- EPCS 11100 - First Year Participation In EPICS I **Credits:** 1.00 and
- EPCS 12100 - First Year Participation In EPICS II **Credits:** 1.00
  OR
- VIP 17911 - First Year Participation In Vertically Integrated Projects (VIP) I **Credits:** 1.00 and
- VIP 17912 - First Year Participation In Vertically Integrated Projects (VIP) II **Credits:** 1.00
  OR
- ENGR 13000 - Transforming Ideas To Innovation, EPICS/VIP
  Requirement #2 - Intro to Engineering II (2-4 credits)
- ENGR 13000 - Transforming Ideas To Innovation, EPICS/VIP **Credits:** 4.00 or
- ENGR 13200 - Transforming Ideas To Innovation II **Credits:** 2.00 or
- ENGR 13300 - Transforming Ideas To Innovation, EPICS/VIP **Credits:** 2.00 or
- ENGR 16200 - Honors Introduction To Innovation And The Physical Science Of Engineering Design II **Credits:** 4.00

Requirement #3 - Calculus I (4-5 credits) - satisfies Quantitative Resoning for core
- MA 16100 - Plane Analytic Geometry And Calculus I **Credits:** 5.00 or
- MA 16500 - Analytic Geometry And Calculus I **Credits:** 4.00

Requirement #4: Calculus II (4-5 credits)
- MA 16200 - Plane Analytic Geometry And Calculus II **Credits:** 5.00 or
- MA 16600 - Analytic Geometry And Calculus II **Credits:** 4.00

Requirement #5: Chemistry (4-6 credits) - satisfies Science #1 for core
- CHM 11500 - General Chemistry **Credits:** 4.00 or
- CHM 11510 - General Chemistry I **Credits:** 3.00
  AND
- CHM 11520 - General Chemistry I - Laboratory **Credits:** 1.00 or

- CHM 11530 - General Chemistry I - Virtual Laboratory **Credits: 1.00**
  OR
- CHM 11100 - General Chemistry **Credits: 3.00** and
- CHM 11200 - General Chemistry **Credits: 3.00**

      Requirement #6: Physics (4 credits) - satisfies Science #2 for core
- PHYS 17200 - Modern Mechanics **Credits: 4.00**
  OR
  ENGR 16100 - Honors Introduction To Innovation And The Physical Science Of Engineering Design I and
  ENGR 16200 - Honors Introduction To Innovation And The Physical Science Of Engineering Design II

      Requirement #7: First-Year Engineering Selective (3-4 credits)
- CHM 11600 - General Chemistry **Credits: 4.00** or
- CS 15900 - C Programming **Credits: 3.00** or
- BIOL 11000 - Fundamentals Of Biology I **Credits: 4.00** or
- BIOL 11100 - Fundamentals Of Biology II **Credits: 4.00**

      Requirement #8: Written and Oral Communication (6-7 credits) - could satisfy Written Communication, Information Literacy or Oral Communication for core
- Written Communication - Credit Hours: 3.00-4.00 (satisfies Written Communication for core)
- Oral Communication - Credit Hours: 3.00 (satisfies Oral Communication for core)
  OR
- SCLA 11000 - Language And Cultural Exchange I: Self In Context **Credits: 3.00**
- SCLA 11100 - Language And Cultural Exchange II: Texts And Contexts **Credits: 3.00**

Other Departmental Course Requirements (45 credits)

Engineering First Year Requirements - CHM 11600 or CS 15900 should be chosen.

Life Science Selectives - Credit Hours: 6.00

- Life Science Selective I - Credit Hours: 3.00
- Life Science Selective II - Credit Hours: 3.00

Technical Engineering Selectives - Credit Hours: 15.00

- Technical Engineering Selective I - Credit Hours: 3.00
- Technical Engineering Selective II - Credit Hours: 3.00
- Technical Engineering Selective III (Quantitative Breadth) - Credit Hours: 3.00
- Technical Engineering Selective IV (Data Science focused Quantitative Breadth) - Credit Hours: 3.00
- Technical Engineering Selective V (BME 40000-49999) - Credit Hours: 3.00 (except BME 49800)

Ethics/Policy Healthcare Selective **- Credit Hours: 3.00**

General Education Selectives - Credit Hours: 21.00

- General Education I - Credit Hours: 3.00
- General Education II - Credit Hours: 3.00
- General Education III - Credit Hours: 3.00
- General Education IV - Credit Hours: 3.00
- General Education V - Credit Hours: 3.00 (30000+ level/Upper level)

- General Education VI - Credit Hours: 3.00 (30000+ level/Upper level)
- General Education VII - Credit Hours: 3.00

(General Education for Written & Oral Communication may be met in First-Year Engineering - Credit Hours: 6.00-7.00)

UCC requirements may be met in this area.

See Supplemental Information for requirements.

Supplemental List

Biomedical Engineering Supplemental Information

GPA Requirements

- A minimum Graduation Index **and** BME Major GPA of at least 2.0 is required to qualify for graduation with a BSBME.

Pass/No Pass Policy

BME does not allow students to use courses with Pass/No Pass grades.

Transfer Credit Policy

Transfer credit including pass/no pass and undistributed credit can be use for the appropriate category at departmental discretion.

University Requirements

University Core Requirements

For a complete listing of University Core Course Selectives, visit the <u>Provost's Website</u>**.**

- Human Cultures: Behavioral/Social Science (BSS)
- Human Cultures: Humanities (HUM)
- Information Literacy (IL)
- Oral Communication (OC)
- Quantitative Reasoning (QR)
- Science #1 (SCI)
- Science #2 (SCI)
- Science, Technology, and Society (STS)
- Written Communication (WC)

Civics Literacy Proficiency Requirement

The Civics Literacy Proficiency activities are designed to develop civic knowledge of Purdue students in an effort to graduate a more informed citizenry. For more information visit the Civics Literacy Proficiency website.

Students will complete the Proficiency by passing a test of civic knowledge, and completing <u>one of three</u> paths:

- Attending six approved civics-related events and completing an assessment for each; or
- Completing 12 podcasts created by the Purdue Center for C-SPAN Scholarship and Engagement that use C-SPAN material and completing an assessment for each; or
- Earning a passing grade for one of **these approved courses** (or transferring in approved AP or departmental credit in lieu of taking a course).

Upper Level Requirement

- Resident study at Purdue University for at least two semesters and the enrollment in and completion of at least 32 semester hours of coursework required and approved for the completion of the degree. These courses are expected to be at least junior-level (30000+) courses.
- Students should be able to fulfill *most*, *if not all*, of these credits within their major requirements; there should be a clear pathway for students to complete any credits not completed within their major.

Sample First-Year Engineering Plan of Study

Fall 1st Year

- Requirement #1 - Intro to Engineering - Credit Hours: 2.00-4.00
- Requirement #3 - Calculus I - Credit Hours: 4.00-5.00
- Requirement #5 - Chemistry - Credit Hours: 4.00-6.00
- Requirement #8 - Written or Oral Communication - Credit Hours: 3.00-4.00

13-19 Credits

Spring 1st Year

- Requirement #2 - Intro to Engineering II - Credit Hours: 2.00-4.00
- Requirement #4 - Calculus II - Credit Hours: 4.00-5.00
- Requirement #6 - Physics - Credit Hours: 4.00
- Requirement #7 - First-Year Engineering Selective - Credit Hours: 3.00-4.00
- Requirement #8 - Written or Oral Communication - Credit Hours: 3.00-4.00

16-21 Credits

Sample Biomedical Engineering Plan of Study

Fall 2nd Year

- BIOL 23000 - Biology Of The Living Cell **Credits:** 3.00
- BME 21400 - Introduction To Biomechanical Analysis **Credits:** 3.00
- BME 21401 - Biomechanical Analysis Laboratory **Credits:** 1.00
- BME 28000 - Frontiers In Biomedical Engineering **Credits:** 1.00
- CS 15900 - C Programming **Credits:** 3.00 or
- CS 17600 - Data Engineering In Python **Credits:** 3.00 or

- CS 18000 - Problem Solving And Object-Oriented Programming **Credits:** 4.00
- MA 26100 - Multivariate Calculus **Credits:** 4.00 or
- MA 27101 - Honors Multivariate Calculus **Credits:** 5.00
- PHYS 24100 - Electricity And Optics **Credits:** 3.00 or
- PHYS 27200 - Electric And Magnetic Interactions **Credits:** 4.00

18-21 Credits

Spring 2nd Year

- BME 22000 - Biomolecules: Structure, Function, And Engineering Applications **Credits:** 3.00
- BME 23100 - Bioinstrumentation and Circuit Theory **Credits:** 3.00
- BME 23101 - Bioinstrumentation and Circuit Theory Lab **Credits:** 1.00
- BME 25600 - Physiological Modeling In Human Health **Credits:** 3.00
- BME 20200 - Thermodynamics In Biomedical Engineering **Credits:** 3.00 or
- ME 20000 - Thermodynamics I **Credits:** 3.00
- MA 26200 - Linear Algebra And Differential Equations **Credits:** 4.00
  OR
- MA 26500 - Linear Algebra **Credits:** 3.00 and
- MA 26600 - Ordinary Differential Equations **Credits:** 3.00

17-19 Credits

Fall 3rd Year

- BME 32000 - Introduction To Biomaterials Science And Engineering **Credits:** 3.00
- BME 32001 - Biomolecules And Biomaterials Laboratory **Credits:** 1.00
- BME 38000 - Professionalization In Biomedical Engineering **Credits:** 2.00
- STAT 35000 - Introduction To Statistics **Credits:** 3.00 or
- STAT 51100 - Statistical Methods **Credits:** 3.00 or
- BME 32200 - Probability, Statistics, And Applications In Biomedical Engineering **Credits:** 3.00
- Primary Depth Area I - Credit Hours: 3.00
- Secondary Depth Area - Credit Hours: 3.00
- General Education Selective I - Credit Hours: 3.00

18 Credits

Spring 3rd Year

- BME 38900 - Junior Experimental Design Laboratory **Credits:** 2.00
- BME 39000 - Professional Development And Design In Biomedical Engineering **Credits:** 2.00
- Primary Depth Area II - Credit Hours: 3.00

- Ethics and Policy Healthcare Selective - Credit Hours: 3.00

- Life Science Selective – Credit Hours: 3.00

- Technical Engineering Selective (Quantitative Breadth) - Credit Hours: 3.00

16 Credits

Fall 4th Year

- BME 48901 - Senior Design Project Lab **Credits:** 3.00
- BME 49000 - Professional Elements Of Design **Credits:** 1.00
- BME 49101 - Biomedical Engineering Design **Credits:** 2.00
- Technical Engineering Selective - Credit Hours: 3.00
- Technical Engineering Selective - Credit Hours: 3.00
- General Education Selective - Credit Hours: 3.00
- General Education Selective - Credit Hours: 3.00

16 Credits

Spring 4th Year

- BME 49200 - Biomedical Engineering Design II **Credits:** 3.00
- Technical Engineering Selective (Quantitative Breadth/Data Science) - Credit Hours: 3.00
- Technical Engineering Selective - Credit Hours: 3.00
- Life Science Selective II - Credit Hours: 3.00
- General Education Selective - Credit Hours: 3.00
- General Education Selective - Credit Hours: 3.00

15 Credits

Pre-Requisite Information

For pre-requisite information, log in to mypurdue.purdue.edu and click here.

Critical Course

The ♦ course is considered critical.

In alignment with the Degree Map Guidance for Indiana's Public Colleges and Universities, published by the Commission for Higher Education (pursuant to HEA 1348-2013), a Critical Course is identified as "one that a student must be able to pass to persist and succeed in a particular major. Students who want to be nurses, for example, should know that they are expected to be proficient in courses like biology in order to be successful. These would be identified by the institutions for each degree program."

Disclaimer

The student is ultimately responsible for knowing and completing all degree requirements. Consultation with an advisor may result in an altered plan customized for an individual student. The myPurduePlan powered by DegreeWorks is the knowledge source for specific requirements and completion.

Comparative information about Purdue University and other U.S. educational institutions is also available through the College Navigator tool, provided by the National Center for Education Statistics, and through the U.S. Department of Education College Scorecard.

Bachelor of Science in Computer Engineering

Computer Engineering, BSCMPE

About the Program

The Computer Engineering program is accredited by the Engineering Accreditation Commission of ABET.

Electrical and Computer engineering encompasses all areas of research, development, design, and operation of electrical and electronic systems and their components, including software. Emphasis in such varied areas as bioengineering, circuit theory, communication sciences, computers and automata, control systems, electromagnetic fields, energy sources and systems, and materials and electronic devices is available. Two degree programs are offered by the School: Bachelor of Science in Electrical Engineering (BSEE) and Bachelor of Science in Computer Engineering (BSCmpE).

Engineers in both fields must have a strong background in mathematics and physics, a broad base in the humanities, and a command of the English language in order to provide the scope of knowledge essential for optimum professional growth. The curriculum offered by the School of Electrical and Computer Engineering meets these objectives.

Graduates from the School of Electrical and Computer Engineering are sought after by all major industries. Electrical engineers hold many unusual and challenging positions in the aerospace, chemical, nuclear, automotive, medical, metallurgical, textile, railway, petroleum, and other basically non-electrical industries, as well as in computers, electronics, communications, power, and other electrical industries. Their professional roles span industrial activity, research, development, design, production, marketing, operation, field testing, and maintenance of many types of equipment for government, industry, farm, and home.

Two degree programs are offered by the school:

Electrical Engineering encompasses the development, design, research, and operation of electrical and electronic systems and components. Disciplines include VLSI and circuit design, communication and signal processing, computer engineering, automatic control, fields and optics, energy sources and systems, and microelectronics and nanotechnology.

Computer Engineering is a specialization within electrical and computer engineering offering an in-depth education in both hardware and software aspects of modern computer systems.

Electrical and Computer Engineering provides students with a versatile education that will prove valuable looking toward a professional future. Along with problem-solving and design skills, students develop a strong foundation in math, science, and core electrical/computer engineering fundamentals. This skillset prepares them for research and development positions in industry, management, sales, teaching, medical school, and law school.

At Birck Nanotechnology Center, engineers and scientists conduct research in emerging fields where new materials and tiny structures are built atom by atom or molecule by molecule.

Electrical and Computer Engineering website

Electrical and Computer Engineering Major Change (CODO) Requirements

Degree Requirements

125 Credits Required

Computer Engineering Required Major Courses (53 credits)

An overall 2.00 cumulative GPA or better for Required Major courses. (Some courses have minimum grade requirements for prerequisites.)

Required Core Courses (30 credits)

- ECE 20001 - Electrical Engineering Fundamentals I **Credits:** 3.00 (minimum grade of C)
- ECE 20007 - Electrical Engineering Fundamentals I Lab **Credits:** 1.00
- ECE 20002 - Electrical Engineering Fundamentals II **Credits:** 3.00 (minimum grade of C)
- ECE 26400 - Advanced C Programming **Credits:** 3.00 (minimum grade of C)
- ECE 20875 - Python For Data Science **Credits:** 3.00
- ECE 27000 - Introduction To Digital System Design **Credits:** 4.00 (minimum grade of C)
- ECE 30100 - Signals And Systems **Credits:** 3.00
- ECE 30200 - Probabilistic Methods In Electrical And Computer Engineering **Credits:** 3.00
- ECE 36200 - Microprocessor Systems And Interfacing **Credits:** 4.00
- ECE 36800 - Data Structures **Credits:** 3.00

Required Seminars (3 credits)

- ECE 29401 - Electrical And Computer Engineering Sophomore Seminar **Credits:** 1.00
- ECE 39401 - Professional Communications And Diversity **Credits:** 1.00
- ECE 49401 - Professional Communication Capstone **Credits:** 1.00

Senior Design Requirement - Choose One Option (4 credits)

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

Option 1:

- ECE 47700 - Digital Systems Senior Project **Credits:** 4.00

Option 2:

- ECE 49022 - Electrical Engineering Senior Design Projects **Credits:** 4.00

Option 3:

Must be taken in each of 2 consecutive semesters.

- EPCS 41200 - Senior Design Participation In EPICS **Credits:** 2.00

Option 4:

Must be taken in 2 consecutive semesters.

- VIP 47921 - Senior Design Participation In Vertically Integrated Projects (VIP) I **Credits:** 2.00
- VIP 47922 - Senior Design Participation In Vertically Integrated Projects (VIP) II **Credits:** 2.00

Computer Engineering Selectives (16 credits)

Select from the following list so that total credits for Required Major Courses is at least 53.

- ECE 30834 - Fundamentals Of Computer Graphics **Credits:** 3.00
- ECE 33700 - ASIC Design Laboratory **Credits:** 2.00
- ECE 40400 - Introduction To Computer Security **Credits:** 3.00
- ECE 43700 - Computer Design And Prototyping **Credits:** 4.00
- ECE 46100 - Software Engineering **Credits:** 3.00
- ECE 46900 - Operating Systems Engineering **Credits:** 4.00
- ECE 46300 - Introduction To Computer Communication Networks **Credits:** 3.00 or
- ECE 50863 - Computer Network Systems **Credits:** 3.00
- ECE 46800 - Introduction To Compilers And Translation Engineering **Credits:** 4.00 or
- ECE 57300 - Compilers And Translator Writing Systems **Credits:** 3.00
- ECE 40862 - Software For Embedded Systems **Credits:** 3.00 or
- ECE 56800 - Embedded Systems **Credits:** 3.00
- ECE 47300 - Introduction To Artificial Intelligence **Credits:** 3.00 or
- ECE 57000 - Artificial Intelligence **Credits:** 3.00
- Computer Engineering "Special Content" courses - Maximum of 6 credits (See Computer Engineering "Special Content" Courses in Additional Requirements)

Optional Concentrations

- Artificial Intelligence and Machine Learning Concentration for Computer Engineering
- Computer Systems Concentration in Computer Engineering
- Microelectronics and Semiconductor Concentration for Computer Engineering
- Software Engineering Concentration for Computer Engineering

Other Department/Program Course Requirements (72 credits)

If pursuing Bachelor of Science in Computer Engineering, CS 15900 - Prog Appl for Engineers is required to graduate, but not required to complete the First Year Engineering program.

First-Year Engineering Requirements (29-39 credits)

Click here for First-Year Engineering requirements.

- Requirement #1 - Intro to Engineering I (2-4 credits)
- Requirement #2 - Intro to Engineering II (2-4 credits)
- Requirement #3 - Calculus I (4-5 credits) *(satisfies Quantitative Reasoning for core)*
- Requirement #4 - Calculus II (4-5 credits) *(satisfies Quantitative Reasoning for core)*
- Requirement #5 - Chemistry I (4-6 credits) *(satisfies Science #1 for core)*

- Requirement #6 - Physics (4 credits) *(satisfies Science #2 for core)*
- Requirement #7 - First-Year Engineering Selective (3-4 credits)
- Requirement #8 - Written and Oral Communication (6-7 credits) *(could satisfy Written Communication, Information Literacy or Oral Communication for core)*

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 **Credits:** 3.00 (minimum grade of C-)

Engineering Breadth Selective - Choose One (3 credits)

- AAE 20300 - Aeromechanics I **Credits:** 3.00
- ABE 20100 - Material And Energy Balances In Biological Engineering **Credits:** 4.00
- CE 29700 - Basic Mechanics I (Statics) **Credits:** 3.00
- CE 35000 - Introduction To Environmental And Ecological Engineering **Credits:** 3.00
- CE 35500 - Engineering Environmental Sustainability **Credits:** 3.00
- CHE 20500 - Chemical Engineering Calculations **Credits:** 4.00
- EEE 35000 - Introduction To Environmental And Ecological Engineering **Credits:** 3.00
- EEE 35500 - Engineering Environmental Sustainability **Credits:** 3.00
- IE 33500 - Operations Research - Optimization **Credits:** 3.00
- IE 33600 - Operations Research - Stochastic Models **Credits:** 3.00
- ME 20000 - Thermodynamics I **Credits:** 3.00
- ME 27000 - Basic Mechanics I **Credits:** 3.00
- ME 41300 - Noise Control **Credits:** 3.00
- MSE 23000 - Structure And Properties Of Materials **Credits:** 3.00
- NUCL 20000 - Introduction to Nuclear Engineering **Credits:** 3.00

Mathematics Requirement - Choose One Option (13-14 credits)

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

Option 1 (13 credits)

- MA 26100 - Multivariate Calculus **Credits:** 4.00 (minimum grade of C-)
- MA 26600 - Ordinary Differential Equations **Credits:** 3.00
- MA 26500 - Linear Algebra **Credits:** 3.00
- ECE 36900 - Discrete Mathematics For Computer Engineering **Credits:** 3.00

Option 2 (14 credits)

- MA 26100 - Multivariate Calculus **Credits:** 4.00 (minimum grade of C-)
- MA 26200 - Linear Algebra And Differential Equations **Credits:** 4.00
- ECE 36900 - Discrete Mathematics For Computer Engineering **Credits:** 3.00
  <u>Advanced Math Selective</u> - Choose One (3 credits)
- MA 30300 - Differential Equations And Partial Differential Equations For Engineering And The Sciences **Credits:** 3.00
- MA 35100 - Elementary Linear Algebra **Credits:** 3.00
- MA 38500 - Introduction To Logic **Credits:** 3.00
- MA 42500 - Elements Of Complex Analysis **Credits:** 3.00
- MA 51000 - Vector Calculus **Credits:** 3.00
- CS 31400 - Numerical Methods **Credits:** 3.00

Science Requirement (4-8 credits)

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 **Credits:** 4.00 ♦
  <u>ECE Science Selective</u> - Choose One
- BIOL 11000 - Fundamentals Of Biology I **Credits:** 4.00
- BIOL 11100 - Fundamentals Of Biology II **Credits:** 4.00
- BIOL 12100 - Biology I: Diversity, Ecology, And Behavior **Credits:** 2.00 and
- BIOL 13500 - First Year Biology Laboratory **Credits:** 2.00
- BIOL 13100 - Biology II: Development, Structure, And Function Of Organisms **Credits:** 3.00
- CHM 11600 - General Chemistry **Credits:** 4.00
- PHYS 31000 - Intermediate Mechanics **Credits:** 4.00
- PHYS 32200 - Intermediate Optics **Credits:** 3.00
- PHYS 34400 - Introduction To Quantum Science **Credits:** 4.00

ECE General Education Requirement (17-18 credits)

- General Education I (Human Cultures: Humanities) - Credit Hours: 3.00 (satisfies Human Cultures: Humanities for core)

- General Education II (satisfies Human Cultures: Behavioral/Social Science for core) - Credit Hours: 3.00

- General Education III (satisfies Science, Technology & Society for core) - Credit Hours: 3.00

- General Education IV - Credit Hours: 3.00

- General Education V - Credit Hours: 3.00

- General Education VI - Credit Hours: 3.00

C- or better required in all General Education Requirement Courses

- 6 of 24 credits must be Upper level courses (*Non-Introductory: At least 6 credits must be 30000-level or above (or from courses with a required pre-requisite in the same department.*)
- 12 of 24 must be taken from 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.

24 credits total of General Education Courses Required

6-7 credits are taken in First-Year Engineering

- General Education - FYE Requirement #8 (Written Communication) - Credit Hours: 3.00-4 credits (satisfies Written Communication for core)

- General Education - FYE Requirement #8 (Oral Communication) Credit Hours: 3.00 (satisfies Oral Communication for core)

Electives (0-2 credits)

- Elective - Credit Hours: 0.00-2.00

- Choose additional coursework to bring total credits to the minimum 125 required for the BSCMPE degree. Students should carefully select these courses to complement their personal interests and their academic record.

- All courses, except those specifically identified on the Electrical and Computer Engineering No Count List.

Supplemental Lists

- Electrical and Computer Engineering General Education
- Computer Engineering "Special Content" Courses

GPA Requirements

- An overall GPA of 2.0 or higher in the Required Major Courses is required.

Pass/No Pass Policy

- The pass/no pass (P/NP) grade option, if available, may be used for courses taken to satisfy the ECE General Education and Complementary Elective Requirements. The P/NP grade option cannot be used for courses applied towards the Required Major Courses, General Engineering Requirement, Mathematics Requirement, and the Science Requirement (unless P/NP is the only allowed grade option for that course).

Transfer Credit Policy

- All 30000-level and above courses applied towards the Required Major Courses must be completed at the Purdue West Lafayette campus.

University Requirements

University Core Requirements

For a complete listing of University Core Course Selectives, visit the <u>Provost's Website</u>.

- Human Cultures: Behavioral/Social Science (BSS)
- Human Cultures: Humanities (HUM)

- Information Literacy (IL)
- Oral Communication (OC)
- Quantitative Reasoning (QR)
- Science #1 (SCI)
- Science #2 (SCI)
- Science, Technology, and Society (STS)
- Written Communication (WC)

Civics Literacy Proficiency Requirement

The Civics Literacy Proficiency activities are designed to develop civic knowledge of Purdue students in an effort to graduate a more informed citizenry. For more information visit the Civics Literacy Proficiency website.

Students will complete the Proficiency by passing a test of civic knowledge, and completing one of three paths:

- Attending six approved civics-related events and completing an assessment for each; or
- Completing 12 podcasts created by the Purdue Center for C-SPAN Scholarship and Engagement that use C-SPAN material and completing an assessment for each; or
- Earning a passing grade for one of **these approved courses** (or transferring in approved AP or departmental credit in lieu of taking a course).

Upper Level Requirement

- Resident study at Purdue University for at least two semesters and the enrollment in and completion of at least 32 semester hours of coursework required and approved for the completion of the degree. These courses are expected to be at least junior-level (30000+) courses.
- Students should be able to fulfill *most*, *if not all*, of these credits within their major requirements; there should be a clear pathway for students to complete any credits not completed within their major.

Sample First-Year Engineering Plan of Study

Fall 1st Year

- Requirement #1 - Intro to Engineering - Credit Hours: 2.00-4.00
- Requirement #3 - Calculus I - Credit Hours: 4.00-5.00
- Requirement #5 - Chemistry - Credit Hours: 4.00-6.00
- Requirement #8 - Written or Oral Communication - Credit Hours: 3.00-4.00

13-19 Credits

Spring 1st Year

- Requirement #2 - Intro to Engineering II - Credit Hours: 2.00-4.00
- Requirement #4 - Calculus II - Credit Hours: 4.00-5.00
- Requirement #6 - Physics - Credit Hours: 4.00
- Requirement #7 - First-Year Engineering Selective - Credit Hours: 3.00-4.00
- Requirement #8 - Written or Oral Communication - Credit Hours: 3.00-4.00

16-21 Credits

Sample Computer Engineering Plan of Study

Combined with two semesters for FYE above, the following is an example of a 4-year plan that satisfies the BSCMPE degree requirements.

Fall 2nd Year

- ECE 29401 - Electrical And Computer Engineering Sophomore Seminar **Credits:** 1.00
- ECE 20001 - Electrical Engineering Fundamentals I **Credits:** 3.00
- ECE 20007 - Electrical Engineering Fundamentals I Lab **Credits:** 1.00
- ECE 26400 - Advanced C Programming **Credits:** 3.00
- ECE 36900 - Discrete Mathematics For Computer Engineering **Credits:** 3.00
- MA 26100 - Multivariate Calculus **Credits:** 4.00
  C Programming (if not taken in FYE)
- CS 15900 - C Programming **Credits:** 3.00

16-19 Credits

Spring 2nd Year

- ECE 20002 - Electrical Engineering Fundamentals II **Credits:** 3.00
- ECE 20875 - Python For Data Science **Credits:** 3.00
- ECE 27000 - Introduction To Digital System Design **Credits:** 4.00
  Mathematics Requirement
- MA 26600 - Ordinary Differential Equations **Credits:** 3.00 or
- MA 26200 - Linear Algebra And Differential Equations **Credits:** 4.00
- Foundational General Education I (Human Cultures: Humanities) - Credit Hours: 3.00

16-17 Credits

Fall 3rd Year

- ECE 30100 - Signals And Systems **Credits:** 3.00
- ECE 36200 - Microprocessor Systems And Interfacing **Credits:** 4.00
- ECE 36800 - Data Structures **Credits:** 3.00
- ECE 39401 - Professional Communications And Diversity **Credits:** 1.00
- ECE Science Selective - Credit Hours: 0.00-4.00
- Foundational General Education II (Human Cultures: Behavioral/Social Science) - Credit Hours: 3.00

14-18 Credits

Spring 3rd Year

- ECE 30200 - Probabilistic Methods In Electrical And Computer Engineering **Credits:** 3.00
- PHYS 27200 - Electric And Magnetic Interactions **Credits:** 4.00
- Computer Engineering Selectives - Credit Hours: 7.00
- Foundational General Education III (Science, Technology, and Society) - Credit Hours: 3.00

16 Credits

Fall 4th Year

Senior Design Requirement Option I
- ECE 47700 - Digital Systems Senior Project **Credits:** 4.00
- MA 26500 - Linear Algebra **Credits:** 3.00 or
- Advanced Math Selective - Credit Hours: 3.00
- Computer Engineering Selectives - Credit Hours: 3.00
- General Education IV - Credit Hours: 3.00
- Elective - Credit Hour: 0.00-3.00

13-16 Credits

Spring 4th Year

- ECE 49401 - Professional Communication Capstone **Credits:** 1.00
- Computer Engineering Selectives - Credit Hours: 6.00
- Engineering Breadth Selective - Credit Hours: 3.00
- General Education V - Credit Hours: 3.00
- General Education VI - Credit Hours: 3.00
- Elective - Credit Hours: 0.00-2.00

16-18 Credits

Pre-Requisite Information

For pre-requisite information, log in to mypurdue.purdue.edu and click here.

Critical Course

The ♦ course is considered critical.

In alignment with the Degree Map Guidance for Indiana's Public Colleges and Universities, published by the Commission for Higher Education (pursuant to HEA 1348-2013), a Critical Course is identified as "one that a student must be able to pass to persist and succeed in a particular major. Students who want to be nurses, for example, should know that they are expected to be proficient in courses like biology in order to be successful. These would be identified by the institutions for each degree program."

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Bachelor of Science in Mechanical Engineering

Mechanical Engineering, BSME

About the Program

The mechanical engineering technology program is accredited by the Engineering Technology Accreditation Commission of ABET, https://www.abet.org, under the commission's general criteria and program criteria for Mechanical Engineering Technology and similarly named programs.

Program Educational Objectives and Outcomes

The School of Mechanical Engineering offers coursework leading to the Bachelor of Science in Mechanical Engineering (B.S.ME).

The program educational objectives of the School of Mechanical Engineering are to matriculate graduates who conduct themselves in a responsible, professional and ethical manner (citizenship), and who upon the years following graduation, are committed to:

1. Professional Practice

- Actively embracing leadership roles in the practice of engineering in industry and government organizations (including both traditional and emerging technical areas).
- Conducting research and development across disciplines (via graduate study or industry) to advance technology and foster innovation in order to compete successfully in the global economy.
- Applying their engineering problem-solving skills to less-traditional career paths (e.g., law, medicine, business, education, start-up ventures, public policy, etc.).

2. Professional Development

- Actively participating in ongoing professional development opportunities (conferences, workshops, short courses, graduate education, etc.).
- Updating and adapting their core knowledge and abilities to compete in the ever-changing global enterprise.
- Developing new knowledge and skills to pursue new career opportunities.

3. Professional Outreach

- Serving as ambassadors for the engineering profession, inspiring others to develop a passion for engineering.
- Exchanging and applying knowledge to create new opportunities that advance society and solve a variety of technical and social problems.
- Advancing entrepreneurial ventures and fostering activities that support sustainable economic development to enhance the quality of life of people in the state, across the country and around the world.

In order for students to achieve these objectives. the program of study should satisfy the comprehensive set of student outcomes as outlined below.

School of Mechanical Engineering Student Outcomes

The program should provide students with a solid technical foundation for their careers. The graduates of the School of Mechanical Engineering will have demonstrated the following:

1. **Engineering fundamentals**: an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. Engineering design: an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. **Communications skills**: an ability to communicate effectively with a range of audiences.
4. **Ethical/Professional responsibilities**: an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgements, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. **Teamwork skills**: an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. **Experimental skills**: an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions.
7. **Knowledge acquisition**: an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Mechanical Engineering Program Description

To achieve the above stated objectives and outcomes, the School of Mechanical Engineering has developed a comprehensive, integrated curriculum to provide students with a broad base on which to build an engineering career. It is founded on basic sciences, including physics, chemistry and mathematics; computer science and computer graphics; and oral and written communications skills.

To this foundation, a core of engineering science and design courses are added in three main curriculum stems: mechanical sciences (statics, dynamics, mechanics of materials, and structures and properties of materials), information technologies (electric circuits and electronics, instrumentation, system modeling and controls), and thermal-fluid sciences (thermodynamics, fluid mechanics and heat transfer).

Throughout the core curriculum, students gain extensive laboratory and computer experience via modern facilities in all basic areas of the discipline. In addition, the curriculum provides an integrated innovation, design and entrepreneurship experience. This experience - which begins with a sophomore-level cornerstone course and culminates with a senior-level capstone course - emphasizes innovation, problem-solving, leadership, teamwork, communication skills, practical hands-on experience with various product design processes and entrepreneurship. Students then specialize by selecting three ME electives that provide additional depth in one or more main stems of the curriculum. Students can further specialize with 9 credit hours of technical/professional electives in engineering, mathematics, natural sciences, select management courses or individualized project courses (ME 49800/ME 49900).

Just as design experiences are integrated throughout the mechanical engineering curriculum, so too are opportunities to communicate technical information, both orally and in writing. Students experience a variety of communications opportunities in progressing through the mechanical engineering program.

As a freshman, each student is required to take both oral and written communication courses. These courses lay the foundation for future oral and written communications. In the sophomore seminar course (ME 29000), students learn how to create

professional documents and correspondence (e.g., resumes, letters, memos, etc.), develop personal interview skills, learn the basics of Web publishing and develop a global engineering professional profile. In ME 26300, the cornerstone design course, student teams prepare formal design reports, give oral presentations and maintain individual design notebooks. The communications experiences culminate in the capstone design course (ME 46300), in which student teams prepare presentations and reports for the sponsors of their selected design projects and compete in an innovation competition.

A major feature of the curriculum is the flexible 39-credit-hour elective program, of which 24 credit hours are taken during the senior year. This allows for a program with considerable breadth while also permitting the depth and specialization in an area of the student's professional interests.

Because of the wide scope of activities in which the mechanical engineer is engaged and because of the broad spectrum of student interests, mechanical engineering graduates may choose either to enter the profession immediately after receiving their bachelor's degree or go directly to graduate school. In either case, the curriculum provides a firm foundation for continuing education and fosters a commitment to lifelong learning, whether it is as a member of the engineering profession, through formal graduate work or through independent study.

Visit the School of Mechanical Engineering website for more current information about the undergraduate programs.

Scholarships

The School of Mechanical Engineering sponsors a broad array of need-based and merit-based scholarships. Eligible candidates (incoming sophomores through senior mechanical engineering students) are invited in mid-spring to submit applications for consideration. To qualify, students are required to have a scholastic index of 2.8 or better on a 4.0 scale. Awards range from $500 to $10,000 and total more than $1 million. This scholarship money is in addition to the University's Trustees and Presidential scholarships in Mechanical Engineering, which, when fully funded, will include more than 350 awards worth a total of more than $2 million.

Professional Student Organizations and Activities

Student organizations provide valuable opportunities for students to enhance organizational, communication, teamwork and leadership skills. Students also are strongly encouraged to become involved in one or more extracurricular activities. Student organizations specific to mechanical engineering include the American Society of Mechanical Engineers (ASME), the Purdue Mechanical Engineering Ambassadors (PMEA), Pi Tau Sigma (the Mechanical Engineering Honor Society) and the Society of Automotive Engineers (SAE).

Professional Practice Program with Industry or Governmental Organizations

The professional practice programs enable qualified students to obtain experiences related to their specific engineering discipline with selected employers while completing the requirements of their undergraduate degree. Students can participate in an Industry Co-op Certificate and an Extensive Industry Co-op Certificate or an internship program. The Office Professional Practice also offers the GEARE program, which combines domestic and international work experiences, a design project component and an opportunity to study abroad.

For more information, visit the Office of Professional Practice website.

Honors Program

An honors program is available for outstanding mechanical engineering undergraduate students. The Honors program utilizes the mechanical engineering, technical, general education and elective requirements for the B.S.ME degree in a way that is consistent with the honors designation. Admission to the Honors program is by selection for any student meeting the minimum admission requirements for the First-Year Engineering Honors program. Students not in the First-Year Engineering Honors program can apply for admission into the Honors program by completing an honors application and meeting the required cumulative GPA for admission.

Completion of the Honors program requires earning a required minimum number of honor points (credit hours) earned in one of the following manners:

- Take honors courses (including the sophomore and junior honors seminar sequence).
- Complete honors experiences (e.g., study abroad, special work experiences, etc.).
- Take honors strategic initiative courses (defined by the College of Engineering).

Successful completion of the minimum number of honors points will earn a student a certificate and his/her transcript will read, "Bachelor of Science Mechanical Engineering - Honors Program Awarded at West Lafayette."

More details on the Honors program can be found on the ME website.

Study Abroad

Global competency skills are a major focus in the School of Mechanical Engineering. By graduation, roughly 40 percent of ME graduates have international experience (as compared to about 3 percent nationally in engineering). The School of Mechanical Engineering has developed an extensive and multi-faceted study abroad program that ranges from an extensive eight-month experience abroad to a three-week stint abroad. This staged program allows students to pick and choose the program that best fits their requirements and timing. Additional information can be found on the ME Global Programs website.

Registration for the Fundamentals of Engineering Examination

Mechanical engineering seniors are strongly encouraged to take the first step to becoming registered professional engineers (PEs) by registering and successfully completing the Fundamentals of Engineering (FE) examination, also called the Engineer in Training (EIT) exam. Seniors can register to take the FE exam at the West Lafayette campus in their senior year prior to graduation. Announcements appear periodically throughout the semester to alert students to this opportunity. The FE exam can be taken daily at Purdue in the months of January/February, April/May, July/August, and October/November. To aid seniors in their preparation for the exam, Chi Epsilon, the Civil Engineering Honor Society organizes annual faculty-taught review sessions on key topics covered on the FE exam. Also, a simple internet search of FE Review Sessions can provide valuable review information available at a student's convenience. Typically, 95 to 100 percent of graduateing mechanical engineering seniors registered to take the FE exam pass the exam on the first attempt.

After passing the FE exam and completing four years of engineering experience after graduation, an engineer is typically eligible to take the professional engineering (PE) licensing examination. Specific information about the EIT exam is available on the School of Mechanical Engineering home page. Questions about the FE Exam or the process to become a registered professional engineer should be directed to the Associate Head of the School of Mechanical Engineering.

Undergraduate Research Opportunities

In addition to the traditional classroom experience, students in the School of Mechanical Engineering have the opportunity to conduct cutting-edge research in one of the thirteen ME Research Areas listed below:

- Acoustics and Noise Control
- Bioengineering
- Combustion
- Design
- Fluid Mechanics and Propulsion
- Heat Transfer
- Heating, Ventilation, Air Conditioning and Refrigeration
- Manufacturing and Materials Processing
- Mechanics and Vibrations
- Nanotechnology

- Robotics
- Solid Mechanics
- Systems, Measurement and Control

Students discover first-hand how research contributes to the advancement of human knowledge. They experience a change of pace from formal classroom activities and gain valuable hands-on skills applicable to both research and non-research careers. In addition, students develop their knowledge of the research process and tools used by professional researchers and increase their proficiencies in technical communication. Such experiences help students connect their summer experience with their future goals, with particular focus on post-graduate education. Learn more about ME Faculty directed research opportunities by visiting the ME Undergraduate Research Opportunities webpage. https://engineering.purdue.edu/ME/Undergraduate/ResearchOpportunities

Interested students are strongly encouraged to consider participation in the Summer Undergraduate Research Fellowship (SURF) Program or the Discovery Park Undergraduate Research Internship (DURI) Program.

Preparation for Graduate Study

The School of Mechanical Engineering also offers graduate work leading to the degrees of Master of Science (M.S.), for students with non-engineering degrees; Master of Science in Engineering (M.S.E), for students with non-mechanical engineering degrees; Master of Science in mechanical engineering (M.S.ME), for students with B.S.ME degrees; and the Doctor of Philosophy (Ph.D.).

The regular undergraduate curriculum (and the honors undergraduate program) provide a strong foundation for graduate study, and students who complete either of the programs with appropriate academic records are encouraged to pursue graduate work. Many graduates have continued their education by pursuing advanced studies in engineering, business, law, medicine, dentistry and public policy.

For answers to your questions about graduate study, visit the Mechanical Engineering Graduate Office in the Mechanical Engineering Building, Room 1003, call 765-494-5730, email MEgradoffice@purdue.edu or visit the ME website.

Combined B.S.ME/M.S.ME Program

A combined B.S.ME/M.S.ME program is available for outstanding mechanical engineering undergraduate students. This program is anticipated to take approximately five years to complete (with the M.S.ME non-thesis option) and result in receiving both the B.S.ME and M.S.ME degrees.

The B.S.ME/M.S.ME program is a mechanism for:

1. Providing a seamless transition from the B.S.ME to the M.S.ME program.\
2. Participating in a directed project in their area of interest.
3. Stimulating interest in graduate study and research/academic careers.
4. Allowing for special recognition of high levels of academic achievement.

The B.S.ME/M.S.ME program requires students to take 12 hours of graduate coursework toward their B.S.ME professional elective requirement. This same 12 hours likewise count toward the M.S.ME degree.

Interested students typically apply as an "internal ME applicant" in the second half of their junior year after completion of 81 hours of coursework in the undergraduate program with a cumulative undergraduate GPA of 3.2 or higher. If a GPA of 3.0 has been maintained and grades of "B" or better are received in the first two graduate courses (typically in the seventh semester), the student will be asked to formally apply to the Purdue Graduate School at the beginning of his or her eighth semester of the senior year.

Complete details of the combined B.S.ME/M.S.ME program can be found on the Web. Questions about this information should be emailed to MEgradoffice@purdue.edu.

School of Mechanical Engineering

Mechanical Engineering Major Change (CODO) Requirements

Degree Requirements

128 Credits Required

Mechanical Engineering Major Requirements (67-68 credits)

Mechanical Engineering Major Courses (37 credits)

- ME 20000 - Thermodynamics I **Credits:** 3.00 ♦
- ME 27000 - Basic Mechanics I **Credits:** 3.00 ♦
- ME 26300 - Introduction To Mechanical Engineering Design, Innovation And Entrepreneurship **Credits:** 3.00 ♦
- ME 27400 - Basic Mechanics II **Credits:** 3.00 ♦
- ME 29000 - Global Engineering Professional Seminar **Credits:** 1.00 ♦ (satisfies Science, Technology & Society for core)
- ME 30800 - Fluid Mechanics **Credits:** 3.00 ♦
- ME 30801 - Fluid Mechanics Laboratory **Credits:** 1.00 ♦
- ME 31500 - Heat And Mass Transfer **Credits:** 4.00 ♦
- ME 32300 - Mechanics Of Materials **Credits:** 3.00 ♦
- ME 32301 - Mechanics Of Materials Laboratory **Credits:** 1.00 ♦
- ME 35400 - Machine Design **Credits:** 3.00 ♦
- ME 36500 - Measurement And Control Systems I **Credits:** 3.00 ♦
- ME 37500 - Measurement And Control Systems II **Credits:** 3.00 ♦
- ME 46300 - Engineering Design **Credits:** 3.00 ♦

Other Departmental Required Courses (21-22 credits)

The courses listed below are also included in Major GPA calculation.

- ECE 20001 - Electrical Engineering Fundamentals I **Credits:** 3.00 ♦
- ECE 20007 - Electrical Engineering Fundamentals I Lab **Credits:** 1.00 ♦
- MA 26100 - Multivariate Calculus **Credits:** 4.00 ♦
- MA 26200 - Linear Algebra And Differential Equations **Credits:** 4.00 ♦
- MA 30300 - Differential Equations And Partial Differential Equations For Engineering And The Sciences **Credits:** 3.00 ♦
- MSE 23000 - Structure And Properties Of Materials **Credits:** 3.00 ♦
- PHYS 24100 - Electricity And Optics **Credits:** 3.00 ♦ or
- PHYS 27200 - Electric And Magnetic Interactions **Credits:** 4.00 ♦

Engineering Requirements for First Year (29-39 credits)

All courses in this area must have a C- or higher

Requirement #1 - Intro to Engineering I (2-4 credits)
- ENGR 13100 - Transforming Ideas To Innovation I **Credits:** 2.00
  OR
- ENGR 16100 - Honors Introduction To Innovation And The Physical Science Of Engineering Design I **Credits:** 4.00
  OR
- EPCS 11100 - First Year Participation In EPICS I **Credits:** 1.00 and
- EPCS 12100 - First Year Participation In EPICS II **Credits:** 1.00
  OR
- VIP 17911 - First Year Participation In Vertically Integrated Projects (VIP) I **Credits:** 1.00 and
- VIP 17912 - First Year Participation In Vertically Integrated Projects (VIP) II **Credits:** 1.00
  OR
- ENGR 13000 - Transforming Ideas To Innovation, EPICS/VIP

Requirement #2 - Intro to Engineering II (2-4 credits)
- ENGR 13000 - Transforming Ideas To Innovation, EPICS/VIP **Credits:** 4.00 or
- ENGR 13200 - Transforming Ideas To Innovation II **Credits:** 2.00 or
- ENGR 13300 - Transforming Ideas To Innovation, EPICS/VIP **Credits:** 2.00 or
- ENGR 16200 - Honors Introduction To Innovation And The Physical Science Of Engineering Design II **Credits:** 4.00

Requirement #3 - Calculus I (4-5 credits) - satisfies Quantitative Resoning for core
- MA 16100 - Plane Analytic Geometry And Calculus I **Credits:** 5.00 or
- MA 16500 - Analytic Geometry And Calculus I **Credits:** 4.00

Requirement #4: Calculus II (4-5 credits)
- MA 16200 - Plane Analytic Geometry And Calculus II **Credits:** 5.00 or
- MA 16600 - Analytic Geometry And Calculus II **Credits:** 4.00

Requirement #5: Chemistry (4-6 credits) - satisfies Science #1 for core
- CHM 11500 - General Chemistry **Credits:** 4.00 or
- CHM 11510 - General Chemistry I **Credits:** 3.00
  AND
- CHM 11520 - General Chemistry I - Laboratory **Credits:** 1.00 or
- CHM 11530 - General Chemistry I - Virtual Laboratory **Credits:** 1.00
  OR
- CHM 11100 - General Chemistry **Credits:** 3.00 and
- CHM 11200 - General Chemistry **Credits:** 3.00

Requirement #6: Physics (4 credits) - satisfies Science #2 for core
- PHYS 17200 - Modern Mechanics **Credits:** 4.00
  OR
  ENGR 16100 - Honors Introduction To Innovation And The Physical Science Of Engineering Design I and
  ENGR 16200 - Honors Introduction To Innovation And The Physical Science Of Engineering Design II

Requirement #7: First-Year Engineering Selective (3-4 credits)
- CHM 11600 - General Chemistry **Credits:** 4.00 or
- CS 15900 - C Programming **Credits:** 3.00 or
- BIOL 11000 - Fundamentals Of Biology I **Credits:** 4.00 or
- BIOL 11100 - Fundamentals Of Biology II **Credits:** 4.00

Requirement #8: Written and Oral Communication (6-7 credits) - could satisfy Written Communication, Information Literacy or Oral Communication for core

- Written Communication - Credit Hours: 3.00-4.00 (satisfies Written Communication for core)
- Oral Communication - Credit Hours: 3.00 (satisfies Oral Communication for core)
  OR
- SCLA 11000 - Language And Cultural Exchange I: Self In Context **Credits:** 3.00
- SCLA 11100 - Language And Cultural Exchange II: Texts And Contexts **Credits:** 3.00

Other Program/Department Requirements (58-68 credits)

Mechanical Engineering Electives (9 credits)

- ME Elective I - Credit Hours: 3.00
- ME Elective II - Credit Hours: 3.00
- ME Elective III - Credit Hours: 3.00

Note: *Any ME 30000, 40000, 50000 Level Course (*Includes any ME Course not used to fulfill Major Course requirements.) *These courses are not included in the major GPA calculation)*

Other Departmental Requirements (14 credits)

- MFET 16300 - Graphical Communication And Spatial Analysis **Credits:** 2.00 ♦
  Economics Selective - Credit Hours: 3.00 (satisfies Human Cultures: Behavioral/Social Science for core)
- ECON 25100 - Microeconomics **Credits:** 3.00 or
- ECON 25200 - Macroeconomics **Credits:** 3.00
  Technical Electives (9 credits) *-see supplemental information for list of courses*
- Technical Elective I - Credit Hours: 3.00
- Technical Elective II - Credit Hours: 3.00
- Technical Elective III - Credit Hours: 3.00

General Education Requirement (15 credits)

- General Education-I - Credit Hours: 3.00
- General Education-II - Credit Hours: 3.00
- General Education-III - Credit Hours: 3.00
- General Education-IV - Credit Hours: 3.00
- World & Cultural Affairs Selective - Credit Hours: 3.00 (satisfies Human Cultures: Humanities for core)

See supplemental information for specific requirements and list of courses

Supplemental List

Click here for Mechanical Engineering Supplemental Information

Elective (3 credits)

- Elective - Credit Hours: 3.00 *See supplemental information no count list for information on courses that do not count.*

Supplemental List

Click here for Mechanical Engineering Supplemental Information

Grade Requirements

- MA courses must have C- or above

GPA Requirements

- 2.0 Graduation GPA required for Bachelor of Science degree
- Minimum 2.0 ME Core GPA (ME Core courses for GPA include: ME 20000, 26300, 27000, 27400, 29000, 30800, 30801, 31500, 32300, 35400, 35401, 36500, 37500, 46300. In addition to the ME core classes, the following courses are also included the ME core GPA: MA 26100, 26200 (26500/26600), 30300; PHYS 24100/27200; ECE 20001, 20007; and MSE 23000.)

Course Requirements and Notes

- <u>Non-Introductory/Upper level courses</u> = 30000+ level course or courses with required pre-requisite in the same department.

Non-course / Non-credit Requirements

- **Milestone One**: Refer to the College of Engineering Enrollment Management Policy for guaranteed admission to Mechanical Engineering after the completion of the FYE program
  - https://engineering.purdue.edu/Engr/InfoFor/CurrentStudents/enrollment-policy.
- **Milestone Two**: At the time of degree completion, milestones of a minimum 2.0 ME Core GPA, minimum 2.0 cumulative GPA, completion of a senior exit survey, and applying for graduation should be met. (2.0 Graduation GPA required for Bachelor of Science degree)

Pass/No Pass Policy

- All courses to satisfy the Bachelors of Science in Mechanical Engineering degree (128 credit hours) must be taken for a letter grade. Pass/No pass grades will not be accepted to meet degree requirements.

University Requirements

University Core Requirements

For a complete listing of University Core Course Selectives, visit the <u>Provost's Website</u>**.**

- Human Cultures: Behavioral/Social Science (BSS)
- Human Cultures: Humanities (HUM)

- Information Literacy (IL)
- Oral Communication (OC)
- Quantitative Reasoning (QR)
- Science #1 (SCI)
- Science #2 (SCI)
- Science, Technology, and Society (STS)
- Written Communication (WC)

Civics Literacy Proficiency Requirement

The Civics Literacy Proficiency activities are designed to develop civic knowledge of Purdue students in an effort to graduate a more informed citizenry. For more information visit the Civics Literacy Proficiency website.

Students will complete the Proficiency by passing a test of civic knowledge, and completing <u>one of three</u> paths:

- Attending six approved civics-related events and completing an assessment for each; or
- Completing 12 podcasts created by the Purdue Center for C-SPAN Scholarship and Engagement that use C-SPAN material and completing an assessment for each; or
- Earning a passing grade for one of **these approved courses** (or transferring in approved AP or departmental credit in lieu of taking a course).

Upper Level Requirement

- Resident study at Purdue University for at least two semesters and the enrollment in and completion of at least 32 semester hours of coursework required and approved for the completion of the degree. These courses are expected to be at least junior-level (30000+) courses.
- Students should be able to fulfill *most*, *if not all*, of these credits within their major requirements; there should be a clear pathway for students to complete any credits not completed within their major.

Sample First-Year Engineering Plan of Study

Fall 1st Year

- Requirement #1 - Intro to Engineering - Credit Hours: 2.00-4.00
- Requirement #3 - Calculus I - Credit Hours: 4.00-5.00
- Requirement #5 - Chemistry - Credit Hours: 4.00-6.00
- Requirement #8 - Written or Oral Communication - Credit Hours: 3.00-4.00

13-19 Credits

Spring 1st Year

- Requirement #2 - Intro to Engineering II - Credit Hours: 2.00-4.00
- Requirement #4 - Calculus II - Credit Hours: 4.00-5.00
- Requirement #6 - Physics - Credit Hours: 4.00
- Requirement #7 - First-Year Engineering Selective - Credit Hours: 3.00-4.00
- Requirement #8 - Written or Oral Communication - Credit Hours: 3.00-4.00

16-21 Credits

Mechanical Engineering Program Requirements

Milestone One: After the completion of two semesters, students should have met a 3.2 GPA/EAI or a holistic review for admission to Mechanical Engineering. *See notes section for more information*

Fall 2nd Year

- ME 20000 - Thermodynamics I **Credits:** 3.00 ♦
- ME 27000 - Basic Mechanics I **Credits:** 3.00 ♦
- ME 29000 - Global Engineering Professional Seminar **Credits:** 1.00
- MFET 16300 - Graphical Communication And Spatial Analysis **Credits:** 2.00 ♦
- MA 26100 - Multivariate Calculus **Credits:** 4.00
- PHYS 24100 - Electricity And Optics **Credits:** 3.00 ♦ or
- PHYS 27200 - Electric And Magnetic Interactions **Credits:** 4.00 ♦

16-17 Credits

Spring 2nd Year

- ME 26300 - Introduction To Mechanical Engineering Design, Innovation And Entrepreneurship **Credits:** 3.00
- ME 27400 - Basic Mechanics II **Credits:** 3.00
- MA 26200 - Linear Algebra And Differential Equations **Credits:** 4.00
- ECE 20001 - Electrical Engineering Fundamentals I **Credits:** 3.00 ♦
- ECE 20007 - Electrical Engineering Fundamentals I Lab **Credits:** 1.00 ♦
- General Education Elective I - Credit Hours: 3.00

17 Credits

Fall 3rd Year

- ME 30800 - Fluid Mechanics **Credits:** 3.00

- ME 32300 - Mechanics Of Materials **Credits:** 3.00
- ME 32301 - Mechanics Of Materials Laboratory **Credits:** 1.00
- ME 36500 - Measurement And Control Systems I **Credits:** 3.00
- MA 30300 - Differential Equations And Partial Differential Equations For Engineering And The Sciences **Credits:** 3.00
- General Education Elective II - Credit Hours: 3.00

16 Credits

Spring 3rd Year

- ME 30801 - Fluid Mechanics Laboratory **Credits:** 1.00
- ME 35400 - Machine Design **Credits:** 3.00
- ME 37500 - Measurement And Control Systems II **Credits:** 3.00
- Mechanical Engineering Elective I - Credit Hours: 3.00
- Technical Elective I - Credit Hours: 3.00
- General Education Elective III - Credit Hours: 3.00

16 Credits

Fall 4th Year

- ME 31500 - Heat And Mass Transfer **Credits:** 4.00
- MSE 23000 - Structure And Properties Of Materials **Credits:** 3.00
- ME Elective II - Credit Hours: 3.00
- Technical Elective II - Credit Hours: 3.00
- World Culture Elective - Credit Hours: 3.00

16 Credits

Spring 4th Year

Milestone Two: *see information in the notes section.*

- ME 46300 - Engineering Design **Credits:** 3.00
- Economics Selective - Credit Hours: 3.00
- ME Elective III - Credit Hours: 3.00
- Technical Elective III - Credit Hours: 3.00
- General Education Elective IV - Credit Hours: 3.00
- Elective - Credit Hours: 3.00

18 Credits

Critical Course

The ♦ course is considered critical.

In alignment with the Degree Map Guidance for Indiana's Public Colleges and Universities, published by the Commission for Higher Education (pursuant to HEA 1348-2013), a Critical Course is identified as "one that a student must be able to pass to persist and succeed in a particular major. Students who want to be nurses, for example, should know that they are expected to be proficient in courses like biology in order to be successful. These would be identified by the institutions for each degree program."

Disclaimer

The student is ultimately responsible for knowing and completing all degree requirements. Consultation with an advisor may result in an altered plan customized for an individual student. The myPurduePlan powered by DegreeWorks is the knowledge source for specific requirements and completion.

Comparative information about Purdue University and other U.S. educational institutions is also available through the College Navigator tool, provided by the National Center for Education Statistics, and through the U.S. Department of Education College Scorecard.

Motorsports Engineering, BSMSTE (Indianapolis Only)

About the Program

The Motorsports Engineering program is accredited by the Engineering Accreditation Commission of ABET.

Motorsports Engineering Program Educational Objectives

The program educational objectives of the Motorsports Engineering Program are to integrate engineering and life science principles into a comprehensive curriculum that produces graduates who can achieve the following career and professional accomplishments, if desired:

1. Meet expectations of employers in Motorsports Engineering and related fields
2. Achieve recognition and/or advancement consistent with their education
3. Continue growth in professional knowledge through additional education, certification, or licensing

Motorsports Engineering Program Student Outcomes

The program should provide students with a solid technical foundation for their careers. Graduates of the Motorsports Engineering Program within the School of Mechanical Engineering will have demonstrated the following:

1. **Engineering fundamentals:** an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. **Engineering design:** an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. **Communications skills**: an ability to communicate effectively with a range of audiences.
4. **Ethical/Professional responsibilities**: an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgements, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. **Teamwork skills**: an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. **Experimental skills**: an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions.
7. **Knowledge acquisition**: an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Motorsports Engineering Program Description

Engineering opportunities in the motorsports industry are growing and expected to continue to grow at a rapid pace.   Indiana and North Carolina are recognized as the leading national motorsports economies with England, Germany and Italy representing the industry internationally. Indianapolis, IN with its ties to the Indianapolis 500 and the U.S Nationals is considered the international focal point for American Indycar open-wheel racing and NHRA professional drag racing. Tier 1, tier 2, and tier 3 businesses have developed in the local area to support the growing demands of the racing community in both professional and amateur motorsports. It is estimated that there are over 400 motorsports related firms in the Indianapolis region including companies that produce engines, brakes, dampers, springs and other racing products. The Performance Racing Industry, PRI, based in Speedway, IN, holds their annual industry convention in Indianapolis for current and future employees of the industry to create new business and networking opportunities.

The Motorsports Engineering Program was created and approved in May 2008 to support the engineering growth of the motorsports industry. The program supports a 4-year Bachelor of Science Degree in Motorsports Engineering, a 5-year dual degree in Motorsports and Mechanical Engineering and graduate engineering education opportunities in the School of Mechanical Engineering's graduate school. The program aims to prepare graduates for careers in both the motorsports and the automotive industry. Engineering skills developed within this program have cross-pollinated into the aerospace industry. The core program focuses on teaching the fundamentals of engineering which include hands-on projects that involve analytical design, practical design, and manufacturing of actual systems for motorsports.

The Motorsports Engineering Program achieves the above stated educational objectives and student outcomes through a comprehensive, integrated curriculum which provides students with a broad base on which students can build an engineering career. The program is founded on basic sciences, including physics, chemistry and mathematics; computer science and computer graphics; and oral and written communication skills.

To this foundation, a core of engineering science and design courses are added in three main curriculum stems: mechanical sciences (statics, dynamics, mechanics of materials, vehicle dynamics, and motorsports design), information technologies (electric circuits and electronics, instrumentation, system modeling and controls, and race engineering), and thermal-fluid sciences (thermodynamics, fluid mechanics, and aerodynamics).

Throughout the core curriculum, students gain extensive laboratory and computer experience via modern facilities in all basic areas of the discipline. In addition, the curriculum provides an integrated innovation, design and entrepreneurship experience. This experience - which begins with a sophomore-level cornerstone course and culminates with a senior-level capstone course - emphasizes innovation, problem-solving, leadership, teamwork, communication skills, practical hands-on experience with various product design processes, and entrepreneurship. Students then specialize by selecting two MSPE electives that provide additional depth in one or more main stems of the curriculum. Students can further specialize with 6 credit hours of technical/professional electives in motorsports engineering, mechanical engineering, mathematics, selected management courses or individualized project courses.

Just as design experiences are integrated throughout the motorsports engineering curriculum, so too are opportunities to communicate technical information, both orally and in writing. Students experience a variety of communications opportunities while progressing through the motorsports engineering program.

As a freshman, each student is required to take both oral and written communication courses. These courses lay the foundation for future oral and written communications. In the sophomore seminar course (MSPE 29000), students learn how to create professional documents and correspondence (e.g., resumes, letters, memos, etc.), develop personal interview skills, learn the basics of Web publishing, and develop a global engineering professional profile. In MSPE 32000, the cornerstone design course, students prepare formal design reports, give oral presentations, and maintain individual design notebooks. The communications experiences culminate in the capstone design course (MSPE 41400), in which student teams prepare presentations and reports for the sponsors of their selected design projects and compete in an innovation competition.

A major feature of the curriculum is the flexible 39-credit-hour elective program, of which 18 credit hours are taken during the senior year. This allows for a program with considerable breadth while also permitting the depth and specialization in an area of the student's professional interests.

Because of the wide scope of activities in which the motorsports engineer is engaged and because of the broad spectrum of student interests, motorsports engineering graduates may choose either to enter the profession immediately after receiving their bachelor's degree or go directly to graduate school. In either case, the curriculum provides a firm foundation for continuing education and fosters a commitment to lifelong learning, whether as a member of the engineering profession, through formal graduate work or through independent study.

Visit the School of Mechanical Engineering website for more current information about the undergraduate programs.

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Student organizations provide valuable opportunities for students to enhance organizational, communication, teamwork and leadership skills. Students also are strongly encouraged to become involved in one or more extracurricular activities. Student organizations specific to mechanical engineering include the American Society of Mechanical Engineers (ASME), the Purdue Mechanical Engineering Ambassadors (PMEA), Pi Tau Sigma (the Mechanical Engineering Honor Society) and the Society of Automotive Engineers (SAE).

Professional Practice Program with Industry or Governmental Organizations

The professional practice programs enable qualified students to obtain experiences related to their specific engineering discipline with selected employers while completing the requirements of their undergraduate degree. Students can participate in a five-session co-op, a three-session co-op, the flex co-op, or an internship program. The Professional Practice Office (OPP) also offers the GEARE program, which combines domestic and international work experiences, a design project component and an opportunity to study abroad.

For more information, visit the Office of Professional Practice website.

Honors Program
An honors program is available for outstanding motorsports engineering undergraduate students. The honors program is a mechanism for:

- Participating in small enrollment, targeted courses.
- Participating in a directed project in their area of interest.
- Stimulating interest in graduate study and research/academic careers.
- Developing a community of honors scholars.
- Allowing for special recognition of high levels of academic achievement.

The Honors program utilizes the motorsports engineering, technical, general education and elective requirements for the B.S. MSPE degree in a way that is consistent with the honors designation. Admission to the Honors program is by selection for any

student meeting the minimum admission requirements for the First-Year Engineering Honors program. Students not in the First-Year Engineering Honors program can apply for admission into the Honors program by completing an honors application and meeting the required cumulative GPA for admission.

Completion of the Honors program requires earning a required minimum number of honor points (credit hours) earned in one of the following manners:

- Take honors courses (including the sophomore and junior honors seminar sequence).
- Complete honors experiences (e.g., study abroad, special work experiences, etc.).
- Take honors strategic initiative courses (defined by the College of Engineering).

Successful completion of the minimum number of honors points will earn a student a certificate and his/her transcript will read, "Bachelor of Science Motorsports Engineering - Honors Program Awarded at West Lafayette."
More details on the Honors program can be found on the ME website.

Undergraduate Research Opportunities

In addition to the traditional classroom experience, students in the School of Mechanical Engineering have the opportunity to conduct cutting-edge research in one of the thirteen ME Research Areas listed below:

- Acoustics and Noise Control
- Bioengineering
- Combustion
- Design
- Fluid Mechanics and Propulsion
- Heat Transfer
- Heating, Ventilation, Air Conditioning and Refrigeration
- Manufacturing and Materials Processing
- Mechanics and Vibrations
- Motorsports Engineering
- Nanotechnology
- Robotics
- Solid Mechanics

- Systems, Measurement and Control

Students discover first-hand how research contributes to the advancement of human knowledge. They experience a change of pace from formal classroom activities and gain valuable hands-on skills applicable to both research and non-research careers. In addition, students develop their knowledge of the research process and tools used by professional researchers and increase their proficiencies in technical communication. Such experiences help students connect their summer experience with their future goals, with particular focus on post-graduate education. Learn more about ME Faculty directed research opportunities by visiting the ME Undergraduate Research Opportunities
webpage. https://engineering.purdue.edu/ME/Undergraduate/ResearchOpportunities

Interested students are strongly encouraged to consider participation in the Summer Undergraduate Research Fellowship (SURF) Program or the Discovery Park Undergraduate Research Internship (DURI) Program.

Preparation for Graduate Study

The School of Mechanical Engineering also offers graduate work leading to the degrees of Master of Science (M.S.), for students with non-engineering degrees; Master of Science in Engineering (M.S.E), for students with non-mechanical engineering degrees; Master of Science in mechanical engineering (M.S.ME), for students with B.S.ME degrees; and the Doctor of Philosophy (Ph.D.).

The regular undergraduate curriculum (and the honors undergraduate program) provide a strong foundation for graduate study, and students who complete either of the programs with appropriate academic records are encouraged to pursue graduate work.

Many graduates have continued their education by pursuing advanced studies in engineering, business, law, medicine, dentistry and public policy.

For answers to your questions about graduate study, visit the Mechanical Engineering Graduate Office in the Mechanical Engineering Building, Room 1003, call 765-494-5730, MEgradoffice@purdue.edu or visit the ME website.

Combined B.S.MSPE/B.S.ME Program

A combined B.S.MSPE/B.S.ME Dual Degree Program is available for outstanding Motorsports engineering undergraduate students. This combined program is anticipated to take approximately five years to complete and result in receiving both the B.S.MSPE and the B.S.ME degrees.

The B.S.MSPE/B.S.ME Dual Degree is a mechanism for providing interested MSPE students with a broader ME background to open up additional career paths beyond the Motorsports sector. Interested students typically apply as an "internal MSPE candidate" by at least the beginning of their junior year. A cumulative GPA of at least a 3.2 is required to pursue the Dual Degree.

Complete details of the combined B.S.MSPE/B.S.ME program can be found on the Web.

A combined B.S.MSPE/M.S.ME program is available for outstanding Motorsports Engineering undergraduate students. This program is anticipated to take approximately five years to complete (with the M.S.ME non-thesis option) and result in receiving both the B.S.MSPE and M.S.ME degrees.

The B.S.MSPE/M.S.ME program is a mechanism for:

A. Providing a seamless transition from the B.S.MSPE to the M.S.ME program.
B. Participating in a directed project in their area of interest.
C. Stimulating interest in graduate study and research/academic careers.
D. Allowing for special recognition of high levels of academic achievement.

The B.S.MSPE/M.S.ME program requires students to take 12 hours of graduate coursework toward their B.S.MSPE technical elective requirement. This same 12 hours likewise count toward the M.S.ME degree. Interested students typically apply as an "internal ME applicant" in the second half of their junior year after completion of 81 hours of coursework in the undergraduate program with a cumulative undergraduate GPA of 3.2 or higher. If a GPA of 3.0 has been maintained and grades of "B" or better are received in the first two graduate courses (typically in the seventh semester), the student will be asked to formally apply to the Purdue Graduate School at the beginning of his or her eighth semester of the senior year.

Complete details of the combined B.S.ME/M.S.ME program can be found on the Web. Questions about this information should be emailed to MEgradoffice@purdue.edu.

School of Mechanical Engineering

Mechanical Engineering Major Change (CODO) Requirements

Degree Requirements

128 Credits Required

Motorsports Engineering Major Requirements (66 credits)

Motorsports Engineering Major Courses (32 credits)

- MSPE 29000 - Motorsports Engineering Seminar **Credits:** 1.00
- MSPE 29700 - Computer Model For Motorsports **Credits:** 1.00
- MSPE 29701 - Computer Modeling For Motorsports **Credits:** 2.00
- MSPE 29800 - Programming And Computer Modeling For Motorsports **Credits:** 2.00
- MSPE 31700 - Motorsports Practicum II **Credits:** 1.00
- MSPE 32000 - Motorsports Design I **Credits:** 3.00
- MSPE 35000 - Computer Aided Design And Manufacturing **Credits:** 3.00
- MSPE 41400 - Motorsports Design II **Credits:** 3.00
- MSPE 41700 - Motorsports Practicum III **Credits:** 1.00
- MSPE 42600 - Internal Combustion Engines **Credits:** 3.00
- MSPE 47200 - Vehicle Dynamics **Credits:** 3.00
- MSPE 48200 - Motorsports Aerodynamics **Credits:** 3.00

Motorsports Engineering Selectives **- Credit Hours: 6.00**

- MSPE Elective I - Credit Hours: 3.00
- MSPE Elective II - Credit Hours: 3.00

Note: *Any MSPE 40000, 50000 Level Course* (Includes any MSPE Course not utilized to fulfill Major Course requirements.)

Mechanical Engineering Major Courses (29 credits)

- ME 20000 - Thermodynamics I **Credits:** 3.00 ♦
- ME 27000 - Basic Mechanics I **Credits:** 3.00 ♦
- ME 27400 - Basic Mechanics II **Credits:** 3.00
- ME 30800 - Fluid Mechanics **Credits:** 3.00
- ME 30801 - Fluid Mechanics Laboratory **Credits:** 1.00
- ME 32300 - Mechanics Of Materials **Credits:** 3.00
- ME 32301 - Mechanics Of Materials Laboratory **Credits:** 1.00
- ME 36500 - Measurement And Control Systems I **Credits:** 3.00
- ME 37500 - Measurement And Control Systems II **Credits:** 3.00
  Motorsports Engineering or Mechanical Engineering Selective – Credit Hours: 6.00

-
- MSPE or ME Selective I - Credit Hours: 3.00
- MSPE or ME Selective II – Credit Hours: 3.00
  Note: *Any MSPE 40000, MSPE 50000 or ME 30000, 40000, 50000 Level Course (*Includes any MSPE or ME Course not used to fulfill Major Course requirements.)

Other Departmental Course Requirements (33 credits)

Other Departmental Required Courses (21 credits)

- ECE 20001 - Electrical Engineering Fundamentals I **Credits:** 3.00 ♦
- ECE 20007 - Electrical Engineering Fundamentals I Lab **Credits:** 1.00 ♦
- MA 26100 - Multivariate Calculus **Credits:** 4.00
- MA 26200 - Linear Algebra And Differential Equations **Credits:** 4.00
  Economics Selective - Credit Hours: 3.00 (satisfies Human Cultures: Behavioral/Social Science for core)
- ECON 25100 - Microeconomics **Credits:** 3.00 or
- ECON 25200 - Macroeconomics **Credits:** 3.00

Advances Math Selective - Credit Hours: 3.00

<u>World & Cultural Affairs</u> (satisfies Human Cultures: Humanities for core) - Credit Hours: 3.00

General Education Requirement (12 credits)

- General Education I - Credit Hours: 3.00
- General Education II - Credit Hours: 3.00
- General Education III - Credit Hours: 3.00
- General Education IV - Credit Hours: 3.00

See supplemental information for specific requirements and list of courses

Supplemental List

Click here for Mechanical Engineering Supplemental Information

Grade Requirements

- MA courses must have C- or above

GPA Requirements

- 2.0 Graduation GPA required for Bachelor of Science degree
- Minimum 2.0 ME Core GPA
  - ME Core courses for GPA include: ME 20000, 26300, 27000, 27400, 29000, 30800, 30801, 31500, 32300, 35400, 35401, 36500, 37500, 46300. In addition to the ME core classes, the following courses are also included the ME core GPA: MA 26100, 26200 (26500/26600), 30300; PHYS 24100/27200; ECE 20001, 20007; and MSE 23000.

Pass/No Pass Policy

- All courses to satisfy the Bachelors of Science in Mechanical Engineering degree (128 credit hours) must be taken for a letter grade. Pass/No pass grades will not be accepted to meet degree requirements.

University Requirements

University Core Requirements

For a complete listing of University Core Course Selectives, visit the <u>Provost's Website</u>**.**

- Human Cultures: Behavioral/Social Science (BSS)
- Human Cultures: Humanities (HUM)
- Information Literacy (IL)
- Oral Communication (OC)
- Quantitative Reasoning (QR)
- Science #1 (SCI)
- Science #2 (SCI)

- Science, Technology, and Society (STS)
- Written Communication (WC)

Civics Literacy Proficiency Requirement

The Civics Literacy Proficiency activities are designed to develop civic knowledge of Purdue students in an effort to graduate a more informed citizenry. For more information visit the Civics Literacy Proficiency website.

Students will complete the Proficiency by passing a test of civic knowledge, and completing one of three paths:

- Attending six approved civics-related events and completing an assessment for each; or
- Completing 12 podcasts created by the Purdue Center for C-SPAN Scholarship and Engagement that use C-SPAN material and completing an assessment for each; or
- Earning a passing grade for one of **these approved courses** (or transferring in approved AP or departmental credit in lieu of taking a course).

Upper Level Requirement

- Resident study at Purdue University for at least two semesters and the enrollment in and completion of at least 32 semester hours of coursework required and approved for the completion of the degree. These courses are expected to be at least junior-level (30000+) courses.
- Students should be able to fulfill *most*, *if not all*, of these credits within their major requirements; there should be a clear pathway for students to complete any credits not completed within their major.

Sample First-Year Engineering Plan of Study

Fall 1st Year

- Requirement #1 - Intro to Engineering - Credit Hours: 2.00-4.00
- Requirement #3 - Calculus I - Credit Hours: 4.00-5.00
- Requirement #5 - Chemistry - Credit Hours: 4.00-6.00
- Requirement #8 - Written or Oral Communication - Credit Hours: 3.00-4.00

13-19 Credits

Spring 1st Year

- Requirement #2 - Intro to Engineering II - Credit Hours: 2.00-4.00
- Requirement #4 - Calculus II - Credit Hours: 4.00-5.00
- Requirement #6 - Physics - Credit Hours: 4.00
- Requirement #7 - First-Year Engineering Selective - Credit Hours: 3.00-4.00
- Requirement #8 - Written or Oral Communication - Credit Hours: 3.00-4.00

16-21 Credits

Engineering Requirements for First Year (29-39 credits)

All courses in this area must have a C- or higher

Requirement #1 - Intro to Engineering I (2-4 credits)
- ENGR 13100 - Transforming Ideas To Innovation I **Credits:** 2.00
  OR
- ENGR 16100 - Honors Introduction To Innovation And The Physical Science Of Engineering Design I **Credits:** 4.00
  OR
- EPCS 11100 - First Year Participation In EPICS I **Credits:** 1.00 and
- EPCS 12100 - First Year Participation In EPICS II **Credits:** 1.00
  OR
- VIP 17911 - First Year Participation In Vertically Integrated Projects (VIP) I **Credits:** 1.00 and
- VIP 17912 - First Year Participation In Vertically Integrated Projects (VIP) II **Credits:** 1.00
  OR
- ENGR 13000 - Transforming Ideas To Innovation, EPICS/VIP

Requirement #2 - Intro to Engineering II (2-4 credits)
- ENGR 13000 - Transforming Ideas To Innovation, EPICS/VIP **Credits:** 4.00 or
- ENGR 13200 - Transforming Ideas To Innovation II **Credits:** 2.00 or
- ENGR 13300 - Transforming Ideas To Innovation, EPICS/VIP **Credits:** 2.00 or
- ENGR 16200 - Honors Introduction To Innovation And The Physical Science Of Engineering Design II **Credits:** 4.00

Requirement #3 - Calculus I (4-5 credits) - satisfies Quantitative Resoning for core
- MA 16100 - Plane Analytic Geometry And Calculus I **Credits:** 5.00 or
- MA 16500 - Analytic Geometry And Calculus I **Credits:** 4.00

Requirement #4: Calculus II (4-5 credits)
- MA 16200 - Plane Analytic Geometry And Calculus II **Credits:** 5.00 or
- MA 16600 - Analytic Geometry And Calculus II **Credits:** 4.00

Requirement #5: Chemistry (4-6 credits) - satisfies Science #1 for core
- CHM 11500 - General Chemistry **Credits:** 4.00 or
- CHM 11510 - General Chemistry I **Credits:** 3.00
  AND
- CHM 11520 - General Chemistry I - Laboratory **Credits:** 1.00 or
- CHM 11530 - General Chemistry I - Virtual Laboratory **Credits:** 1.00
  OR
- CHM 11100 - General Chemistry **Credits:** 3.00 and
- CHM 11200 - General Chemistry **Credits:** 3.00

Requirement #6: Physics (4 credits) - satisfies Science #2 for core
- PHYS 17200 - Modern Mechanics **Credits:** 4.00
  OR
  ENGR 16100 - Honors Introduction To Innovation And The Physical Science Of Engineering Design I and
  ENGR 16200 - Honors Introduction To Innovation And The Physical Science Of Engineering Design II

Requirement #7: First-Year Engineering Selective (3-4 credits)
- CHM 11600 - General Chemistry **Credits:** 4.00 or
- CS 15900 - C Programming **Credits:** 3.00 or
- BIOL 11000 - Fundamentals Of Biology I **Credits:** 4.00 or
- BIOL 11100 - Fundamentals Of Biology II **Credits:** 4.00

Requirement #8: Written and Oral Communication (6-7 credits) - could satisfy Written Communication, Information Literacy or Oral Communication for core

- Written Communication - Credit Hours: 3.00-4.00 (satisfies Written Communication for core)
- Oral Communication - Credit Hours: 3.00 (satisfies Oral Communication for core)
  OR
- SCLA 11000 - Language And Cultural Exchange I: Self In Context **Credits:** 3.00
- SCLA 11100 - Language And Cultural Exchange II: Texts And Contexts **Credits:** 3.00

Motorsports Engineering Program Requirements

Milestone One: After the completion of two semesters, students should have met a 3.2 GPA/EAI or a holistic review for admission to Mechanical Engineering. *See notes section for more information*

Fall 2nd Year

- ME 20000 - Thermodynamics I **Credits:** 3.00 ♦
- ME 27000 - Basic Mechanics I **Credits:** 3.00 ♦
- MA 26100 - Multivariate Calculus **Credits:** 4.00
- MSPE 29000 - Motorsports Engineering Seminar **Credits:** 1.00
- MSPE 29800 - Programming And Computer Modeling For Motorsports **Credits:** 2.00
- General Education II - Credit Hours: 3.00

16 Credits

Spring 2nd Year

- ECE 20001 - Electrical Engineering Fundamentals I **Credits:** 3.00 ♦
- ECE 20007 - Electrical Engineering Fundamentals I Lab **Credits:** 1.00 ♦
- ME 27400 - Basic Mechanics II **Credits:** 3.00
- MSPE 29700 - Computer Model For Motorsports **Credits:** 1.00
- MSPE 29701 - Computer Modeling For Motorsports **Credits:** 2.00
- MA 26200 - Linear Algebra And Differential Equations **Credits:** 4.00
- World Cultural Elective - Credit Hours: 3.00

17 Credits

Fall 3rd Year

- ME 30800 - Fluid Mechanics **Credits:** 3.00
- ME 32300 - Mechanics Of Materials **Credits:** 3.00
- ME 32301 - Mechanics Of Materials Laboratory **Credits:** 1.00
- ME 36500 - Measurement And Control Systems I **Credits:** 3.00

- MSPE 35000 - Computer Aided Design And Manufacturing **Credits:** 3.00
- MSPE 47200 - Vehicle Dynamics **Credits:** 3.00

16 Credits

Spring 3rd Year

- ME 30801 - Fluid Mechanics Laboratory **Credits:** 1.00
- ME 37500 - Measurement And Control Systems II **Credits:** 3.00
- MSPE 31700 - Motorsports Practicum II **Credits:** 1.00
- MSPE 32000 - Motorsports Design I **Credits:** 3.00
- Advanced Math Selective - Credit Hours: 3.00
- Economics Selective - Credit Hours: 3.00
- General Education Selective I - Credit Hours: 3.00

17 Credits

Fall 4th Year

- MSPE 41700 - Motorsports Practicum III **Credits:** 1.00
- MSPE 42600 - Internal Combustion Engines **Credits:** 3.00
- MSPE 48200 - Motorsports Aerodynamics **Credits:** 3.00
- MSPE Technical Elective I - Credit Hours: 3.00
- MSPE or ME Technical Elective I - Credit Hours: 3.00
- General Elective III - Credit Hours: 3.00

16 Credits

Spring 4th Year

- MSPE 41400 - Motorsports Design II **Credits:** 3.00
- MSPE Technical Elective II - Credit Hours: 3.00
- MSPE or ME Technical Elective II - Credit Hours: 3.00
- General Education Elective IV - Credit Hours: 3.00

12 Credits

Critical Course

The ♦ course is considered critical.

In alignment with the Degree Map Guidance for Indiana's Public Colleges and Universities, published by the Commission for Higher Education (pursuant to HEA 1348-2013), a Critical Course is identified as "one that a student must be able to pass to persist and succeed in a particular major. Students who want to be nurses, for example, should know that they are expected to be proficient in courses like biology in order to be successful. These would be identified by the institutions for each degree program."

Disclaimer

The student is ultimately responsible for knowing and completing all degree requirements. Consultation with an advisor may result in an altered plan customized for an individual student. The myPurduePlan powered by DegreeWorks is the knowledge source for specific requirements and completion.

Comparative information about Purdue University and other U.S. educational institutions is also available through the College Navigator tool, provided by the National Center for Education Statistics, and through the U.S. Department of Education College Scorecard.

Certificate

Extensive Industry Co-op Certificate

About the Certificate

The extensive Industry Co-op Certificate is awarded to students who have gained 18 months or more of full-time work experience related to their academic field of study. Students will register for a cooperative education course during each academic term for which they are engaged in full-time work with an employer. Students are required to complete five work terms. Students should have a progressive experience, with multiple work terms occurring at the same employer. Students may change employers one time. Students must complete all necessary requirements specific to their academic discipline.

Course Requirement

Five sequential courses with the same prefix must be taken to complete the Extensive Industry Co-op Program Certificate.

College of Agriculture

- AGEC 29199 - Cooperative Experience I **Credits:** 0.00
- AGEC 29299 - Cooperative Experience II **Credits:** 0.00
- AGEC 39399 - Cooperative Experience III **Credits:** 0.00
- AGEC 39499 - Extensive Cooperative Experience IV **Credits:** 0.00
- AGEC 39599 - Extensive Cooperative Experience V **Credits:** 0.00
- AGR 29199 - Cooperative Experience I **Credits:** 0.00
- AGR 29299 - Cooperative Experience II **Credits:** 0.00
- AGR 39399 - Cooperative Experience III **Credits:** 0.00
- AGR 39499 - Extensive Cooperative Experience IV **Credits:** 0.00
- AGR 39599 - Extensive Cooperative Experience V **Credits:** 0.00
- AGRY 29199 - Cooperative Experience I **Credits:** 0.00
- AGRY 29299 - Cooperative Experience II **Credits:** 0.00
- AGRY 39399 - Cooperative Experience III **Credits:** 0.00
- AGRY 39499 - Extensive Cooperative Experience IV **Credits:** 0.00
- AGRY 39599 - Extensive Cooperative Experience V **Credits:** 0.00
- ASM 29199 - Cooperative Experience I **Credits:** 0.00
- ASM 29299 - Cooperative Experience II **Credits:** 0.00
- ASM 39399 - Cooperative Experience III **Credits:** 0.00
- ASM 39499 - Extensive Cooperative Experience IV **Credits:** 0.00

- ASM 39599 - Extensive Cooperative Experience V **Credits:** 0.00
- ENTM 29199 - Cooperative Experience I **Credits:** 0.00
- ENTM 29299 - Cooperative Experience II **Credits:** 0.00
- ENTM 39399 - Cooperative Experience III **Credits:** 0.00
- ENTM 39499 - Extensive Cooperative Experience IV **Credits:** 0.00
- ENTM 39599 - Extensive Cooperative Experience V **Credits:** 0.00
- FNR 29199 - Cooperative Experience I **Credits:** 0.00
- FNR 29299 - Cooperative Experience II **Credits:** 0.00
- FNR 39399 - Cooperative Experience III **Credits:** 0.00
- FNR 39499 - Extensive Cooperative Experience IV **Credits:** 0.00
- FNR 39599 - Extensive Cooperative Experience V **Credits:** 0.00
- FS 29199 - Cooperative Experience I **Credits:** 0.00
- FS 29299 - Cooperative Experience II **Credits:** 0.00
- FS 39399 - Cooperative Experience III **Credits:** 0.00
- FS 39499 - Extensive Cooperative Experience IV **Credits:** 0.00
- FS 39599 - Extensive Cooperative Experience V **Credits:** 0.00
- HORT 29199 - Cooperative Experience I **Credits:** 0.00
- HORT 29299 - Cooperative Experience II **Credits:** 0.00
- HORT 39399 - Cooperative Experience III **Credits:** 0.00
- HORT 39499 - Extensive Cooperative Experience IV **Credits:** 0.00
- HORT 39599 - Extensive Cooperative Experience V **Credits:** 0.00
- LA 29199 - Cooperative Experience I **Credits:** 0.00
- LA 29299 - Cooperative Experience II **Credits:** 0.00
- LA 39399 - Cooperative Experience III **Credits:** 0.00
- LA 39499 - Extensive Cooperative Experience IV **Credits:** 0.00
- LA 39599 - Extensive Cooperative Experience V **Credits:** 0.00

College of Engineering

- AAE 29199 - Cooperative Experience I **Credits:** 0.00
- AAE 29299 - Cooperative Experience II **Credits:** 0.00
- AAE 39399 - Cooperative Experience III **Credits:** 0.00
- AAE 39499 - Extensive Cooperative Experience IV **Credits:** 0.00
- AAE 39599 - Extensive Cooperative Experience V **Credits:** 0.00
- ABE 29199 - Cooperative Experience I **Credits:** 0.00
- ABE 29299 - Cooperative Experience II **Credits:** 0.00
- ABE 39399 - Cooperative Experience III **Credits:** 0.00
- ABE 39499 - Extensive Cooperative Experience IV **Credits:** 0.00
- ABE 39599 - Extensive Cooperative Experience V **Credits:** 0.00
- BME 29199 - Cooperative Experience I **Credits:** 0.00
- BME 29299 - Cooperative Experience II **Credits:** 0.00
- BME 39399 - Cooperative Experience III **Credits:** 0.00
- BME 39499 - Extensive Cooperative Experience IV **Credits:** 0.00
- BME 39599 - Extensive Cooperative Experience V **Credits:** 0.00
- CE 29199 - Cooperative Experience I **Credits:** 0.00
- CE 29299 - Cooperative Experience II **Credits:** 0.00
- CE 39399 - Cooperative Experience III **Credits:** 0.00

- CE 39499 - Extensive Cooperative Experience IV **Credits:** 0.00
- CE 39599 - Extensive Cooperative Experience V **Credits:** 0.00
- CHE 29199 - Cooperative Experience I **Credits:** 0.00
- CHE 29299 - Cooperative Experience II **Credits:** 0.00
- CHE 39399 - Cooperative Experience III **Credits:** 0.00
- CHE 39499 - Extensive Cooperative Experience IV **Credits:** 0.00
- CHE 39599 - Extensive Cooperative Experience V **Credits:** 0.00
- ECE 29199 - Cooperative Experience I **Credits:** 0.00
- ECE 29299 - Cooperative Experience II **Credits:** 0.00
- ECE 39399 - Cooperative Experience III **Credits:** 0.00
- ECE 39499 - Extensive Cooperative Experience IV **Credits:** 0.00
- ECE 39599 - Extensive Cooperative Experience V **Credits:** 0.00
- EEE 29199 - Cooperative Experience I **Credits:** 0.00
- EEE 29299 - Cooperative Experience II **Credits:** 0.00
- EEE 39399 - Cooperative Experience III **Credits:** 0.00
- EEE 39499 - Extensive Cooperative Experience IV **Credits:** 0.00
- EEE 39599 - Extensive Cooperative Experience V **Credits:** 0.00
- ENGR 29199 - Cooperative Experience I **Credits:** 0.00
- ENGR 29299 - Cooperative Experience II **Credits:** 0.00
- ENGR 39399 - Cooperative Experience III **Credits:** 0.00
- ENGR 39499 - Extensive Cooperative Experience IV **Credits:** 0.00
- ENGR 39599 - Extensive Cooperative Experience V **Credits:** 0.00
- IDE 29199 - Cooperative Experience I **Credits:** 0.00
- IDE 29299 - Cooperative Experience II **Credits:** 0.00
- IDE 39399 - Cooperative Experience III **Credits:** 0.00
- IDE 39499 - Extensive Cooperative Experience IV **Credits:** 0.00
- IDE 39599 - Extensive Cooperative Experience V **Credits:** 0.00
- IE 29199 - Cooperative Experience I **Credits:** 0.00
- IE 29299 - Cooperative Experience II **Credits:** 0.00
- IE 39399 - Cooperative Experience III **Credits:** 0.00
- IE 39499 - Extensive Cooperative Experience IV **Credits:** 0.00
- IE 39599 - Extensive Cooperative Experience V **Credits:** 0.00
- ME 29199 - Cooperative Experience I **Credits:** 0.00
- ME 29299 - Cooperative Experience II **Credits:** 0.00
- ME 39399 - Cooperative Experience III **Credits:** 0.00
- ME 39499 - Extensive Cooperative Experience IV **Credits:** 0.00
- ME 39599 - Extensive Cooperative Experience V **Credits:** 0.00
- MSE 29199 - Cooperative Experience I **Credits:** 0.00
- MSE 29299 - Cooperative Experience II **Credits:** 0.00
- MSE 39399 - Cooperative Experience III **Credits:** 0.00
- MSE 39499 - Extensive Cooperative Experience IV **Credits:** 0.00
- MSE 39599 - Extensive Cooperative Experience V **Credits:** 0.00
- NUCL 29199 - Cooperative Experience I **Credits:** 0.00
- NUCL 29299 - Cooperative Experience II **Credits:** 0.00
- NUCL 39399 - Cooperative Experience III **Credits:** 0.00
- NUCL 39499 - Extensive Cooperative Experience IV **Credits:** 0.00
- NUCL 39599 - Extensive Cooperative Experience V **Credits:** 0.00

College of Health and Human Sciences

- NUR 29199 - Cooperative Experience I **Credits:** 0.00
- NUR 29299 - Cooperative Experience II **Credits:** 0.00
- NUR 39399 - Cooperative Experience III **Credits:** 0.00
- NUR 39499 - Extensive Cooperative Experience IV **Credits:** 0.00
- NUR 39599 - Extensive Cooperative Experience V **Credits:** 0.00
- PSY 29199 - Cooperative Experience I **Credits:** 0.00
- PSY 29299 - Cooperative Experience II **Credits:** 0.00
- PSY 39399 - Cooperative Experience III **Credits:** 0.00
- PSY 39499 - Extensive Cooperative Experience IV **Credits:** 0.00
- PSY 39599 - Extensive Cooperative Experience V **Credits:** 0.00

College of Liberal Arts

- AD 29199 - Cooperative Experience I **Credits:** 0.00
- AD 29299 - Cooperative Experience II **Credits:** 0.00
- AD 39399 - Cooperative Experience III **Credits:** 0.00
- AD 39499 - Extensive Cooperative Experience IV **Credits:** 0.00
- AD 39599 - Extensive Cooperative Experience V **Credits:** 0.00
- COM 29199 - Cooperative Experience I **Credits:** 0.00
- COM 29299 - Cooperative Experience II **Credits:** 0.00
- COM 39399 - Cooperative Experience III **Credits:** 0.00
- COM 39499 - Extensive Cooperative Experience IV **Credits:** 0.00
- COM 39599 - Extensive Cooperative Experience V **Credits:** 0.00

School of Management

- ECON 29199 - Cooperative Experience I **Credits:** 0.00
- ECON 29299 - Cooperative Experience II **Credits:** 0.00
- ECON 39399 - Cooperative Experience III **Credits:** 0.00
- ECON 39499 - Extensive Cooperative Experience IV **Credits:** 0.00
- ECON 39599 - Extensive Cooperative Experience V **Credits:** 0.00
- MGMT 29199 - Cooperative Experience I **Credits:** 0.00
- MGMT 29299 - Cooperative Experience II **Credits:** 0.00
- MGMT 39399 - Cooperative Experience III **Credits:** 0.00
- MGMT 39499 - Extensive Cooperative Experience IV **Credits:** 0.00
- MGMT 39599 - Extensive Cooperative Experience V **Credits:** 0.00

College of Pharmacy

- PHRM 29199 - Cooperative Experience I **Credits:** 0.00
- PHRM 29299 - Cooperative Experience II **Credits:** 0.00
- PHRM 39399 - Cooperative Experience III **Credits:** 0.00
- PHRM 39499 - Extensive Cooperative Experience IV **Credits:** 0.00
- PHRM 39599 - Extensive Cooperative Experience V **Credits:** 0.00

Polytechnic Institute

- TECH 29199 - Cooperative Experience I **Credits:** 0.00
- TECH 29299 - Cooperative Experience II **Credits:** 0.00
- TECH 39399 - Cooperative Experience III **Credits:** 0.00
- TECH 39499 - Extensive Cooperative Experience IV **Credits:** 0.00
- TECH 39599 - Extensive Cooperative Experience V **Credits:** 0.00

College of Science

- CHM 29199 - Cooperative Experience I **Credits:** 0.00
- CHM 29299 - Cooperative Experience II **Credits:** 0.00
- CHM 39399 - Cooperative Experience III **Credits:** 0.00
- CHM 39499 - Extensive Cooperative Experience IV **Credits:** 0.00
- CHM 39599 - Extensive Cooperative Experience V **Credits:** 0.00
- CS 29199 - Cooperative Experience I **Credits:** 0.00
- CS 29299 - Cooperative Experience II **Credits:** 0.00
- CS 39399 - Cooperative Experience III **Credits:** 0.00
- CS 39499 - Extensive Cooperative Experience IV **Credits:** 0.00
- CS 39599 - Extensive Cooperative Experience V **Credits:** 0.00
- MA 29199 - Cooperative Experience I **Credits:** 0.00
- MA 29299 - Cooperative Experience II **Credits:** 0.00
- MA 39399 - Cooperative Experience III **Credits:** 0.00
- MA 39499 - Extensive Cooperative Experience IV **Credits:** 0.00
- MA 39599 - Extensive Cooperative Experience V **Credits:** 0.00
- PHYS 29199 - Cooperative Experience I **Credits:** 0.00
- PHYS 29299 - Cooperative Experience II **Credits:** 0.00
- PHYS 39399 - Cooperative Experience III **Credits:** 0.00
- PHYS 39499 - Extensive Cooperative Experience IV **Credits:** 0.00
- PHYS 39599 - Extensive Cooperative Experience V **Credits:** 0.00
- SCI 29199 - Cooperative Experience I **Credits:** 0.00
- SCI 29299 - Cooperative Experience II **Credits:** 0.00
- SCI 39399 - Cooperative Experience III **Credits:** 0.00
- SCI 39499 - Extensive Cooperative Experience IV **Credits:** 0.00
- SCI 39599 - Extensive Cooperative Experience V **Credits:** 0.00
- STAT 29199 - Cooperative Experience I **Credits:** 0.00
- STAT 29299 - Cooperative Experience II **Credits:** 0.00
- STAT 39399 - Cooperative Experience III **Credits:** 0.00
- STAT 39499 - Extensive Cooperative Experience IV **Credits:** 0.00
- STAT 39599 - Extensive Cooperative Experience V **Credits:** 0.00

Additional Courses:

Any course below can substitute for a co-op course in a sequence above.

Course Number 39699 (may choose one)
- AAE 39699 - Professional Practice Internship **Credits:** 0.00

- ABE 39699 - Professional Practice Internship **Credits:** 0.00
- BIOL 39699 - Professional Practice Internship **Credits:** 0.00
- BME 39699 - Professional Practice Internship **Credits:** 0.00
- CE 39699 - Professional Practice Internship **Credits:** 0.00
- CHE 39699 - Professional Practice Internship **Credits:** 0.00
- CHM 39699 - Professional Practice Internship **Credits:** 0.00
- ECE 39699 - Professional Practice Internship **Credits:** 0.00
- EEE 39699 - Professional Practice Internship **Credits:** 0.00
- ENGR 39699 - Professional Practice Internship **Credits:** 0.00
- ENTR 39699 - Internship And Research Experiences **Credits:** 0.00
- IDE 39699 - Professional Practice Internship **Credits:** 0.00
- IE 39699 - Professional Practice Internship **Credits:** 0.00
- ME 39699 - Professional Practice Internship **Credits:** 0.00
- MSE 39699 - Professional Practice Internship **Credits:** 0.00
- NUCL 39699 - Professional Practice Internship **Credits:** 0.00
- NUR 39699 - Professional Practice Internship **Credits:** 0.00
- TECH 39699 - Professional Practice Internship **Credits:** 0.00 to 3.00
  Course Number 39799
- ENGR 39799 - GEARE Domestic Internship **Credits:** 0.00
  Course Number 39899
- ENGR 39899 - GEARE Global Internship **Credits:** 0.00

Disclaimer

The student is ultimately responsible for knowing and completing all degree requirements. Consultation with an advisor may result in an altered plan customized for an individual student. The myPurduePlan powered by DegreeWorks is the knowledge source for specific requirements and completion.

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Human Resource Management Certificate (Purdue in Indianapolis and Statewide Only)

Required Courses (18 Credits)

A minimum grade of C is required in all courses.

Phase 1: Foundation (9 Credits)

- TLI 11200 - Foundations Of Organizational Leadership **Credits:** 3.00
- TLI 15200 - Business Principles For Organizational Leadership **Credits:** 3.00
- OLS 37500 - Training Methods **Credits:** 3.00

Phase 2: Broadening (9 Credits)

- OLS 37600 - Human Resource Issues **Credits:** 3.00
- OLS 38600 - Leadership For Organizational Change **Credits:** 3.00
- OLS 37800 - Labor And Management Relations **Credits:** 3.00

Industry Co-op Certificate

About the Certificate

The Industry Co-op Certificate is awarded to students who have gained about one year of full-time work (at least one fall/spring semester) experience related to their academic field of study. Students will register for a cooperative education course during each academic term for which they are engaged in full-time work with an employer. Students are required to complete a minimum of three work terms. Students should have a progressive experience, with a minimum of two work terms occurring with the same employer. Students must complete all necessary requirements specific to their academic discipline.

Course Requirements (3 course sequence)

Three sequential courses with the same prefix must be taken to complete the Industry Co-op Program Certificate.

College of Agriculture
- AGEC 29199 - Cooperative Experience I **Credits:** 0.00
- AGEC 29299 - Cooperative Experience II **Credits:** 0.00
- AGEC 39399 - Cooperative Experience III **Credits:** 0.00
- AGR 29199 - Cooperative Experience I **Credits:** 0.00
- AGR 29299 - Cooperative Experience II **Credits:** 0.00
- AGR 39399 - Cooperative Experience III **Credits:** 0.00
- AGRY 29199 - Cooperative Experience I **Credits:** 0.00
- AGRY 29299 - Cooperative Experience II **Credits:** 0.00
- AGRY 39399 - Cooperative Experience III **Credits:** 0.00
- ASM 29199 - Cooperative Experience I **Credits:** 0.00
- ASM 29299 - Cooperative Experience II **Credits:** 0.00
- ASM 39399 - Cooperative Experience III **Credits:** 0.00
- ENTM 29199 - Cooperative Experience I **Credits:** 0.00
- ENTM 29299 - Cooperative Experience II **Credits:** 0.00
- ENTM 39399 - Cooperative Experience III **Credits:** 0.00
- FNR 29199 - Cooperative Experience I **Credits:** 0.00
- FNR 29299 - Cooperative Experience II **Credits:** 0.00
- FNR 39399 - Cooperative Experience III **Credits:** 0.00
- FS 29199 - Cooperative Experience I **Credits:** 0.00
- FS 29299 - Cooperative Experience II **Credits:** 0.00
- FS 39399 - Cooperative Experience III **Credits:** 0.00
- HORT 29199 - Cooperative Experience I **Credits:** 0.00
- HORT 29299 - Cooperative Experience II **Credits:** 0.00
- HORT 39399 - Cooperative Experience III **Credits:** 0.00
- LA 29199 - Cooperative Experience I **Credits:** 0.00
- LA 29299 - Cooperative Experience II **Credits:** 0.00
- LA 39399 - Cooperative Experience III **Credits:** 0.00
  College of Engineering

- AAE 29199 - Cooperative Experience I **Credits:** 0.00
- AAE 29299 - Cooperative Experience II **Credits:** 0.00
- AAE 39399 - Cooperative Experience III **Credits:** 0.00
- ABE 29199 - Cooperative Experience I **Credits:** 0.00
- ABE 29299 - Cooperative Experience II **Credits:** 0.00
- ABE 39399 - Cooperative Experience III **Credits:** 0.00
- BME 29199 - Cooperative Experience I **Credits:** 0.00
- BME 29299 - Cooperative Experience II **Credits:** 0.00
- BME 39399 - Cooperative Experience III **Credits:** 0.00
- CE 29199 - Cooperative Experience I **Credits:** 0.00
- CE 29299 - Cooperative Experience II **Credits:** 0.00
- CE 39399 - Cooperative Experience III **Credits:** 0.00
- CHE 29199 - Cooperative Experience I **Credits:** 0.00
- CHE 29299 - Cooperative Experience II **Credits:** 0.00
- CHE 39399 - Cooperative Experience III **Credits:** 0.00
- ECE 29199 - Cooperative Experience I **Credits:** 0.00
- ECE 29299 - Cooperative Experience II **Credits:** 0.00
- ECE 39399 - Cooperative Experience III **Credits:** 0.00
- EEE 29199 - Cooperative Experience I **Credits:** 0.00
- EEE 29299 - Cooperative Experience II **Credits:** 0.00
- EEE 39399 - Cooperative Experience III **Credits:** 0.00
- ENGR 29199 - Cooperative Experience I **Credits:** 0.00
- ENGR 29299 - Cooperative Experience II **Credits:** 0.00
- ENGR 39399 - Cooperative Experience III **Credits:** 0.00
- IDE 29199 - Cooperative Experience I **Credits:** 0.00
- IDE 29299 - Cooperative Experience II **Credits:** 0.00
- IDE 39399 - Cooperative Experience III **Credits:** 0.00
- IE 29199 - Cooperative Experience I **Credits:** 0.00
- IE 29299 - Cooperative Experience II **Credits:** 0.00
- IE 39399 - Cooperative Experience III **Credits:** 0.00
- ME 29199 - Cooperative Experience I **Credits:** 0.00
- ME 29299 - Cooperative Experience II **Credits:** 0.00
- ME 39399 - Cooperative Experience III **Credits:** 0.00
- MSE 29199 - Cooperative Experience I **Credits:** 0.00
- MSE 29299 - Cooperative Experience II **Credits:** 0.00
- MSE 39399 - Cooperative Experience III **Credits:** 0.00
- NUCL 29199 - Cooperative Experience I **Credits:** 0.00
- NUCL 29299 - Cooperative Experience II **Credits:** 0.00
- NUCL 39399 - Cooperative Experience III **Credits:** 0.00
  College of Health and Human Sciences
- NUR 29199 - Cooperative Experience I **Credits:** 0.00
- NUR 29299 - Cooperative Experience II **Credits:** 0.00
- NUR 39399 - Cooperative Experience III **Credits:** 0.00
- PSY 29199 - Cooperative Experience I **Credits:** 0.00
- PSY 29299 - Cooperative Experience II **Credits:** 0.00
- PSY 39399 - Cooperative Experience III **Credits:** 0.00
  College of Liberal Arts
- AD 29199 - Cooperative Experience I **Credits:** 0.00

- AD 29299 - Cooperative Experience II **Credits:** 0.00
- AD 39399 - Cooperative Experience III **Credits:** 0.00
- COM 29199 - Cooperative Experience I **Credits:** 0.00
- COM 29299 - Cooperative Experience II **Credits:** 0.00
- COM 39399 - Cooperative Experience III **Credits:** 0.00
  School of Management
- ECON 29199 - Cooperative Experience I **Credits:** 0.00
- ECON 29299 - Cooperative Experience II **Credits:** 0.00
- ECON 39399 - Cooperative Experience III **Credits:** 0.00
- MGMT 29199 - Cooperative Experience I **Credits:** 0.00
- MGMT 29299 - Cooperative Experience II **Credits:** 0.00
- MGMT 39399 - Cooperative Experience III **Credits:** 0.00
  College of Pharmacy
- PHRM 29199 - Cooperative Experience I **Credits:** 0.00
- PHRM 29299 - Cooperative Experience II **Credits:** 0.00
- PHRM 39399 - Cooperative Experience III **Credits:** 0.00
  Polytechnic Institute
- TECH 29199 - Cooperative Experience I **Credits:** 0.00
- TECH 29299 - Cooperative Experience II **Credits:** 0.00
- TECH 39399 - Cooperative Experience III **Credits:** 0.00
  College of Science
- CHM 29199 - Cooperative Experience I **Credits:** 0.00
- CHM 29299 - Cooperative Experience II **Credits:** 0.00
- CHM 39399 - Cooperative Experience III **Credits:** 0.00
- CS 29199 - Cooperative Experience I **Credits:** 0.00
- CS 29299 - Cooperative Experience II **Credits:** 0.00
- CS 39399 - Cooperative Experience III **Credits:** 0.00
- MA 29199 - Cooperative Experience I **Credits:** 0.00
- MA 29299 - Cooperative Experience II **Credits:** 0.00
- MA 39399 - Cooperative Experience III **Credits:** 0.00
- PHYS 29199 - Cooperative Experience I **Credits:** 0.00
- PHYS 29299 - Cooperative Experience II **Credits:** 0.00
- PHYS 39399 - Cooperative Experience III **Credits:** 0.00
- SCI 29199 - Cooperative Experience I **Credits:** 0.00
- SCI 29299 - Cooperative Experience II **Credits:** 0.00
- SCI 39399 - Cooperative Experience III **Credits:** 0.00
- STAT 29199 - Cooperative Experience I **Credits:** 0.00
- STAT 29299 - Cooperative Experience II **Credits:** 0.00
- STAT 39399 - Cooperative Experience III **Credits:** 0.00

Additional Courses:

Any course below can substitute for a co-op course in a sequence above.

Course Number 39699 (may choose one)
- AAE 39699 - Professional Practice Internship **Credits:** 0.00
- ABE 39699 - Professional Practice Internship **Credits:** 0.00
- BIOL 39699 - Professional Practice Internship **Credits:** 0.00

- BME 39699 - Professional Practice Internship **Credits:** 0.00
- CE 39699 - Professional Practice Internship **Credits:** 0.00
- CHE 39699 - Professional Practice Internship **Credits:** 0.00
- CHM 39699 - Professional Practice Internship **Credits:** 0.00
- ECE 39699 - Professional Practice Internship **Credits:** 0.00
- EEE 39699 - Professional Practice Internship **Credits:** 0.00
- ENGR 39699 - Professional Practice Internship **Credits:** 0.00
- ENTR 39699 - Internship And Research Experiences **Credits:** 0.00
- IDE 39699 - Professional Practice Internship **Credits:** 0.00
- IE 39699 - Professional Practice Internship **Credits:** 0.00
- ME 39699 - Professional Practice Internship **Credits:** 0.00
- MSE 39699 - Professional Practice Internship **Credits:** 0.00
- NUCL 39699 - Professional Practice Internship **Credits:** 0.00
- NUR 39699 - Professional Practice Internship **Credits:** 0.00
- TECH 39699 - Professional Practice Internship **Credits:** 0.00 to 3.00
  Course Number 39799
- ENGR 39799 - GEARE Domestic Internship **Credits:** 0.00
  Course Number 39899
- ENGR 39899 - GEARE Global Internship **Credits:** 0.00

Disclaimer

The student is ultimately responsible for knowing and completing all degree requirements. Consultation with an advisor may result in an altered plan customized for an individual student. The myPurduePlan powered by DegreeWorks is the knowledge source for specific requirements and completion.

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Leadership Series Certificate (Purdue in Indianapolis and Statewide Only)

Required Courses (18 Credits)

A minimum grade of C required in all courses.

Phase 1: Foundation (6 Credits)

- TLI 11200 - Foundations Of Organizational Leadership **Credits:** 3.00
- TLI 15200 - Business Principles For Organizational Leadership **Credits:** 3.00

Phase 2: Broadening (6 Credits)

- TLI 21300 - Project Management **Credits:** 3.00
- OLS 38600 - Leadership For Organizational Change **Credits:** 3.00

Phase 3: Specialization (6 Credits)

Choose two of the following:

- IET 21400 - Introduction To Supply Chain Management Technology **Credits:** 3.00
- IET 23500 - Introduction To Systems Thinking And Process Improvement **Credits:** 3.00
- TLI 31400 - Leading Innovation In Organizations **Credits:** 3.00

Pharmaceutical Manufacturing Certificate

About the Certificate

The Certificate in Pharmaceutical Manufacturing (16 credits) is open to undergraduate students interested in careers in the pharmaceutical industry, especially within the manufacturing and supply chain sectors. The certificate is designed to supplement the baccalaureate plans of studies in different majors, including (but not limited to) engineering, computer science, chemistry, biology, pharmaceutical sciences, health sciences, technology, and business, chemistry, biology, pharmaceutical sciences, and health sciences. The pharmaceutical and life sciences industry talent needs are shifting driven by the new therapeutic product modalities (e.g., cell and gene therapies), digitization, and advanced data analytics. The technological disruptors are creating a skill mismatch between the traditional degrees associated with the pharmaceutical sector and future demands. By 2030 a projected 90,000 current jobs in the pharma industry will disappear due to automation while up to 120,000 of different jobs in high-skilled occupations will be created. Purdue University has gained an understanding of the industry's needs through collaboration with Work Force of the Future initiative, sponsored by the ISPE Global Pharmaceutical Manufacturing Leadership Forum, and partnerships with major regional life sciences industry employers such as Eli Lilly. While the degrees most associated with this sector (chemistry, chemical engineering, and pharmaceutical sciences) will continue to be valuable, the disciplines of data science, artificial intelligence, mechanical engineering, biomedical engineering, industrial engineering, as well as robotics and automation technologies will play significant roles within these organizations. Graduates of such programs currently have limited exposure to drug development and regulatory process required to ensure public safety. The undergraduate certificate provides broad technical exposure to these topics through relevant courses and experiential learning opportunities. Combined with their Purdue major plans of study, students who attain this certificate will be well positioned to advance into successful careers working in the global pharmaceutical industry. Clinical exposure to these topics through relevant courses and experiential learning opportunities. Combined with their Purdue major plans of study, students who attain this certificate will be well positioned to advance into successful careers working in the global pharmaceutical industry.

Requirements for the Certificate (10 credits)

Required Courses (1 credits)

At least 1 credit hour of orientation seminar from the course list below.

- ENGR 10301 - Introduction To Engineering In Practice **Credits:** 1.00

Experiential Learning in Pharmaceutical Manufacturing

- Full-time internship or co-op in areas relevant to pharmaceutical manufacturing.
  - A 10-week or more of full-time internship/co-op is equivalent to 4 credit hours.
  - Summer Undergraduate Research Fellowship or similar full-time undergraduate research internship is considered equivalent to 2 credit hours.
  - Relevant Study Abroad courses.

Technical Areas (9 credits)

At least 9 credit hours of courses in at least two out of four technical areas below (with at least 6 credit hours should be at 400-level or above.

Pharmaceutical Product Development and Regulatory Affairs

- ABE 51100 - Drug Development **Credits:** 3.00
- ABE 51200 - Good Regulatory Practices **Credits:** 3.00
- ABE 51300 - Quality Management, Audits, Inspections **Credits:** 3.00
- BIOL 39500 - Special Assignments **Credits:** 0.00 to 18.00
- BIOL 41500 - Introduction To Molecular Biology **Credits:** 3.00
- BIOL 41600 - Viruses And Viral Disease **Credits:** 3.00
- BIOL 51600 - Molecular Biology Of Cancer **Credits:** 3.00
- BIOL 53601 - Biological And Structural Aspects Of Drug Design And Action **Credits:** 3.00
- BIOL 53700 - Immunobiology **Credits:** 3.00
- BIOL 59500 - Special Assignments **Credits:** 0.00 to 18.00
  -Immunology, Cancer and Infectious Disease
  -Neural Mechanisms Health Disease
  -Pathways in Human Health and Disease
- BME 55600 - Introduction To Clinical Medicine For Engineering Solutions **Credits:** 3.00
- BME 56100 - Preclinical And Clinical Study Design **Credits:** 3.00
- BME 56200 - Regulatory Issues Surrounding Approval Of Biomedical Devices **Credits:** 3.00
- BME 56300 - Quality Systems For Regulatory Compliance **Credits:** 3.00
- BME 56400 - Ethical Engineering Of Medical Technologies **Credits:** 3.00
- CHE 59700 - Special Topics In Chemical Engineering **Credits:** 0.00 to 18.00
- HSOP 50100 - Food And Drug Law I **Credits:** 3.00
- IE 53000 - Quality Control **Credits:** 3.00
- IE 55800 - Safety Engineering **Credits:** 3.00
- IE 59000 - Topics In Industrial Engineering **Credits:** 1.00 to 6.00
- MCMP 54400 - Drug Classes And Mechanisms **Credits:** 3.00
- PHRM 46000 - Drug Discovery And Development I **Credits:** 3.00
- PHRM 46100 - Drug Discovery And Development II **Credits:** 3.00
- PHRM 82400 - Principles Of Pathophysiology And Drug Action **Credits:** 3.00
- PHRM 82800 - Dosage Forms I **Credits:** 3.00
- PHRM 82900 - Dosage Forms II **Credits:** 2.00
  Additional Approved Non-PWL Courses:
- BIOT 102 Survey of Good Manufacturing Practices (Ivy Tech)
- BIOT 103 Safety and Regulatory Compliance for Biotechnology (Ivy Tech)
- BIOT 104 Quality Practices (Ivy Tech)
- BIOT 105 Survey of Regulatory Affairs (Ivy Tech)
- BME 57100 Drug Delivery (IUPUI)

Pharmaceutical Manufacturing Science and Technology (Materials, Measurement and Manufacturing)

- ABE 30300 - Physical Chemistry In Biological Engineering **Credits:** 3.00

- ABE 30400 - Biological Engineering Laboratory **Credits:** 3.00
- ABE 30700 - Momentum Transfer In Biological Engineering **Credits:** 3.00
- ABE 30800 - Heat And Mass Transfer In Biological Engineering **Credits:** 3.00
- ABE 37000 - Reaction Kinetics In Biological Engineering **Credits:** 3.00
- ABE 45700 - Unit Operations In Biological Engineering **Credits:** 3.00
- ABE 46000 - Sensors And Process Control **Credits:** 3.00
- ABE 50501 - Particle, Powder, and Compact Characterization **Credits:** 2.00
- ABE 50502 - Particles, Powders, And Compact Characterization Laboratory **Credits:** 1.00
- ABE 55700 - Biological Engineering Design I **Credits:** 3.00
- ABE 55800 - Biological Engineering Design II **Credits:** 3.00
- BIOL 59500 - Special Assignments **Credits:** 0.00 to 18.00 - Methods and Measurements in Physical Biochem
- BME 47000 - Biomolecular Engineering **Credits:** 3.00
- CHE 53600 - Particulate Systems **Credits:** 3.00
- CHE 55100 - Principles Of Pharmaceutical Engineering **Credits:** 3.00
- CHE 55300 - Pharmaceutical Process, Development And Design **Credits:** 3.00
- CHE 55400 - Smart Manufacturing In Process Industries **Credits:** 3.00
- CHE 55500 - Computer Integrated Process Operations **Credits:** 3.00
- CHE 59700 - Special Topics In Chemical Engineering **Credits:** 0.00 to 18.00
  -Industrial Chemical Technology
  -Process Safety
- CHM 32100 - Analytical Chemistry I **Credits:** 4.00
- CHM 33900 - Biochemistry: A Molecular Approach **Credits:** 3.00
- CHM 42400 - Instrumental Analysis **Credits:** 4.00
- CHM 43300 - Biochemistry **Credits:** 3.00
- CHM 43800 - Introduction To Molecular Biotechnology **Credits:** 3.00
- IE 37000 - Manufacturing Processes I **Credits:** 3.00
- IE 57400 - Industrial Robotics And Flexible Assembly **Credits:** 3.00
- IE 59000 - Topics In Industrial Engineering **Credits:** 1.00 to 6.00
- ME 53101 - Particle, Powder, And Compact Characterization **Credits:** 2.00
- ME 53102 - Particle, Powder, And Compact Characterization Laboratory **Credits:** 1.00
- ME 59500 - Special-Topic Minicourses **Credits:** 1.00 - Powder Storage and Flow
- MGMT 45200 - Manufacturing Strategy And Process Innovation **Credits:** 3.00
- MSE 51200 - Powder Processing **Credits:** 3.00
- MSE 59700 - Selected Topics In Materials Engineering **Credits:** 0.00 to 18.00 - Lean Manufacturing
- PHRM 83600 - Biochemistry For Pharmaceutical Sciences II **Credits:** 2.00
  Additional Approved non-PWL Courses:
- BIOT 110 Pharmaceutical Product Manufacturing (Ivy Tech)
- BME 38100 Implantable Materials And Biological Response (IUPUI)
- BME 38800 Applied Biomaterials (IUPUI)
- BME 46100 Transport Processes In Biomedical Engineering (IUPUI)
- BME 58200 Advanced Biomedical Polymers (IUPUI)

Data Analytics and Computing

- ABE 30100 - Modeling And Computational Tools In Biological Engineering **Credits:** 3.00
- BME 40100 - Mathematical & Computational Analysis Of Complex System Dynamics In Biology, Medicine, & Healthcare **Credits:** 3.00
- BME 50100 - Multivariate Analyses In Biostatistics **Credits:** 3.00

- CHE 32000 - Statistical Modeling And Quality Enhancement **Credits:** 3.00
- CNIT 48800 - Data Warehousing **Credits:** 3.00
- CNIT 57000 - IT Data Analytics **Credits:** 3.00
- CS 24200 - Introduction To Data Science **Credits:** 3.00
- ECE 20875 - Python For Data Science **Credits:** 3.00
- ECE 47300 - Introduction To Artificial Intelligence **Credits:** 3.00
- IE 33200 - Computing In Industrial Engineering **Credits:** 3.00
- IE 33500 - Operations Research - Optimization **Credits:** 3.00
- IE 33600 - Operations Research - Stochastic Models **Credits:** 3.00
- IE 48100 - Introduction To System Simulation **Credits:** 3.00
- IE 49000 - Special Topics In Industrial Engineering **Credits:** 1.00 to 6.00 - Machine Learning and Its Appliactions
- IE 53300 - Industrial Applications Of Statistics **Credits:** 3.00
- IE 53500 - Linear Programming **Credits:** 3.00
- IE 53600 - Stochastic Models In Operations Research I **Credits:** 3.00
- IE 58000 - Systems Simulation **Credits:** 3.00
- IE 59000 - Topics In Industrial Engineering **Credits:** 1.00 to 6.00
- ILS 10300 - Introduction To Data Lifecycle Management **Credits:** 1.00
- ILS 23000 - Data Science And Society: Ethical Legal Social Issues **Credits:** 3.00
- ILS 29500 - Special Topics In Information And Data Science **Credits:** 1.00 to 4.00
- MGMT 47500 - Machine Learning For Business **Credits:** 3.00
- MGMT 47900 - Data Visualization **Credits:** 2.00 or 3.00
- MGMT 48800 - Data-Driven Decisions In Digital Markets **Credits:** 3.00
- MGMT 54400 - Database Management Systems **Credits:** 3.00
- PHIL 20800 - Ethics Of Data Science **Credits:** 3.00
- POL 22800 - Data Science And Public Policy **Credits:** 3.00
- STAT 35500 - Statistics For Data Science **Credits:** 3.00

Supply Chain and Business Operations

- IE 49000 - Special Topics In Industrial Engineering **Credits:** 1.00 to 6.00 - Supply Chain Engineering
- IE 56600 - Production Management Control **Credits:** 3.00
- IE 57900 - Design And Control Of Production And Manufacturing Systems **Credits:** 3.00
- IE 58200 - Advanced Facilities Design **Credits:** 3.00
- MGMT 26100 - Introduction To Supply Chain Management **Credits:** 3.00
- MGMT 40500 - Six Sigma And Quality Analytics **Credits:** 3.00
- MGMT 46200 - Advanced Manufacturing Planning And Control Systems **Credits:** 3.00
- MGMT 46300 - Supply Chain Analytics **Credits:** 3.00
- MGMT 46400 - Logistics: Concepts And Models **Credits:** 3.00
- MGMT 46501 - Strategic Sourcing And Procurement **Credits:** 3.00
- MGMT 46600 - Project Management **Credits:** 3.00

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Quantum Information Science and Technology Certificate

About the Program

The Certificate in Quantum Information Science & Technology (16 credits) will be jointly offered by the College of Science and the College of Engineering, and will be open to students in all undergraduate majors interested in careers in the field of quantum information science and technology. This certificate will give undergraduate students broad technical exposure to fundamental and applied topics related to QIST and is designed to supplement the baccalaureate plans of studies in different majors, including (but not limited to) engineering, computer science, physics, chemistry, math, and technology.

Requirements for the Certificate (16 credits)

Engineering Requirement (1 credit)

- ENGR 10301 - Introduction To Engineering In Practice **Credits:** 1.00 *Title: Introduction to Nano- and Quantum Technology*

QIST Introduction Courses (3-4 credits)

- PHYS 34400 - Introduction To Quantum Science **Credits:** 4.00

QIST Fundamental Courses (1-3 credits)

Choose one:

- ECE 39595 - Selected Topics In Electrical And Computer Engineering **Credits:** 1.00 to 5.00 *Title: Fundamentals of Quantum Technology*
- ECE 59500 - Selected Topics In Electrical Engineering **Credits:** 1.00 to 3.00
  Titles: Applied Quantum Computing I - Fundamentals; Introduction to Quantum Science and Technology
- PHYS 36000 - Quantum Mechanics **Credits:** 3.00
- PHYS 46000 - Quantum Mechanics I Honors **Credits:** 3.00
- PHYS 55000 - Introduction To Quantum Mechanics **Credits:** 3.00

QIST Experience for Undergraduates Selectives (1-6 credits)

Choose 1-6 credits from courses below:

- PHYS 34000 - Modern Physics Laboratory **Credits:** 1.00
- Vertically Integrated Projects (VIP) courses or Research courses including relevant independent studies - Credit Hours: 1.00-6.00
- CHM 49900 - Special Assignments **Credits:** 1.00 to 5.00
- MA 29000 - Topics In Mathematics For Undergraduates **Credits:** 1.00 to 5.00
- MA 39000 - Topics In Mathematics For Undergraduates **Credits:** 1.00 to 5.00

- MA 49000 - Topics In Mathematics For Undergraduates **Credits:** 1.00 to 6.00
- PHYS 39000 - Special Assignments **Credits:** 1.00 to 4.00
- PHYS 49000 - Special Assignments **Credits:** 1.00 to 3.00
- PHYS 59000 - Reading And Research **Credits:** 1.00 to 3.00
- VIP 17910 - First-Year Participation In Vertically Integrated Projects (VIP) Lim **Credits:** 1.00
- VIP 17911 - First Year Participation In Vertically Integrated Projects (VIP) I **Credits:** 1.00
- VIP 17912 - First Year Participation In Vertically Integrated Projects (VIP) II **Credits:** 1.00
- VIP 17920 - First Year Participation In Vertically Integrated Projects (VIP) **Credits:** 2.00
- VIP 27910 - Sophomore Participation In Vertically Integrated Projects (VIP) Lim **Credits:** 1.00
- VIP 27920 - Sophomore Participation In Vertically Integrated Projects (VIP) **Credits:** 2.00
- VIP 27930 - Sophomore Participation In Vertically Integrated Projects (VIP) Ext **Credits:** 3.00
- VIP 37910 - Junior Participation In Vertically Integrated Projects (VIP) Lim **Credits:** 1.00
- VIP 37920 - Junior Participation In Vertically Integrated Projects (VIP) **Credits:** 2.00
- VIP 37930 - Junior Participation In Vertically Integrated Projects (VIP) Ext **Credits:** 3.00
- VIP 47910 - Senior Participation In Vertically Integrated Projects (VIP) Lim **Credits:** 1.00
- VIP 47920 - Senior Participation In Vertically Integrated Projects (VIP) **Credits:** 2.00
- VIP 47921 - Senior Design Participation In Vertically Integrated Projects (VIP) I **Credits:** 2.00
- VIP 47922 - Senior Design Participation In Vertically Integrated Projects (VIP) II **Credits:** 2.00
- VIP 47930 - Senior Participation In Vertically Integrated Projects (VIP) Ext **Credits:** 3.00
- Full-time internship relevant to technical areas of QIST. Summer or semester-long of full-time internship, co-op, or summer undergraduate research fellowship (SURF), or similar experience is considered equivalent to 6 credit hours. (See advisor for courses that qualitfy) - Credit Hours: 1.00-6.00

Certificate Requirements

- Student must demonstrate a significant and meaningful experiential activity related to quantum information science. Examples include
- Internship with a company with responsibilities related to quantum information science. The internship should be full-time for a duration of 8-12 weeks, totaling 320+ hours of work experience. Students must register for a 0-credit internship course during their experience. The course requires student reflection and a performance evaluation completed by their supervisor.
- Full-time summer research experience related to quantum information science with a minimum duration of 8 weeks totaling 320 hours of work. Student must register for a 0-credit experiential learning course requiring reflection and a performance evaluation completed by their supervisor
- 6 credits of part-time research related to quantum information science
- 6 credits of study abroad with coursework related to quantum information science
- A combination of study abroad or part-time research related to quantum information science totaling 6 credits

*For 0-credit paid internships or research experiences, students will be asked to submit an offer letter to verify their experience dates, hours, and responsibilities.

Electives (2-10 credits)

Remaining credit hours must come from the courses below:

- CHM 37400 - Physical Chemistry II **Credits:** 3.00
- CS 48300 - Introduction To The Theory Of Computation **Credits:** 3.00
- CS 58400 - Theory Of Computation And Computational Complexity **Credits:** 3.00

- ECE 30653 - Introduction To Nanotechnology And Quantum Science & Technology **Credits:** 3.00
- ECE 39595 - Selected Topics In Electrical And Computer Engineering **Credits:** 1.00 to 5.00 *Title: Fundamentals of Quantum Technology*
- ECE 50631 - Fundamentals Of Current Flow **Credits:** 1.00
- ECE 50632 - Introduction To Quantum Transport **Credits:** 1.00
- ECE 50633 - Boltzmann Law: Physics To Computing **Credits:** 1.00
- ECE 55200 - Introduction To Lasers **Credits:** 3.00
- ECE 59500 - Selected Topics In Electrical Engineering **Credits:** 1.00 to 3.00 *Titles: Applied Quantum Computing I – Fundamentals; Applied Quantum Computing I – Fundamentals; Applied Quantum Computing III - Algorithm and Software; Intro to Electronics Packaging and Heterogeneous Integration; Introduction to Quantum Science and Technology; Microfabrication Fundamentals; Semiconductor Fundamentals; Semiconductor Manufacturing*
- ME 50100 - Statistical Thermodynamics **Credits:** 3.00
- ME 50300 - Micro-And-Nano-Scale Energy Transfer Processes **Credits:** 3.00
- MSE 50200 - Defects In Solids **Credits:** 3.00
- PHYS 36000 - Quantum Mechanics **Credits:** 3.00
- PHYS 46000 - Quantum Mechanics I Honors **Credits:** 3.00
- PHYS 46100 - Quantum Mechanics II Honors **Credits:** 3.00
- PHYS 52600 - Physics Of Quantum Computing And Quantum Information **Credits:** 3.00
- PHYS 54500 - Solid-State Physics **Credits:** 3.00
- PHYS 55000 - Introduction To Quantum Mechanics **Credits:** 3.00
- MA 51100 - Linear Algebra With Applications **Credits:** 3.00

Note

- Credit from only ONE of the following courses can be applied toward the total credit requirement of this certificate: PHYS 36000, PHYS 46000, ECE 39595: Fundamentals of Quantum Technology.
- QIST Experience for Undergraduates Selectives (1-6 credits) area will require advisor exceptions since courses are not listed by name.

Pre-Requisite Information

For pre-requisite information, log in to mypurdue.purdue.edu and click here.

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Semiconductors and Microelectronics Certificate

Add to Purdue Indy per Joe Tort

Credits are 10-16. 6 hours are not credit based therefore changes need to be made to the total credit hour for the cert.

About the Certificate

The Certificate in Semiconductors and Microelectronics (16 credits) will be open to students in all undergraduate majors interested in careers in the field of semiconductors and microelectronics. This certificate will give undergraduate students broad technical exposure to topics in the areas of semiconductors and microelectronics and is designed to supplement the baccalaureate plans of studies in different majors, including (but not limited to) engineering, computer science, physics, chemistry, technology, and business. The U.S. semiconductor/microelectronics industry is facing an overwhelming and rapidly growing crunch for trained talent - with industry forecasts estimating the need at a minimum of 50,000 additional trained semiconductor engineers and scientists by 2030. The broad scope of the semiconductors and microelectronics industry - from materials and processing to device and integrated circuit/system design, to manufacturing, supply chains, and data analytics, to testing, qualification, packaging, and thermal management - provides exciting career opportunities for students from a wide range of disciplines.

Requirements for the Certificate (10 credits)

Required Course (1 credit)

For ENGR 10301, the section titled "Introduction to Semiconductors" or similar is required.

- ENGR 10301 - Introduction To Engineering In Practice **Credits:** 1.00

Semiconductor Experience for Undergraduates

Research courses including relevant independent studies and Vertically Integrated Projects (VIP) courses, or Full-time internship relevant to technical areas of semiconductors and microelectronics. Summer or semester-long of full-time internship/co- op/SURF or similar experience is considered equivalent to 6 credit hours.

Technical Courses (9 credits)

Take at least 9 credit hours of courses in at least two out of five technical areas:

- Semiconductor and Microelectronic Devices
- Semiconductor Materials, Characterization, and Processing
- Integrated Circuit and System Design, Electronic Design Automation
- Electronics Packaging, Heterogeneous Integration, and Thermal Management
- Semiconductor Manufacturing and Global Supply Chain Management

Semiconductor and Microelectronic Devices

- ECE 30500 - Semiconductor Devices **Credits:** 3.00
- ECE 45300 - Fundamentals Of Nanoelectronics **Credits:** 3.00
- ECE 50616 - Physics And Manufacturing Of Solar Cells **Credits:** 3.00
- ECE 50631 - Fundamentals Of Current Flow **Credits:** 1.00
- ECE 50632 - Introduction To Quantum Transport **Credits:** 1.00
- ECE 50633 - Boltzmann Law: Physics To Computing **Credits:** 1.00
- ECE 50653 - Fundamentals Of Nanoelectronics **Credits:** 3.00
- ECE 55700 - Integrated Circuit Fabrication Laboratory **Credits:** 3.00

- ECE 59500 - Selected Topics In Electrical Engineering **Credits:** 1.00 to 3.00
  -Advanced Lithography
  -Essentials of Transistors
  -MEMS I: Microfabrication and Materials for MEMS
  -MEMS II: Fundamentals of MEMS Design
  -MEMS III: Applications in MEMS
  -Microfabrication Fundamentals
  -Semiconductor Fundamentals
  -Semiconductor Manufacturing
  -Theory and Practice of Solar Cells: A Cell to System Perspective
- PHYS 52600 - Physics Of Quantum Computing And Quantum Information **Credits:** 3.00

Semiconductor Materirals, Characterization, and Processing

- CHE 42000 - Process Safety Management And Analysis **Credits:** 3.00
- CHE 45600 - Process Dynamics And Control **Credits:** 3.00
- CHE 56400 - Organic Electronic Materials And Devices **Credits:** 3.00
- CHE 59700 - Special Topics In Chemical Engineering **Credits:** 0.00 to 18.00 - Manufacturing Advanced Composites
- IE 37000 - Manufacturing Processes I **Credits:** 3.00
- IE 38300 - Integrated Production Systems I **Credits:** 3.00
- IE 47000 - Manufacturing Processes II **Credits:** 3.00
- IE 57000 - Manufacturing Process Engineering **Credits:** 3.00
- IE 57900 - Design And Control Of Production And Manufacturing Systems **Credits:** 3.00
- IE 58300 - Design And Evaluation Of Material Handling Systems **Credits:** 3.00
- ME 36300 - Principles And Practices Of Manufacturing Processes **Credits:** 3.00
- ME 55700 - Design For Manufacturability **Credits:** 3.00
- MSE 23000 - Structure And Properties Of Materials **Credits:** 3.00
- MSE 27000 - Atomistic Materials Science **Credits:** 3.00
- MSE 49700 - Selected Topics In Materials Engineering **Credits:** 0.00 to 18.00 - Electronics Packaging and Heterogeneous Integration
- MSE 50200 - Defects In Solids **Credits:** 3.00
- MSE 51000 - Microstructural Characterization Techniques **Credits:** 3.00
- MSE 52300 - Physical Ceramics **Credits:** 3.00
- MSE 54800 - Deposition Processing Of Thin Films And Coatings **Credits:** 3.00
- MSE 59700 - Selected Topics In Materials Engineering **Credits:** 0.00 to 18.00
  - Magnetic Materials: Physical Properties and Applications
  - Modeling & Simulation for Materials
  - Solid State Materials
- NUCL 42001 - Radiation Interaction With Materials And Applications **Credits:** 3.00
- NUCL 52000 - Radiation Effects And Reactor Materials **Credits:** 3.00
- NUCL 55300 - Nano-Macro Scale Applications Of Nuclear Technology **Credits:** 3.00

Integrated Circuit & System Design, Electronic Design Automation

- ECE 33700 - ASIC Design Laboratory **Credits:** 2.00
- ECE 36200 - Microprocessor Systems And Interfacing **Credits:** 4.00
- ECE 45500 - Integrated Circuit Engineering **Credits:** 3.00
- ECE 45600 - Digital Integrated Circuit Analysis And Design **Credits:** 3.00

- ECE 51220 - Applied Algorithms **Credits:** 3.00
- ECE 55900 - MOS VLSI Design **Credits:** 3.00
- ECE 56800 - Embedded Systems **Credits:** 3.00
- ECE 59500 - Selected Topics In Electrical Engineering **Credits:** 1.00 to 3.00
  - CMOS Analog IC Design
  - Computer Vision for Embedded Systems
  - Digital Systems Design Automation

Electronics Packaging, Heterogeneous Integration, and Thermal Management

- CHE 32000 - Statistical Modeling And Quality Enhancement **Credits:** 3.00
- ECE 59500 - Selected Topics In Electrical Engineering **Credits:** 1.00 to 3.00 - Introduction to Electronics Packaging and Heterogeneous Integration

Semiconductor Manufacturing and Global Supply Chain Management

- CHE 32000 - Statistical Modeling And Quality Enhancement **Credits:** 3.00
- IE 38600 - Work Analysis And Design I **Credits:** 3.00
- IE 48400 - Integrated Production Systems II **Credits:** 3.00
- IE 48600 - Work Analysis And Design II **Credits:** 3.00
- IE 49000 - Special Topics In Industrial Engineering **Credits:** 1.00 to 6.00 - Supply Chain Engineering
- IE 53200 - Reliability **Credits:** 3.00
- IE 53300 - Industrial Applications Of Statistics **Credits:** 3.00
- IE 55800 - Safety Engineering **Credits:** 3.00
- IE 56600 - Production Management Control **Credits:** 3.00
- IE 58200 - Advanced Facilities Design **Credits:** 3.00
- MGMT 26100 - Introduction To Supply Chain Management **Credits:** 3.00
- MGMT 40500 - Six Sigma And Quality Analytics **Credits:** 3.00
- MGMT 46200 - Advanced Manufacturing Planning And Control Systems **Credits:** 3.00
- MGMT 46300 - Supply Chain Analytics **Credits:** 3.00
- MGMT 47300 - Data Mining **Credits:** 3.00
- MGMT 47400 - Predictive Analytics **Credits:** 3.00
- MGMT 47900 - Data Visualization **Credits:** 2.00 or 3.00

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Concentration

Software Engineering Concentration for Computer Engineering

About the Concentraton

The Software Engineering Concentration prepares students to work in software-oriented jobs or research areas. It covers topics in software engineering (how do you build good software) and software tools (what modern frameworks do software developers need to know), as well as electives that give students an opportunity to hone their software development skills.

Software Engineering Concentration Courses (10 credits)

Required Course (1 credit)

- ECE 30864 - Software Engineering Tools **Credits:** 1.00

Software Selectives (6 credits)

- ECE 46100 - Software Engineering **Credits:** 3.00 or
- ECE 49595 - Selected Topics In Electrical And Computer Engineering **Credits:** 1.00 to 5.00 Title: Open Source Software Senior Design - Credit Hours: 4.00

Selectives (3 credits)

- ECE 30862 - Object-Oriented Programming In C++ And Java **Credits:** 3.00
- ECE 40400 - Introduction To Computer Security **Credits:** 3.00
- ECE 46900 - Operating Systems Engineering **Credits:** 4.00
- ECE 46800 - Introduction To Compilers And Translation Engineering **Credits:** 4.00 or
- ECE 57300 - Compilers And Translator Writing Systems **Credits:** 3.00
- ECE 51220 - Applied Algorithms **Credits:** 3.00

Can include up to 3 hours of:

(Must have approval of the Associate Head of Undergraduate Programs or Associate Head of Teaching and Learning) Can only be used for one of the selectives areas in the concentration.

- ECE 49600 - Electrical And Computer Engineering Projects **Credits:** 0.00 to 18.00
- VIP 37920 - Junior Participation In Vertically Integrated Projects (VIP) **Credits:** 2.00
- VIP 47920 - Senior Participation In Vertically Integrated Projects (VIP) **Credits:** 2.00

Master of Science

Biomedical Engineering Program, MS

Computer Science, MS

Concentrations:

- Computational Life Sciences (CLS)
- Computational Science and Engineering (CSE)
- Information Security for Computing Professionals (ISCP)
- Statistics & Computer Science

Cybersecurity & Trusted System, MS

Interdisciplinary Engineering, MS

Concentrations:

- Aeronautics & Astronautics
- Aeronautics & Astronautics Management/Professional Practice
- Aeronautics & Astronautics with Management
- Biomedical Engineering
- Civil Engineering
- Computational Engineering
- Computer Science
- Electrical & Computer Engineering
- Engineering Management & Leadership
- Engineering, Management & Professional Practice
- Engineering Management
- Geomatics
- Industrial Engineering
- Integrated Vehicle Systems Engineering
- Materials Engineering
- Mechanical Engineering & Management
- Mechanical Engineering & Management with Professional Practice
- Mechanical Engineering
- Multidisciplinary Engineering
- Quality
- Quality Systems Engineering
- Systems Engineering

Technology Leadership & Innovation, MS

Concentrations:

- Biotech Innov & Regulatory Science

Master of Science in Chemical Engineering

Chemical Engineering, MSCHE

Concentrations:

- Biochemical Engineering Professional
- Gas and Petroleum Engineering
- Energy Sys Fund & Process Prof
- Kinetics, Cat & React Engr Prof
- Particulate Production & Process Professional
- Pharmacy Engineering Professional
- Polymer Science and Engineering - Prof

Master of Science in Electrical and Computer Engineering

Electrical & Computer Engineering, MSECE

Concentrations:

- Computational Engineering
- Computational Life Science
- ECE Technology Innovation
- Innovative Technologies
- Manufacturing Engineering
- Wireless Systems Engineering

Master of Science in Mechanical Engineering

Mechanical Engineering, MSME

Concentrations:

- Computational Engineering
- Interdisciplinary Science & Engineering
- Professional Program In Mechanical Engineering
- Manufacturing Engineering

Doctor of Philosophy

Computer Science, PHD

Concentrations:

- Computational Life Sciences (CLS)
- Computational Science and Engineering (CSE)

Electrical & Computer Engineering, PHD

Concentrations:

- Biomedical Engineering
- Computational Engineering
- Computational Life Science
- Manufacturing Engineering
- Wireless Systems Engineering

Mechanical Engineering, PHD

Concentrations:

- Biomedical Engineering
- Computational Engineering
- Interdisciplinary Ecological Science & Engineering

Non-Degree

2025-2026 Academic Calendar

This information is for Purdue West Lafayette, Purdue Indianapolis, and Purdue Polytechnic Statewide campuses

	Summer 2025	Fall 2025	Winter 2025	Spring 2026	Summer 2026
Classes/Term Begin	May 19, 2025	August 25, 2025		January 12, 2026	May 18, 2026
Last Day to Apply to Graduate/ Declare Candidacy	June 13	September 19		February 6	June 12
Classes End	August 8	December 13	January	May 2	August 7
Final Exams		Dec. 15-20		May 4-9	
Term Ends	August 8	Dec. 20		May 9	August 7
Commencements	August 9	December 21		May 15-17	August 8
Fall Break		October 13-14			

	Summer 2025	Fall 2025	Winter 2025	Spring 2026	Summer 2026
Spring Break				March 16-21	
Juneteenth - Class in Session	June 19				June 19
Thanksgiving Break		Nov. 27-30			
Winter Recess					
Memorial Day - University Closed	May 26				May 25
Fourth of July - University Closed	July 4				July 3
Labor Day - University Closed		September 1			
MLK Day - University Closed				January 19	
President's Designated Holiday					
Christmas Holiday - University Closed			December 25 & 26		
New Year's Day - University Closed			January 1, 2026		

2026-2027 Academic Calendar

This information is for Purdue West Lafayette, Purdue Indianapolis, and Purdue Polytechnic Statewide campuses

	Summer 2026	Fall 2026	Winter 2026	Spring 2027	Summer 2027
Classes/Term Begin	May 18, 2026	August 24, 2026		January 11, 2027	May 17, 2027
Last Day to Apply to Graduate/ Declare Candidacy	June 12	September 18		February 5	June 11
Classes End	August 7	December 12	January	May 1	August 7
Final Exams		Dec. 14-19		May 3-8	
Term Ends	August 7	December 19		May 8	August 6
Commencements	August 8	December 20		May 14-16	August 7
Fall Break		October 12-13			
Spring Break				March 15-20	
Thanksgiving Break		Nov. 25-28			
Winter Recess					

	Summer 2026	Fall 2026	Winter 2026	Spring 2027	Summer 2027
Memorial Day - University Closed	May 25				May 31
Fourth of July - University Closed	July 3				July 5
Labor Day - University Closed		September 7			
MLK Day - University Closed				January 18	
President's Designated Holiday			December 31		
Christmas Holiday - University Closed			December 24 & 25		
New Year's Day - University Closed			January 1, 2027		

2027-2028 Academic Calendar

This information is for Purdue West Lafayette, Purdue Indianapolis, and Purdue Polytechnic Statewide campuses

	Summer 2027	Fall 2027	Winter 2027	Spring 2028	Summer 2028
Classes/Term Begin	May 17, 2027	August 23, 2027		January 10, 2028	May 15, 2028
Last Day to Apply to Graduate/ Declare Candidacy	June 11	September 17		February 4	June 9
Classes End	August 6	December 11	January	April 29	August 4
Final Exams		Dec. 13-18		May 1-6	
Term Ends	August 6	Dec. 18		May 6	August 4
Commencements	August 7	December 19		May 12-14	August 5
Fall Break		October 11-12			
Spring Break				March 13-18	
Thanksgiving Break		Nov. 24-27			
Winter Recess					
Memorial Day - University Closed	May 29				May 31
Fourth of July - University Closed	July 5				July 4
Labor Day - University Closed		September 6			
MLK Day - University Closed				January 17	

	Summer 2027	Fall 2027	Winter 2027	Spring 2028	Summer 2028
President's Designated Holiday			December 30		
Christmas Holiday - University Closed			December 23-24		
New Year's Day - University Closed			December 31		

2028-2029 Academic Calendar

This information is for Purdue West Lafayette, Purdue Indianapolis, and Purdue Polytechnic Statewide campuses

	Summer 2028	Fall 2028	Winter 2028	Spring 2029	Summer 2029
Classes/Term Begin	May 15, 2028	August 21, 2028		January 8, 2029	May 14, 2029
Last Day to Apply to Graduate/ Declare Candidacy	June 9	September 15		February 2	June 6
Classes End	August 4	December 9	January	April 28	August 3
Final Exams		Dec. 11-16		Apr. 30 - May 5	
Term Ends	August 4	December 16		May 5	August 3
Commencements	August 5	December 17		May 11-13	August 4
Fall Break		October 9-10			
Spring Break				March 12-17	
Thanksgiving Break		Nov. 22-25			
Winter Recess					
Memorial Day - University Closed	May 29				May 28
Fourth of July - University Closed	July 4				July 4
Labor Day - University Closed		September 4			
MLK Day - University Closed				January 17	
President's Designated Holiday			December 30		
Christmas Holiday - University Closed			December 23-24		
New Year's Day - University Closed			December 31		

2029-2030 Academic Calendar

This information is for Purdue West Lafayette, Purdue Indianapolis, and Purdue Polytechnic Statewide campuses

	Summer 2029	Fall 2029	Winter 2029	Spring 2030	Summer 2030
Classes/Term Begin	May 14, 2029	August 20, 2029	December 2029	January 7, 2030	May 14, 2030
Last Day to Apply to Graduate/ Declare Candidacy	June 6	September 16		February 3	June 6
Classes End	August 3	December 8	January	April 27	August 2
Final Exams		Dec. 10-15		Apr. 29 - May 4	
Term Ends	August 3	December 15		May 4	August 2
Commencements	August 4	December 16		May 10-12	August 3
Fall Break		October 8-9			
Spring Break				March 11-16	
Thanksgiving Break		Nov. 22-25			
Winter Recess					
Memorial Day - University Closed	May 28				May 27
Fourth of July - University Closed	July 4				July 4
Labor Day - University Closed		September 3			
MLK Day - University Closed				January 21	
President's Designated Holiday			December 30		
Christmas Holiday - University Closed			December 23-24		
New Year's Day - University Closed			December 31		

2030-2031 Academic Calendar

This information is for Purdue West Lafayette, Purdue Indianapolis, and Purdue Polytechnic Statewide campuses

	Summer 2030	Fall 2030	Winter 2030	Spring 2031	Summer 2031
Classes/Term Begin	May 13, 2030	August 19, 2030	December 2030	January 13, 2031	May 19, 2031
Last Day to Apply to Graduate/ Declare Candidacy	June 6	September 15		February 3	June 6

	Summer 2030	Fall 2030	Winter 2030	Spring 2031	Summer 2031
Classes End	August 2	December 7	January	May 3	August 8
Final Exams		Dec. 9-14		May 5-10	
Term Ends	August 2	December 14		May 10	August 8
Commencements	August 3	December 15		May 16-18	August 9
Fall Break		October 7-8			
Spring Break				March 17-22	
Thanksgiving Break		Nov. 27-30			
Winter Recess					
Memorial Day - University Closed	May 27				May 26
Fourth of July - University Closed	July 4				July 4
Labor Day - University Closed		September 2			
MLK Day - University Closed				January 20	
President's Designated Holiday			December 30		
Christmas Holiday - University Closed			December 23-24		
New Year's Day - University Closed			December 31		

2031-2032 Academic Calendar

This information is for Purdue West Lafayette, Purdue Indianapolis, and Purdue Polytechnic Statewide campuses

	Summer 2031	Fall 2031	Winter 2031	Spring 2032	Summer 2032
Classes/Term Begin	May 19, 2031	August 25, 2031	December 2031	January 12, 2032	May 17, 2032
Last Day to Apply to Graduate/ Declare Candidacy	June 6	September		February 3	June 6
Classes End	August 8	December 13	January	May 1	August 6
Final Exams		Dec. 15-20		May 3-8	
Term Ends	August 8	December 20		May 8	August 6
Commencements	August 9	December 21		May 14-16	August 7

	Summer 2031	Fall 2031	Winter 2031	Spring 2032	Summer 2032
Fall Break		October 13-14			
Spring Break				March 15-20	
Thanksgiving Break		Nov. 26-29			
Winter Recess					
Memorial Day - University Closed	May 26				May 31
Fourth of July - University Closed	July 4				July 5
Labor Day - University Closed		September 1			
MLK Day - University Closed				January 19	
President's Designated Holiday			December 30		
Christmas Holiday - University Closed			December 23-24		
New Year's Day - University Closed			December 31		

2032-2033 Academic Calendar

This information is for Purdue West Lafayette, Purdue Indianapolis, and Purdue Polytechnic Statewide campuses

	Summer 2032	Fall 2032	Winter 2032	Spring 2033	Summer 2033
Classes/Term Begin	May 17, 2032	August 23, 2032	December 2032	January 10, 2033	May 16, 2033
Last Day to Apply to Graduate/ Declare Candidacy	June 6	September		February 3	June 9
Classes End	August 6	December 11	January	April 30	August 5
Final Exams		Dec. 14-19		May 2-7	
Term Ends	August 6	December 19		May 7	August 5
Commencements	August 7	December 20		May 13-15	August 6
Fall Break		October 11-12			
Spring Break				March 14-19	
Thanksgiving Break		Nov. 24-27			
Winter Recess					
Memorial Day - University Closed	May 31				May 30

	Summer 2032	Fall 2032	Winter 2032	Spring 2033	Summer 2033
Fourth of July - University Closed	July 5				July 5
Labor Day - University Closed		September 6			
MLK Day - University Closed				January 17	
President's Designated Holiday			December 30		
Christmas Holiday - University Closed			December 23-24		
New Year's Day - University Closed			December 31		

2033-2034 Academic Calendar

This information is for Purdue West Lafayette, Purdue Indianapolis, and Purdue Polytechnic Statewide campuses

	Summer 2033	Fall 2033	Winter 2033	Spring 2034	Summer 2034
Classes/Term Begin	May 17, 2033	August 23, 2033	December 2033	January 10, 2034	May 16, 2034
Last Day to Apply to Graduate/ Declare Candidacy	June 6	September		February 3	June 6
Classes End	August 8	December 13	January	May 1	August 6
Final Exams		Dec. 15-20		May 3-8	
Term Ends	August 8	December 20		May 8	August 6
Commencements	August 9	December 21		May 14-16	August 7
Fall Break		October 13-14			
Spring Break				March 15-20	
Thanksgiving Break		Nov. 26-29			
Winter Recess					
Memorial Day - University Closed	May 26				May 31
Fourth of July - University Closed	July 4				July 5
Labor Day - University Closed		September 1			
MLK Day - University Closed				January 19	
President's Designated Holiday			December 30		

2034-2035 Academic Calendar

This information is for Purdue West Lafayette, Purdue Indianapolis, and Purdue Polytechnic Statewide campuses

	Summer 2033	Fall 2033	Winter 2033	Spring 2034	Summer 2034
Classes/Term Begin	May 17, 2033	August 23, 2033	December 2033	January 10, 2034	May 16, 2034
Last Day to Apply to Graduate/ Declare Candidacy	June 6	September		February 3	June 6
Classes End	August 8	December 13	January	May 1	August 6
Final Exams		Dec. 15-20		May 3-8	
Term Ends	August 8	December 20		May 8	August 6
Commencements	August 9	December 21		May 14-16	August 7
Fall Break		October 13-14			
Spring Break				March 15-20	
Thanksgiving Break		Nov. 26-29			
Winter Recess					
Memorial Day - University Closed	May 26				May 31
Fourth of July - University Closed	July 4				July 5
Labor Day - University Closed		September 1			
MLK Day - University Closed				January 19	
President's Designated Holiday			December 30		
Christmas Holiday - University Closed			December 23-24		
New Year's Day - University Closed			December 31		

Animation And Visual Effects & Themed Entertainment Design Supplemental Information

This supplemental Information can be used for both Animation and Visual Effects, BS and Themed and Entertainment Design, BS.

CGT Entertainment Selectives

- CGT 10501 - Introduction To Games **Credits:** 3.00
- CGT 21500 - Computer Graphics Programming I **Credits:** 3.00
- CGT 24500 - Game Development I: Core Skills And Technologies **Credits:** 3.00
- CGT 24600 - Compositing I **Credits:** 3.00
- CGT 24700 - Visual Effects - Particles And Procedural Effects **Credits:** 3.00
- CGT 25500 - Game Development II: Design And Psychology **Credits:** 3.00
- CGT 27001 - Topics In Data Visualization **Credits:** 1.00
- CGT 27500 - Data Visualization II **Credits:** 3.00
- CGT 29000 - Computer Graphics **Credits:** 1.00 to 3.00
- CGT 31000 - Drawing, Acting And Scripts For Animation **Credits:** 3.00
- CGT 31500 - Computer Graphics Programming II **Credits:** 3.00
- CGT 32101 - Digital Illustration **Credits:** 3.00
- CGT 32500 - Animation For Games **Credits:** 3.00
- CGT 33300 - Modeling For Entertainment Graphics **Credits:** 3.00
- CGT 33500 - Game Scripting **Credits:** 3.00
- CGT 34000 - Digital Lighting And Rendering For Computer Animation **Credits:** 3.00
- CGT 34100 - Motion For Computer Animation **Credits:** 3.00
- CGT 34500 - Game Development III: Environment Modeling For Games **Credits:** 3.00
- CGT 34600 - Digital Video And Audio **Credits:** 3.00
- CGT 34800 - Photorealistic Shaders **Credits:** 3.00
- CGT 35300 - Principles Of Interactive And Dynamic Media **Credits:** 3.00
- CGT 35600 - Web Programming, Development And Data Integration **Credits:** 3.00
- CGT 36500 - Game Development Practicum **Credits:** 3.00
- CGT 37000 - Interactive Data Visualization **Credits:** 3.00
- CGT 37500 - Game Audio **Credits:** 3.00
- CGT 37700 - Scientific Visualization **Credits:** 3.00
- CGT 38500 - Game Production **Credits:** 3.00
- CGT 39000 - Computer Graphics **Credits:** 1.00 to 3.00
- CGT 44500 - Game Development IV: Procedural Asset Creation For Games **Credits:** 3.00
- CGT 45600 - Advanced Web Programming, Development And Data Integration **Credits:** 3.00
- CGT 47000 - Data Visualization Studio **Credits:** 3.00
- CGT 49000 - Computer Graphics **Credits:** 1.00 to 3.00
- CGT 49100 - Special Topics In Computer Graphics **Credits:** 1.00 to 6.00

Advanced English Selective

Possible Cornerstone Selective. See Cornerstone Certificate.

- ENGL 20500 - Introduction To Creative Writing **Credits:** 3.00
- ENGL 30400 - Advanced Composition **Credits:** 3.00

- ENGL 41900 - Multimedia Writing **Credits:** 3.00
- ENGL 42000 - Business Writing **Credits:** 3.00
- ENGL 42100 - Technical Writing **Credits:** 3.00

Statistics Selective

- IET 31600 - Statistical Quality Control **Credits:** 3.00
- PSY 20100 - Introduction To Statistics In Psychology **Credits:** 3.00
- STAT 22500 - Introduction To Probability Models **Credits:** 3.00
- STAT 30100 - Elementary Statistical Methods **Credits:** 3.00
- STAT 35000 - Introduction To Statistics **Credits:** 3.00

Technical Elective

Any Course within the Purdue Polytechnic Institute, Engineering, Management, or Science. Subjects include: AAE, ABE, AFT, ASTR, AT, BCHM, BCM, BIOL, BME, BMS, CE, CGT, CHE, CHM, CLPH, CM, CNIT, CPB, CS, EAPS, ECE, ECET, ECON, EEE, ENE, ENFY, ENGR, ENGT, ENTM, ENTR, EPCS, GEP, IDE, IE, IET, EPPH, IT, MA, MCMP, ME, MET, MFET, MGMT, MSE, MSL, NS, NUCL, NUPH, NUR, OBHR, OLS, PHPR, PHRM, PHYS, PTEC, SCI, STAT, TECH, & TLI.

Humanities Elective

Possible Cornerstone Selective. See Cornerstone Certificate.

Any Course within the Purdue College of Liberal Arts. Subjects include: AAS, AD, AMST, ANTH, ARAB, ASAM, ASL, CHNS, CLCS, CMPL, COM, DANC, ENGL, FR, FVS, GER, GREK, GS, GSLA, HEBR, HIST, IDIS, ITAL, JPNS, JWST, KOR, LALS, LATN, LC, LING, MARS, MUS, PHIL, POL, PTGS, REL, RUSS, SCLA, SOC, SPAN, THTR, & WGSS.

Human Cultures: Humanities (HUM) Core

Possible Cornerstone Selective. See Cornerstone Certificate.
Any Human Cultures: Humanities (HUM) allowed. Crossing with Cornerstone Certificate strongly recommended.

- Approved Human Cultures: Humanities Core Courses

Human Cultures: Behavioral/Social Science (BSS) Core

Possible Cornerstone Selective. See Cornerstone Certificate.

Any Human Cultures: Behavioral/Social Science (BSS) allowed. Crossing with Cornerstone Certificate strongly recommended.

- Approved Human Cultures: Behavioral/Social Science Core Courses

CGT Globalization Selective

Possible Cornerstone Selective. See Cornerstone Certificate.

- AAS 27100 - Introduction To African American Studies **Credits:** 3.00
- AAS 37300 - Issues In African American Studies **Credits:** 3.00
- AGR 20100 - Communicating Across Culture **Credits:** 3.00
- ANSC 38100 - Leadership For A Diverse Workplace **Credits:** 3.00
- ANTH 20300 - Biological Bases Of Human Social Behavior **Credits:** 3.00
- ANTH 20500 - Human Cultural Diversity **Credits:** 3.00
- ANTH 21000 - Technology And Culture **Credits:** 3.00
- ANTH 21200 - Culture, Food And Health **Credits:** 3.00
- ANTH 23000 - Gender Across Cultures **Credits:** 3.00
- ANTH 34000 - Global Perspectives On Health **Credits:** 3.00
- ANTH 34100 - Culture And Personality **Credits:** 3.00
- ANTH 37900 - Native American Cultures **Credits:** 3.00
- ARAB 28000 - Arabic Culture **Credits:** 3.00
- ASAM 24000 - Introduction To Asian American Studies **Credits:** 3.00
- AT 23300 - Ethics And Aviation **Credits:** 3.00
- CNIT 32000 - Policy, Regulation, And Globalization In Information Technology **Credits:** 3.00
- COM 22400 - Communicating In The Global Workplace **Credits:** 3.00
- COM 30300 - Intercultural Communication **Credits:** 3.00
- COM 32000 - Small Group Communication **Credits:** 3.00
- COM 41200 - Theories Of Human Interaction **Credits:** 3.00
- COM 42300 - Leadership, Communication And Organizations **Credits:** 3.00
- ECET 29000 - International Experience **Credits:** 1.00 to 3.00
- ECET 38001 - Global Professional Issues In Engineering Technology **Credits:** 3.00
- EDPS 23500 - Learning And Motivation **Credits:** 2.00 or 3.00
- EDPS 30000 - Student Leadership Development **Credits:** 1.00 to 3.00
- EDPS 30100 - Peer Counseling Training **Credits:** 1.00 to 3.00
- EDPS 31500 - Collaborative Leadership: Interpersonal Skills **Credits:** 3.00
- EDPS 31600 - Collaborative Leadership: Cross-Cultural Settings **Credits:** 3.00
- EDPS 31700 - Collaborative Leadership: Mentoring **Credits:** 3.00
- ENGL 41400 - Studies In Literature And Culture **Credits:** 3.00
- HDFS 28000 - Diversity In Individual And Family Life **Credits:** 3.00
- HDFS 33200 - Stress And Coping In Contemporary Families **Credits:** 3.00
- HEBR 38500 - The Holocaust In Modern Hebrew Literature **Credits:** 3.00
- HIST 30000 - Eve Of Destruction: Global Crises And World Organization In The 20th Century **Credits:** 3.00
- HIST 33805 - History Of Human Rights **Credits:** 3.00
- HIST 35000 - Science And Society In The Twentieth Century World **Credits:** 3.00
- HIST 36600 - Hispanic Heritage Of The United States **Credits:** 3.00
- HIST 37700 - History And Culture Of Native America **Credits:** 3.00
- HIST 46900 - Black Civil Rights Movement **Credits:** 3.00
- HTM 37000 - Sustainable Tourism And Responsible Travel **Credits:** 3.00
- HTM 37200 - Global Tourism Geography **Credits:** 3.00
- MSL 20100 - Leadership And Ethics **Credits:** 2.00 to 3.00
- OLS 35000 - Creativity In Business And Industry **Credits:** 3.00

- PHIL 11400 - Global Moral Issues **Credits:** 3.00
- PHIL 43500 - Philosophy Of Mind **Credits:** 3.00
- POL 22200 - Women, Politics, And Public Policy **Credits:** 3.00
- POL 23500 - International Relations Among Rich And Poor Nations **Credits:** 3.00
- POL 32600 - Black Political Participation In America **Credits:** 3.00
- POL 32700 - Global Green Politics **Credits:** 3.00
- POL 36000 - Women And The Law **Credits:** 3.00
- POL 41300 - Analysis Of Political Attitudes And Behavior **Credits:** 3.00
- POL 42300 - International Environmental Policy **Credits:** 3.00
- POL 42900 - Contemporary Political Problems **Credits:** 3.00
- POL 43300 - International Organization **Credits:** 3.00
- PSY 12000 - Elementary Psychology **Credits:** 3.00
- PUBH 23500 - Stress And Human Health **Credits:** 3.00
- SOC 10000 - Introductory Sociology **Credits:** 3.00
- SOC 31000 - Race And Ethnicity **Credits:** 3.00
- SOC 33900 - Sociology Of Global Development **Credits:** 3.00
- SYS 30000 - It's A Complex World - Addressing Global Challenges **Credits:** 3.00
- TECH 33000 - Technology And The Global Society **Credits:** 3.00
- TLI 11200 - Foundations Of Organizational Leadership **Credits:** 3.00
- TLI 31400 - Leading Innovation In Organizations **Credits:** 3.00
- WGSS 28200 - Introduction To LGBTQ Studies **Credits:** 3.00
- WGSS 38000 - Comparative Studies In Gender And Culture **Credits:** 3.00
- WGSS 38300 - Women, Work, And Labor **Credits:** 3.00
- Any Foreign Language course 20100, 20200, 30100, 30200, 40100, 40200

Other Requirements:

Intercultural Requirement:

1. Complete Intercultural Development Inventory (IDI) Pre-test and Post-Test
2. Complete Beliefs, Events, and Values Inventory (BEVI) Pre-test and Post Test

3. Complete CGT Global Course, Faculty Lead Study Abroad, International Internship, or International Capstone/Collaborative Project

Humanities Requirement (1 required):

1. Participation in Computational Arts Circle

2. Complete courses within major that have Humanities Integrated into their assignments

3. Complete course within major that have partnered with Humanities Professor

4. Complete 2 additional Humanities Courses which would complete the Cornerstone Requirement

Professional Requirement (1 required):

1. Complete an Internship

2. Complete a Co-op

3. Employment during the academic year related to Major Field of Study

4. Complete an in-class internship-like experience created by Major

5. Student Proposed Alternative: must be commensurate with the expectations of Professional Requirements related to Major Field of Study

Change of Major Approved Course Substitutions

CGT 21500

- CS 15900 - C Programming **Credits:** 3.00
  CS 15800 - C Programming
- CS 18000 - Problem Solving And Object-Oriented Programming **Credits:** 4.00

ECON 21000

- AGEC 21700 - Economics **Credits:** 3.00
- ECON 25100 - Microeconomics **Credits:** 3.00
- ECON 25200 - Macroeconomics **Credits:** 3.00

MA 16010

- MA 16100 - Plane Analytic Geometry And Calculus I **Credits:** 5.00
- MA 16200 - Plane Analytic Geometry And Calculus II **Credits:** 5.00
- MA 16500 - Analytic Geometry And Calculus I **Credits:** 4.00

MGMT 45500

- MGMT 25400 - Legal Foundations Of Business I **Credits:** 3.00

PHYS 22000

- PHYS 17200 - Modern Mechanics **Credits:** 4.00
- PHYS 21400 - The Nature Of Physics **Credits:** 3.00
- PHYS 24100 - Electricity And Optics **Credits:** 3.00

SCLA 10100

  ENGL 10100 - English Composition I
  ENGL 10400 - English Composition I
- ENGL 10600 - First Year Composition With Conferences **Credits:** 4.00
- ENGL 10800 - First Year Composition **Credits:** 3.00
- HONR 19903 - Interdisciplinary Approaches In Writing **Credits:** 3.00

SCLA 10200

- COM 11400 - Fundamentals Of Speech Communication **Credits:** 3.00

- COM 21700 - Science Writing And Presentation **Credits:** 3.00

TECH 12000

- ENGR 13100 - Transforming Ideas To Innovation I **Credits:** 2.00 and
- ENGR 13200 - Transforming Ideas To Innovation II **Credits:** 2.00

Technical Electives

- AD 10500 - Design I **Credits:** 3.00
- AD 11300 - Basic Drawing **Credits:** 3.00
- AD 12500 - Introduction To Interior Design **Credits:** 3.00
- AD 21300 - Life Drawing I **Credits:** 3.00
- AD 22700 - History Of Art Since 1400 **Credits:** 3.00
- AD 25500 - Art Appreciation **Credits:** 3.00
- AD 26200 - Jewelry And Metalwork I **Credits:** 3.00
- AD 38300 - Modern Art **Credits:** 3.00

UX 37207

- CGT 49800 - Undergraduate Research In Computer Graphics Technology **Credits:** 1.00 to 3.00
- CGT 51200 - Foundational Readings Of User Experience Design **Credits:** 3.00
- CGT 56200 - Cognition And Human-Computer Interaction **Credits:** 3.00
- CGT 58100 - Workshop In Computer Graphics Technology **Credits:** 0.00 to 8.00
- TECH 39699 - Professional Practice Internship **Credits:** 0.00 to 3.00

Animation and Visual Effects Major Change (CODO) Requirements

Major Change (CODO) Requirements

Purdue students interested in changing their major should meet with their current academic advisor to discuss their options and begin the online process. Once the student's Major Change (CODO) has been processed, students will receive an email with instructions to authorize the change.

Students will need to meet the criteria below to be eligible for this major. A student's catalog term, typically the semester you started at Purdue, will be used to determine the Major Change criteria that applies to you. Students can find their catalog term at the top of their MyPurduePlan below the degree progress bar.

This major change information below is for the catalog term you are currently viewing; see the University Undergraduate Academic Advising Major Change (CODO) website for prior catalog term criteria, more about the major change process and FAQs.

Students changing their major to a space restricted program, as designated by SPACE AVAILABLE BASIS ONLY, need to have their Curricular Change Request (CCR) submitted by their home college/school by 5pm the Thursday of Finals week for requests effective the following term to be considered.

Majors

- **Animation And Visual Effects, BS (ANFX)**
- **Themed Entertainment Design, BS (TEDN)**

General Requirements

- **Minimum Semesters:** 0
- **Minimum Purdue Main Campus Credit Hours (West Lafayette/Indianapolis):** 0
- **Minimum Cumulative GPA:** 2.0

Course Requirements

- n/a

Other Requirements

- Students are accepted for effective terms FALL, SPRING, and SUMMER
- Major is open with no anticipated space restrictions.
- Students must be in good academic standing (not on academic notice)

Advising Website

Purdue Polytechnic Institute Undergraduate Studies College Advisors

Student Next Steps

For additional information on the CGT Department's CODO process, to find out how your courses would count in the CGT program, or for any other relevant information that will assist you in making a wise decision about CODOing, contact a CGT academic advisor.

Biomedical Engineering Supplemental Information

Biomedical Engineering Selectives

Below are the lists of courses approved to fulfill the following requirements in the Biomedical Engineering BS program:

- Life Science Requirements (6 credits)
- Technical Engineering Requirements (15 credits)
- General Education Requirements (21 credits)
- Ethics/Policy Healthcare Requirement (3 credits)

BME Depth Area Selectives (9 credits)

Students are required to select a primary depth area and complete the two required courses as part of their BME undergraduate degree requirements. Students are also required to select a secondary depth area and complete one of the two required courses for that depth area.

- Primary Depth Area I - Credit Hours: 3.00
- Primary Depth Area II - Credit Hours: 3.00
- Secondary Depth Area - Credit Hours: 3.00
  <u>Complete one of the following course sequences:</u>
- BME 31300 - Biofluid Mechanics **Credits:** 3.00 and (BME 31400 or BME 38800)
- BME 33000 - Bioelectricity **Credits:** 3.00 and (ECE 30100 or BME 33100)
- BME 36000 - Introduction To Biomedical Imaging **Credits:** 3.00 and (ECE 30100 or BME 33100)
- BME 35600 - Mathematical Models And Methods In Physiology **Credits:** 3.00 and BME 35700
  Additional Course from the following List (must not already be taken)
  BME 313, BME 314, BME 330, BME 331 (cannot be used if ECE 301 taken), BME 356, BME 357, BME 360, BME 388 and ECE 301 (cannot be used if BME 331 taken).

- BME 31400 - Experimental Methods In Biomechanics **Credits:** 3.00
- BME 33100 - Biosignals And Systems **Credits:** 3.00 (cannot be used if ECE 30100 has been taken)
- BME 35700 - Foundations Of Biomedical Data Science **Credits:** 3.00
- BME 38800 - Applied Biomaterials **Credits:** 3.00
- ECE 30100 - Signals And Systems **Credits:** 3.00

Life Science Selectives (6 credits)

Below are the courses approved by the BME Curriculum Committee.

- Please access myPurdue to confirm the semester courses are offered. They can change due to instructor availability, pre-requisites, and course offering rotation. In some cases an override may have to be requested.
- Only one PUBH course may be used to complete the Life Science Selective requirements.
- AGRY 32000 - Genetics **Credits:** 3.00
- BCHM 30700 - Biochemistry **Credits:** 3.00
- BCHM 42100 - R For Molecular Biosciences **Credits:** 3.00
- BCHM 42200 - Computational Genomics **Credits:** 3.00
- BCHM 43400 - Medical Topics In Biochemistry **Credits:** 3.00
- BCHM 46200 - Metabolism **Credits:** 3.00
- BCHM 53600 - Biological And Structural Aspects Of Drug Design And Action **Credits:** 3.00
- BCHM 56100 - General Biochemistry I **Credits:** 3.00
- BCHM 56200 - General Biochemistry II **Credits:** 3.00
- BIOL 20300 - Human Anatomy And Physiology **Credits:** 4.00
- BIOL 20400 - Human Anatomy And Physiology **Credits:** 4.00
- BIOL 24100 - Bioflogy IV: Genetics And Molecular Biology **Credits:** 3.00
- BIOL 41500 - Introduction To Molecular Biology **Credits:** 3.00
- BIOL 41600 - Viruses And Viral Disease **Credits:** 3.00
- BIOL 42000 - Eukaryotic Cell Biology **Credits:** 3.00
- BIOL 43200 - Reproductive Physiology **Credits:** 3.00
- BIOL 43600 - Neurobiology **Credits:** 3.00
- BIOL 43800 - General Microbiology **Credits:** 3.00
- BIOL 44400 - Human Medical Genetics **Credits:** 3.00
- BIOL 47800 - Introduction To Bioinformatics **Credits:** 3.00

- BIOL 51600 - Molecular Biology Of Cancer **Credits:** 3.00
- BIOL 51700 - Molecular Biology: Proteins **Credits:** 2.00
- BIOL 53300 - Medical Microbiology **Credits:** 3.00
- BIOL 53700 - Immunobiology **Credits:** 3.00
- BIOL 53800 - Molecular, Cellular, And Developmental Neurobiology **Credits:** 3.00
- BIOL 55900 - Endocrinology **Credits:** 3.00
- BIOL 56200 - Neural Systems **Credits:** 3.00
- BIOL 59500 - Special Assignments **Credits:** 0.00 to 18.00 Title: Neurobiol Learning & Memory
- BMS 53400 - Systemic Mammalian Physiology **Credits:** 4.00
- CHM 37200 - Physical Chemistry **Credits:** 4.00
- CHM 37300 - Physical Chemistry I **Credits:** 3.00
- CHM 37400 - Physical Chemistry II **Credits:** 3.00
- CHM 43800 - Introduction To Molecular Biotechnology **Credits:** 3.00
- CHM 57900 - Computational Chemistry **Credits:** 3.00
- HK 30200 - Applied Clinical Anatomy **Credits:** 3.00
- HK 30800 - Athletic Health Care **Credits:** 3.00
- HK 59000 - Special Topics In Health And Kinesiology **Credits:** 1.00 to 3.00 Title: Neuroscience of Mvmnt Disordrs
- HSCI 30500 - Basics Of Oncology **Credits:** 3.00
- HSCI 33300 - Introduction To Immunology **Credits:** 3.00
- HSCI 42000 - Applied Anatomy For Medicine **Credits:** 4.00
- HSCI 53400 - Applied Health Physics **Credits:** 3.00
- HSCI 54700 - Fundamentals Of Epidemiology **Credits:** 3.00
- HSCI 56000 - Toxicology **Credits:** 3.00
- HSCI 57500 - Introduction To Environmental Health **Credits:** 3.00
- IMPH 58300 - Advanced Biopharmaceutics **Credits:** 3.00
- MCMP 57000 - Basic Principles Of Chemical Action On Biological Systems **Credits:** 3.00
- PUBH 40000 - Human Diseases And Disorders **Credits:** 3.00
- PUBH 40500 - Principles Of Epidemiology **Credits:** 3.00
- SLHS 30100 - Introduction To Cognitive Neuroscience **Credits:** 3.00
- SLHS 30200 - Hearing Science **Credits:** 3.00
- SLHS 30300 - Anatomy And Physiology Of The Speech Mechanism **Credits:** 3.00
- SLHS 40600 - Introduction To Neurodegenerative Disorders **Credits:** 3.00
- SLHS 41900 - Topics In Audiology And Speech Pathology **Credits:** 1.00 to 3.00 Titles: End of Life Care and Management; Intro to Hearing Loss
- SLHS 50100 - Neural Bases Of Speech And Hearing **Credits:** 3.00
- SLHS 56100 - Medical Audiology **Credits:** 3.00

Technical Engineering Selectives (15 credits)

Below are the courses approved by the BME Curriculum Committee.

Please access myPurdue to confirm the semester courses are offered. They can change due to instructor availability and course offering rotation. In some cases an override may have to be requested.

BME Technical Engineering Selective Policy:

A total of 15 credit hours must be completed with the following requirements and restrictions:

- One 3-credit hour Quantitative Breadth (QB) course and one 3-credit hour Data Science-focused QB course (cannot be the same course).
- A maximum of six credit hours may be taken at the 300-level.
- At least one 3 credit hour BME course must be taken at the 400-level from the Biomedical Engineering list. This cannot be BME 49800.

- The 400-level BME Technical Engineering Selective course must be successfully completed with a B or above before any 500-level BME course can be taken. This 400-level tech elective must be a 400-level from the Biomedical Engineering curriculum and cannot be BME 49800.

- Only one Regulatory Selective can count toward the Technical Engineering Selective requirement.

- One 3-credit course of the Technical Engineering Selective requirements may be satisfied with any of the following approved mentored experiential learning options (must complete all in the same category):

  3 credits of EPICS (200-level or higher)

  3 credits of VIP (200-level or higher)

  3 credits of BME 49800 research for credit (with restrictions)

- Students enrolling in a BME course cross-listed with another department should register for the BME section on myPurdue
- Any Depth Area course can be taken for Tech Selective credit if not used towards the Depth Area requirement.

Quantitative Breadth Selectives List (6 credits)

Choose one course from the Data Science-Focused Quantitative Breadth (QB) course list, and a second one from either QB list.

Data Science-Focused Quantitative Breadth Courses: (Must choose at least one)

- BME 35700 - Foundations Of Biomedical Data Science **Credits:** 3.00
- BME 40100 - Mathematical & Computational Analysis Of Complex System Dynamics In Biology, Medicine, & Healthcare **Credits:** 3.00
- BME 45000 - Deep Learning For Medical Imaging **Credits:** 3.00
- BME 50100 - Multivariate Analyses In Biostatistics **Credits:** 3.00
- BME 51100 - Biomedical Signal Processing **Credits:** 3.00
- BME 59500 - Selected Topics In Biomedical Engineering **Credits:** 1.00 to 3.00
  • Complex Systs Theory & Appls
- CS 31400 - Numerical Methods **Credits:** 3.00
- CS 35500 - Introduction To Cryptography **Credits:** 3.00
- CS 38100 - Introduction To The Analysis Of Algorithms **Credits:** 3.00
- IE 33500 - Operations Research - Optimization **Credits:** 3.00
- IE 33600 - Operations Research - Stochastic Models **Credits:** 3.00
- STAT 51200 - Applied Regression Analysis **Credits:** 3.00
- STAT 51400 - Design Of Experiments **Credits:** 3.00

Additional Quantitative Breadth Courses:

- ABE 30100 - Modeling And Computational Tools In Biological Engineering **Credits:** 3.00

- ABE 45000 - Computational Modeling And Data Analysis In Agricultural Engineering **Credits:** 3.00
- BME 31300 - Biofluid Mechanics **Credits:** 3.00
- BME 31400 - Experimental Methods In Biomechanics **Credits:** 3.00
- BME 33000 - Bioelectricity **Credits:** 3.00
- BME 33100 - Biosignals And Systems **Credits:** 3.00
- BME 35600 - Mathematical Models And Methods In Physiology **Credits:** 3.00
- BME 36000 - Introduction To Biomedical Imaging **Credits:** 3.00
- BME 38800 - Applied Biomaterials **Credits:** 3.00
- BME 59500 - Selected Topics In Biomedical Engineering **Credits:** 1.00 to 3.00 Title: Continuum Models Biomed Engr
- CHE 45600 - Process Dynamics And Control **Credits:** 3.00
- ECE 30100 - Signals And Systems **Credits:** 3.00
- ECE 30200 - Probabilistic Methods In Electrical And Computer Engineering **Credits:** 3.00
- ECE 30411 - Electromagnetics I **Credits:** 3.00
- IE 53300 - Industrial Applications Of Statistics **Credits:** 3.00
- MA 41600 - Probability **Credits:** 3.00
- ME 30000 - Thermodynamics II **Credits:** 3.00
- ME 30800 - Fluid Mechanics **Credits:** 3.00
- ME 50900 - Intermediate Fluid Mechanics **Credits:** 3.00
- ME 57700 - Human Motion Kinetics **Credits:** 3.00
- NUCL 57000 - Fuzzy Approaches In Engineering **Credits:** 3.00
- STAT 41600 - Probability **Credits:** 3.00

Other Technical Engineering Selectives

- AAE 50700 - Principles Of Dynamics **Credits:** 3.00
- ABE 37000 - Reaction Kinetics In Biological Engineering **Credits:** 3.00
- ABE 44000 - Cell And Molecular Modeling In Biological Engineering **Credits:** 3.00
- BME 46000 - Cardiovascular Mechanical Support And Devices **Credits:** 3.00
- BME 47000 - Biomolecular Engineering **Credits:** 3.00
- BME 49500 - Selected Topics In Biomedical Engineering **Credits:** 1.00 to 4.00 Titles: Gnd Challenges & Accessibility; Smart Healthcare Eng
- BME 52100 - Biosensors: Fundamentals And Applications **Credits:** 3.00
- BME 52800 - Measurement And Stimulation Of The Nervous System **Credits:** 3.00
- BME 43100 - Neural Engineering **Credits:** 3.00
- BME 51500 - Practical MRI And Applications **Credits:** 1.00
- BME 53000 - Imaging Diagnostic Technologies For Medical And Biological Applications **Credits:** 3.00
- BME 54000 - Biomechanics **Credits:** 3.00
- BME 54200 - Cell & Tissue Mechanics **Credits:** 3.00
- BME 55100 - Tissue Engineering **Credits:** 3.00
- BME 55300 - Biomedical Optics **Credits:** 3.00
- BME 55500 - Magnetic Resonance Imaging Theory **Credits:** 3.00
- BME 55600 - Introduction To Clinical Medicine For Engineering Solutions **Credits:** 3.00
- BME 58100 - Bio-Micro-Electro-Mechanical Systems (BioMEMS) & Biomedical Microsystems **Credits:** 3.00
- BME 58300 - Biomaterials **Credits:** 3.00
- BME 59500 - Selected Topics In Biomedical Engineering **Credits:** 1.00 to 3.00
- Bioelectronics

- Biophotonics: Fundamentals

- Deep Learning

- Design Of Mobile Robots

- Electromechanical Robotic Sys

- Functional Neuroimaging

- Healthcare Systems Engineering

- Implantable Medical Devices

- Light Tissue Interactions

- Molecular & Cell Biomechanics

- Neural Mech Health & Disease

- Point Of Care Diagnostics

- Polymeric Biomaterials

- Principles Of Tissue Engr

- Regenerative Biol/Tiss Repair

- CHE 34800 - Chemical Reaction Engineering **Credits:** 4.00
- CHE 52500 - Biochemical Engineering **Credits:** 3.00
- CHE 54400 - Structure And Physical Behavior Of Polymer Systems **Credits:** 3.00
- CS 30700 - Software Engineering I **Credits:** 3.00
- CS 33400 - Fundamentals Of Computer Graphics **Credits:** 3.00
- CS 34800 - Information Systems **Credits:** 3.00
- CS 40800 - Software Testing **Credits:** 3.00
- CS 44800 - Introduction To Relational Database Systems **Credits:** 3.00
- CS 47100 - Introduction To Artificial Intelligence **Credits:** 3.00
- ECE 30010 - Introduction To Machine Learning And Pattern Recognition **Credits:** 3.00
- ECE 30412 - Electromagnetics II **Credits:** 3.00
- ECE 30500 - Semiconductor Devices **Credits:** 3.00
- ECE 32100 - Electromechanical Motion Devices **Credits:** 3.00
- ECE 36200 - Microprocessor Systems And Interfacing **Credits:** 4.00
- ECE 36800 - Data Structures **Credits:** 3.00
- ECE 43800 - Digital Signal Processing With Applications **Credits:** 4.00
- ECE 44100 - Distributed Parameter Systems **Credits:** 3.00
- ECE 45500 - Integrated Circuit Engineering **Credits:** 3.00
- ECE 45600 - Digital Integrated Circuit Analysis And Design **Credits:** 3.00
- ECE 47300 - Introduction To Artificial Intelligence **Credits:** 3.00
- ECE 50653 - Fundamentals Of Nanoelectronics **Credits:** 3.00
- ECE 51100 - Psychophysics **Credits:** 3.00
- HSCI 31200 - Radiation Science Fundamentals **Credits:** 3.00
- HSCI 59000 - Special Topics **Credits:** 1.00 to 8.00 Titles: Advanced MR Imaging; Basics Of ME Spectroscopy
- IE 34300 - Engineering Economics **Credits:** 3.00

- IE 38600 - Work Analysis And Design I **Credits:** 3.00
- IE 47200 - Imagine, Model, Make **Credits:** 3.00
- IE 53000 - Quality Control **Credits:** 3.00
- IE 54600 - Economic Decisions In Engineering **Credits:** 3.00
- IE 55800 - Safety Engineering **Credits:** 3.00
- IE 57700 - Human Factors In Engineering **Credits:** 3.00
- IE 59000 - Topics In Industrial Engineering **Credits:** 1.00 to 6.00 Titles: Assistive Technology Practice; Human Factor & Medical Devices
- MA 34100 - Foundations Of Analysis **Credits:** 3.00
- ME 35200 - Machine Design I **Credits:** 4.00
- ME 36300 - Principles And Practices Of Manufacturing Processes **Credits:** 3.00
- ME 41300 - Noise Control **Credits:** 3.00
- ME 44400 - Compluter-Aided Design And Prototyping **Credits:** 3.00
- ME 48900 - Introduction To Finite Element Analysis **Credits:** 3.00
- ME 50500 - Intermediate Heat Transfer **Credits:** 3.00
- ME 50700 - Laser Processing **Credits:** 3.00
- ME 51300 - Engineering Acoustics **Credits:** 3.00
- ME 55600 - Lubrication, Friction & Wear **Credits:** 3.00
- ME 55900 - Micromechanics Of Materials **Credits:** 3.00
- ME 56200 - Advanced Dynamics **Credits:** 3.00
- ME 58600 - Microprocessors In Electromechanical Systems **Credits:** 3.00
- ME 58800 - Mechatronics - Integrated Design Of Electro-Mechanical Systems **Credits:** 3.00
- MSE 33000 - Processing And Properties Of Materials **Credits:** 3.00
- MSE 38200 - Mechanical Response Of Materials **Credits:** 3.00
- MSE 52700 - Introduction To Biomaterials **Credits:** 3.00
- MSE 56200 - Soft Materials **Credits:** 3.00
- MSE 57600 - Corrosion **Credits:** 3.00
- NUCL 30000 - Nuclear Structure And Radiation Interactions **Credits:** 3.00
- NUCL 47000 - Fuel Cell Engineering **Credits:** 3.00
- NUCL 59700 - Selected Topics In Nuclear Engineering I **Credits:** 1.00 to 3.00 Title: Introduction To Bioelectrics
- STAT 51300 - Statistical Quality Control **Credits:** 3.00
  One 3-credit course of the Technical Engineering Selective requirements may be satisfied with any of the following approved mentored experiential learning options (must complete all in the same category):
- 3 credits of EPICS (200-level or higher)
- 3 credits of BME 49800 research for credit (with restrictions). This cannot be used to satisfy the 400-level BME Technical Elective requirement.

Regulatory Selectives List

Optional. Only one Regulatory Selective can count toward the Technical Engineering Selectives requirements.

- BME 49500 - Selected Topics In Biomedical Engineering **Credits:** 1.00 to 4.00
  • Glbl Perspect On Med Tech Dsgn
- BME 56100 - Preclinical And Clinical Study Design **Credits:** 3.00
- BME 56200 - Regulatory Issues Surrounding Approval Of Biomedical Devices **Credits:** 3.00
- BME 56300 - Quality Systems For Regulatory Compliance **Credits:** 3.00

General Education Selectives (21 credits)

- General Education I - Credit Hours: 3.00
- General Education II - Credit Hours: 3.00
- General Education III - Credit Hours: 3.00
- General Education IV - Credit Hours: 3.00 (C- or better)
- General Education V - Credit Hours: 3.00 (30000+ level/Upper level)
- General Education VI - Credit Hours: 3.00 (30000+ level/Upper level)
- General Education VII - Credit Hours: 3.00

General Education for Written & Oral Communication may be met in First-Year Engineering - Credit Hours: 6.00-7.00

General Education Courses can be used to meet Univeristy Core Requirements.

- BME Undergraduate students must complete 21 credits of general education. General education courses are non-technical courses that provide a broad education necessary to understand the impact of engineering solutions in a global, economic, environmental and societal context.
- Many courses count for both General Education and Univeristy Core Curriculum (UCC) Foundational Learning Outcomes (FLO) but many do not. When choosing courses to fulfill these requirements, students will need to check both the UCC FLO course list and the BME Approved General Education Course List found below.

The following requirements must be met:

- At least 12 credits must be taken inside the College of Liberal Arts, the Krannert School of Management and/or the Honors College.
- At least 6 credits of the general education courses must be at the non-introductory level, meaning they are at the 30000-level or higher, or have a required prerequisite in the same department.
- The remaining courses may be taken from any of the following departments. If a student is unsure about a course counting for their general education requirement, see academic advisor BEFORE taking the course.

Liberal Arts/Management/Honors (12 credits)

At least 12 credits must be taken inside the College of Liberal Arts, the School of Business and/or the Honors College. This includes courses with the following departmental prefixes.

AAS, AD, AMST, ANTH, ARAB, ASAM, ASL, CHNS, CLCS, CMPL, COM, DANC, ECON, ENGL, FR, GER, HEBR, HIST, HONR, ITAL, JPNS, JWST, LALS, LATN, LC, LING, MARS, MGMT, MUS, PHIL, POL, PTGS, REL, RUSS, SCLA, SOC, SPAN, THTR, WGSS

Additional General Education Selectives (9 credits)

An additional 9 credits must be taken from either the departments in the Liberal Arts/Business/Honors list, or from the following additional departments:

AGEC, CSR, EDCI, EDPS, EDST, ENTR, HDFS, PSY, SLHS

General Education No Count List

The following courses may <u>not</u> be used to satisfy any General Education Selectives for the Bachelor of Science in Biomedical Engineering:

- AGEC 29800 - Careers In Agribusiness **Credits:** 1.00

- AGEC 35200 - Quantitative Techniques For Firm Decision Making **Credits:** 3.00
- AGEC 45100 - Applied Econometrics **Credits:** 3.00
- ANTH 30600 - Quantitative Methods For Anthropological Research **Credits:** 3.00
- ANTH 42800 - Field Methods In Archaeology **Credits:** 1.00 to 9.00
- ANTH 43800 - Field Methods In Biological Anthropology **Credits:** 1.00 to 9.00
- ANTH 49700 - Senior Honors Seminar **Credits:** 3.00
- DANC 24500 - Practicum In Dance Performance And Production **Credits:** 1.00 to 2.00
- ECON 37300 - Computational Economics **Credits:** 3.00
- ECON 46300 - Advanced Data Analysis And Machine Learning **Credits:** 3.00
- EDCI 22200 - Knowing The World Through Mathematics **Credits:** 3.00
- EDCI 22550 - Mathematics Education Seminar **Credits:** 1.00
- EDCI 36400 - Mathematics In The Elementary School **Credits:** 3.00
- EDCI 36401 - Teaching Mathematics In K-2 **Credits:** 2.00
- EDCI 36402 - Teaching Mathematics In Grades 3-6 **Credits:** 2.00
- EDCI 36500 - Science In The Elementary School **Credits:** 3.00
- EDCI 36501 - Teaching Science Through Design In Grades K-2 **Credits:** 2.00
- EDCI 36502 - Teaching Science Through Design In Grades 3-6 **Credits:** 2.00
- EDCI 42100 - The Teaching Of Biology In Secondary Schools **Credits:** 3.00
- EDCI 42400 - The Teaching Of Earth And Physical Science In The Secondary Schools **Credits:** 3.00
- EDCI 42500 - Teaching Of Secondary Mathematics - Methods I **Credits:** 3.00
- EDCI 42600 - Teaching Of Secondary Mathematics - Methods II **Credits:** 3.00
- EDCI 42800 - Teaching Science In The Middle And Junior High School **Credits:** 2.00
- ENGL 11000 - SHOULD BE SCLA **Credits:** 3.00
- ENGL 11100 - SHOULD BE SCLA **Credits:** 3.00
- HDFS 40600 - Mathematics In Preschool And Primary Grades **Credits:** 4.00
- HDFS 40900 - Science In Preschool And Primary Grades **Credits:** 3.00
- MGMT 38800 - Python For Business **Credits:** 3.00
- MGMT 47400 - Predictive Analytics **Credits:** 3.00
- MGMT 47500 - Machine Learning For Business **Credits:** 3.00
- PSY 20100 - Introduction To Statistics In Psychology **Credits:** 3.00
- PSY 20300 - Introduction To Research Methods In Psychology **Credits:** 3.00
- PSY 30500 - Understanding And Analyzing Psychological Data **Credits:** 3.00
- PSY 30600 - Understanding And Analyzing Experiments **Credits:** 3.00
- PSY 39000 - Research Experience In Psychology **Credits:** 1.00 to 3.00
- SOC 38200 - Introduction To Statistics In Sociology **Credits:** 3.00
- SOC 38300 - Introduction To Research Methods In Sociology **Credits:** 3.00
- SLHS 30200 - Hearing Science **Credits:** 3.00
- SLHS 30300 - Anatomy And Physiology Of The Speech Mechanism **Credits:** 3.00
- SLHS 41900 - Topics In Audiology And Speech Pathology **Credits:** 1.00 to 3.00
- SLHS 50100 - Neural Bases Of Speech And Hearing **Credits:** 3.00
- SLHS 56100 - Medical Audiology **Credits:** 3.00
- SLHS 30100 - Introduction To Cognitive Neuroscience **Credits:** 3.00

Ethics and Policy Healthcare Requirement (3 credits)

BME students must complete at least 3 credits (earning a C- or better) addressing ethical and policy issues in healthcare and medicine. It is important that our students have an awareness of societal, regulatory, policy, and ethical

considerations that influence healthcare and medicine. Thus, we require our students to take at least one course that advances their knowledge in this area.

Course(s) taken to fulfill this requirement cannot also count towards the General Education Requirement.

- ANTH 34000 - Global Perspectives On Health **Credits:** 3.00
- BME 56400 - Ethical Engineering Of Medical Technologies **Credits:** 3.00
- PHIL 20700 - Ethics For Technology, Engineering, And Design **Credits:** 3.00
- PHIL 27000 - Biomedical Ethics **Credits:** 3.00
- PHIL 28000 - Ethics And Animals **Credits:** 3.00
- PSY 58100 - Neuroethics **Credits:** 3.00
- SOC 57200 - Comparative Healthcare Systems **Credits:** 3.00
- SOC 57300 - The Human Side Of Medicine **Credits:** 3.00
- SOC 57400 - The Social Organization Of Healthcare **Credits:** 3.00

Electrical Engineering Technology Supplemental Information

ECET Electives (12 credits)

Please note that not all ECET Electives are offered every year.

- ECET 30201 - Introduction To Industrial Controls **Credits:** 3.00
- ECET 31800 - Foundations Of Audio Electronics **Credits:** 3.00
- ECET 32100 - Introduction To Nanotechnology **Credits:** 3.00
- ECET 32300 - Introduction To Electric Vehicle Systems **Credits:** 3.00
- ECET 32700 - Instrumentation And Data Acquisition Design **Credits:** 3.00
- ECET 32900 - Advanced Embedded Digital Systems **Credits:** 3.00
- ECET 33300 - Power Electronics In Energy Systems **Credits:** 3.00
- ECET 33500 - Computer Architecture And Performance Evaluation **Credits:** 3.00
- ECET 33700 - Continuous Systems Analysis And Design **Credits:** 3.00
- ECET 33900 - Digital Signal Processing **Credits:** 3.00
- ECET 34900 - Advanced Digital Systems **Credits:** 3.00
- ECET 35901 - Computer Based Data Acquisition Applications **Credits:** 3.00
- ECET 36400 - Fundamentals Of Electromagnetics **Credits:** 3.00
- ECET 36900 - Applied Computer Vision For Sensing And Automation **Credits:** 3.00
- ECET 37201 - Continuous Control Electronics **Credits:** 3.00
- ECET 37300 - Applied Electronic Drives **Credits:** 3.00
- ECET 38600 - Building Electrical Codes And Standard Practices **Credits:** 3.00
- ECET 38800 - Analog IC Applications **Credits:** 3.00
- ECET 42301 - Electrical Vehicle Integration And Fabrication **Credits:** 3.00
- ECET 42800 - Audio Electronics-Selected Topics **Credits:** 3.00
- ECET 43600 - Electrical Power Transmissions, Distribution, And Smart Control **Credits:** 3.00
- ECET 43900 - Advanced Digital Signal Processing **Credits:** 3.00
- ECET 44200 - Programming Robots With ROS **Credits:** 3.00
- ECET 44400 - Wireless Systems: Design And Measurement **Credits:** 3.00
- ECET 47600 - Smart Grid Technology And Applications **Credits:** 3.00

Advanced Analysis Selectives (3 credits)

- ECET 33700 - Continuous Systems Analysis And Design **Credits:** 3.00
- ECET 33900 - Digital Signal Processing **Credits:** 3.00

Senior Capstone I & II Selectives (6 credits)

Select one pair of Senior Capstone I and II Selectives. Senior Capstone Selectives I and II must be taken in consecutive semesters to count toward degree requirements.

- ENGT 48000 - Engineering Technology Capstone I **Credits:** 3.00 and
- ENGT 48100 - Engineering Technology Capstone II **Credits:** 3.00

  or

- ECET 43000 - Electrical And Electronic Product And Program Management **Credits:** 3.00 and
- ECET 46000 - Project Design And Development **Credits:** 3.00

  or

- ECET 43100 - International Capstone Project Planning And Design **Credits:** 3.00 and
- ECET 46100 - International Capstone Project Execution **Credits:** 3.00

Applied Calculus I Selective (3 credits)

- MA 16010 - Applied Calculus I **Credits:** 3.00 (preferred)
- MA 16100 - Plane Analytic Geometry And Calculus I **Credits:** 5.00
- MA 16500 - Analytic Geometry And Calculus I **Credits:** 4.00

Applied Calculus II Selective (3 credits)

- MA 16020 - Applied Calculus II **Credits:** 3.00 (preferred)
- MA 16200 - Plane Analytic Geometry And Calculus II **Credits:** 5.00
- MA 16600 - Analytic Geometry And Calculus II **Credits:** 4.00

Introduction to C Programming Selective (3 credits)

- CNIT 10500 - Introduction To C Programming **Credits:** 3.00 (preferred)
- CS 15900 - C Programming **Credits:** 3.00

General Physics I Selective (4 credits)

- PHYS 22000 - General Physics **Credits:** 4.00 (preferred)
- PHYS 17200 - Modern Mechanics **Credits:** 4.00

General Physics II Selective (4 credits)

- PHYS 22100 - General Physics **Credits:** 4.00 (preferred)
- PHYS 24100 - Electricity And Optics **Credits:** 3.00
- PHYS 27200 - Electric And Magnetic Interactions **Credits:** 4.00

Statistics Selective (3 credits)

- STAT 22500 - Introduction To Probability Models **Credits:** 3.00 (preferred)
- STAT 30100 - Elementary Statistical Methods **Credits:** 3.00

English Composition Selective (3 credits)

- ENGL 10600 - First Year Composition With Conferences **Credits:** 4.00
- ENGL 10800 - First Year Composition **Credits:** 3.00
- HONR 19903 - Interdisciplinary Approaches In Writing **Credits:** 3.00
- SCLA 10100 - Transformative Texts, Critical Thinking And Communication I: Antiquity To Modernity **Credits:** 3.00

Written Communication Selective (3 credits)

- ENGL 20500 - Introduction To Creative Writing **Credits:** 3.00
- ENGL 30400 - Advanced Composition **Credits:** 3.00
- ENGL 42000 - Business Writing **Credits:** 3.00
- ENGL 42100 - Technical Writing **Credits:** 3.00
- ENGL 42400 - Writing For High Technology Industries **Credits:** 3.00

Freshman Speech Selective (3 credits)

- COM 11400 - Fundamentals Of Speech Communication **Credits:** 3.00
- SCLA 10200 - Transformative Texts, Critical Thinking And Communication II: Modern World **Credits:** 3.00

Oral Communication Selective (3 credits)

- Any communication (COM) course at the 20000 level or higher.

Business Selective (3 credits)

Select 3 hours in one of the disciplines listed below, or any of the designated courses, subject to the following conditions:

- The course must be from the UCC approved list of Human Culture: Behavioral/Social Sciences, unless the student selects a General Education Selective, which meets the Human Culture: Behavioral/Social Sciences requirement for core.
- Any Agricultural Economics course (AGEC) at the 200-level or higher
- Any Economics (ECON) course at the 200-level or higher
- Any Entrepreneurship (ENTR) course at the 200-level or higher
- Any Management (MGMT) course at the 200-level or higher
- Or select one of the following courses:

- AGEC 20300 - Introductory Microeconomics For Food And Agribusiness **Credits:** 3.00
- AGEC 20400 - Introduction To Resource Economics And Environmental Policy **Credits:** 3.00
- AGEC 21700 - Economics **Credits:** 3.00
- AGEC 25000 - Economic Geography Of World Food And Resources **Credits:** 3.00
- CSR 34200 - Personal Finance **Credits:** 3.00
- ECON 21000 - Principles Of Economics **Credits:** 3.00
- ECON 25100 - Microeconomics **Credits:** 3.00
- ECON 25200 - Macroeconomics **Credits:** 3.00
- TLI 11200 - Foundations Of Organizational Leadership **Credits:** 3.00
- TLI 15200 - Business Principles For Organizational Leadership **Credits:** 3.00
- TLI 21300 - Project Management **Credits:** 3.00
- IET 21400 - Introduction To Supply Chain Management Technology **Credits:** 3.00
- IET 34200 - Warehouse And Inventory Management **Credits:** 3.00
- IET 34300 - Technical And Service Selling **Credits:** 3.00

General Education Selectives (12 credits)

Select 12 hours in one or more of the subject areas (disciplines) listed below, subject to the following conditions:

Foreign languages (except for courses in a student's native language); African American Studies (AAS); Art and Design (AD); American Studies (AMST); Anthropology (ANTH); Asian American Studies (ASAM); American Sign language (ASL); Bands (BAND); Classics (CLCS); Comparative Literature (CMPL); Communication (COM); Economics (ECON); English (ENGL); History (HIST); Interdisciplinary Studies (IDIS); Linguistics (LING); Music History and Theory (MUS); Philosophy (PHIL); Political Science (POL); Psychology (PSY); Religious Studies (REL); Sociology (SOC); Theater (THTR); Women's Studies (WGSS); ROTC (AFT, MSL, NS)

- One course must be from the UCC approved list of Human Culture: Humanities.
- One course must be from the UCC approved list of Human Culture: Behavioral/Social Sciences, unless the student selects a Business Selective, which meets the Human Culture: Behavioral/Social Sciences requirement for core.
- Only one of AGEC 21700 Economics and ECON 21000 Principles of Economics can be applied to the Plan of Study.
- BAND courses are limited to 6 hours.

Industrial Economics Selective (3 credits)

- IET 33400 - Economic Analysis For Technology Systems **Credits:** 3.00
- MGMT 20000 - Introductory Accounting **Credits:** 3.00
- MGMT 21200 - Business Accounting **Credits:** 3.00
- AGEC 33000 - Management Methods For Agricultural Business **Credits:** 3.00
- AGEC 35200 - Quantitative Techniques For Firm Decision Making **Credits:** 3.00

Technical Selectives (9 credits)

- ECET: ECET 29900 and other lab assistant courses are limited to 3 credit hours.
- College of Engineering: ME 29700 and Engineering Projects in Community Service (EPICS) are each limited to 3 credit hours. First Year Engineering (ENGR) courses cannot be used.
- Purdue Polytechnic Institute: CNIT 13600 and CNIT 15501 cannot be used.

- College of Science: Additional lab-based physics (PHYS), chemistry (CHM) and biology (BIOL) courses; computer Science (CS) courses; and higher-level mathematics (MA) courses: MA 26100, MA 26500, and MA 26600. CS 11000, CS 23500, CS 15900 cannot be used.
- College of Liberal Arts: Up to 9 hours of THTR 25300, THTR 35300, THTR 55300, FVS 26100, FVS 33200, FVS 33700, or FVS 33800.
- ECET Co-op sessions 1, 2 and 3 with seminar
- ECET 49900 - Electrical Engineering Technology **Credits:** 1.00 to 9.00
  Sust Engy Tech: Intl Perspectv Purdue In Germany

Global / Professional Selective (3 credits)

- COM 30300 - Intercultural Communication **Credits:** 3.00
- ECET 38001 - Global Professional Issues In Engineering Technology **Credits:** 3.00
- EDPS 31500 - Collaborative Leadership: Interpersonal Skills **Credits:** 3.00
- EDPS 31600 - Collaborative Leadership: Cross-Cultural Settings **Credits:** 3.00
- OLS 34600 - Critical Thinking And Ethics **Credits:** 3.00
- OLS 38600 - Leadership For Organizational Change **Credits:** 3.00
- PSY 33500 - Stereotyping And Prejudice **Credits:** 3.00
- TECH 32000 - Technology And The Organization **Credits:** 3.00
- TECH 33000 - Technology And The Global Society **Credits:** 3.00
- TLI 21300 - Project Management **Credits:** 3.00

Elective (3 credits)

Any non-remedial course.

Minors

Minors are offered through a variety of disciplines. The discipline offering the minor establishes the requirement. A minor is not required.

The Electrical Engineering Technology minor cannot be added to this major.

Double Majors within the Electrical Engineering Technology Program

Within the PIECET-BS Program, double majors of AUET or CEGT or ENET are allowed without restriction. A double major with EETC requires an additional 12 hours of ECET courses. The additional courses will fulfill the EETC major for the purposes of double majors. The additional courses have the following restrictions:

- No 100-level course may be used.
- Only three (3) credits of a 200-level course may be used, excluding: ECET 22400 Electronic Systems, ECET 29000 International Experience and ECET 29900 Selected EET Subjects, which may not be used.
- All courses must be taken on the PWL and/or PSW campuses.

Professional Requirement

The SOET Professional Experience requirement is intended to document those experiences which help expose SOET students to the expectations of their professional prior to graduation. This may occur through industrial experience, technical or administrative involvement with community service, military service, et cetera. Approval has been granted for the following experiences. Additional experiences may also satisfy this graduation requirement. Requests for approval should be submitted to the SOET Curriculum Subcommittee Chair for consideration, allowing at least four academic weeks for review and response.

Table 1: Approved Professional Experiences

Approval by	Experience
Automatic	Any TECH Professional Practice course (co-op, intern, etc.)
Automatic	MET 29900 Internship for Credit
Automatic	EPICS courses, minimum of two
Advisor	Any approved internship (assuming student and/or employer provide documentation)
Advisor	Military service (ROTC completion, reservist, active duty, veteran)
Faculty	Supervised undergraduate research experiences or laboratory assistantships (e.g., employed in the AEL as lab technician)
Faculty	Independent study - by petition to ensure the project meets the spirit of the requirement
Faculty	Professional society/club activities (e.g., led the Solar Racing team) - by petition
Faculty	Any approved employment or industry project.

*Approval Key:

- Automatic - student participation in this professional experience is already documented through existing means.
- Advisor - advisor reviews student's experience to determine if it meets the spirit of the Professional Experience requirement.
- Faculty - designated committee reviews student's experience to determine if it meets the spirit of the Professional Experience requirement.

Intercultural Requirement

Step 1: Complete the Pre-test Intercultural Development Inventory Assessments (1st year)

Step 2: Complete one (1) of the following global experiences:*

- Participate in A Purdue University international capstone, collaborative project, or
- Participate in an international internship (international location), or
- Participate in a full semester abroad program program, or
- Complete 3 credit hours from the Polytechnic list of recommended Global/Cultural courses.

Step 3: Complete the Post-test Intercultural Development Inventory Assessments (4th year)

NOTE FOR TRANSFER/CODO STUDENTS: Transfer and CODO students with less than 75 credit hours remaining to completed their Polytechnic Plan of Study are exempt from Step 1 (taking the IDI Pre-test).

*Global experiences must take place during the time of enrollment in Polytechnic to complete Step 2. Experiences taken place prior to a student's initial enrollment will not serve to complete Step 2. Intercultural competencies gained on experiences prior to Polytechnic enrollment will be captured as baseline data on a student's IDI.

Approved Global/Cultural Course List for Intercultural Requirement

Interior Architecture Major Change (CODO) Requirements

Major Change (CODO) Requirements

Purdue students interested in changing their major should meet with their current academic advisor to discuss their options and begin the online process. Once the student's Major Change (CODO) has been processed, students will receive an email with instructions to authorize the change.

Students will need to meet the criteria below to be eligible for this major. A student's catalog term, typically the semester you started at Purdue, will be used to determine the Major Change criteria that applies to you. Students can find their catalog term at the top of their MyPurduePlan below the degree progress bar.

This major change information below is for the catalog term you are currently viewing; see the University Undergraduate Academic Advising Major Change (CODO) website for prior catalog term criteria, more about the major change process and FAQs.

Students changing their major to a space restricted program, as designated by SPACE AVAILABLE BASIS ONLY, need to have their Curricular Change Request (CCR) submitted by their home college/school by 5pm the Thursday of Finals week for requests effective the following term to be considered.

Majors

- **Interior Architecture, BS (Indianapolis Only) (IARC)**

General Requirements

- **Minimum Semesters at Purdue West Lafayette:** 0
- **Minimum Purdue Main Campus Credit Hours (West Lafayette/Indianapolis):** 0
- **Minimum Cumulative GPA:** 2.0

Course Requirements

- n/a

Other Requirements

- Students are accepted for effective terms FALL, SPRING, and SUMMER
- Students are admitted on a SPACE AVAILABLE BASIS ONLY. Space is limited.
- Students must be in good academic standing (not on academic notice)

Advising Website

Student Next Steps

Students can email an advisor and will be sent an invite through BoilerConnect to make an appointment.

Mechanical Engineering Technology Supplemental Information

Computer Graphics Technology Selective

- CGT 11000 - Technical Graphics Communications **Credits:** 3.00
- ENGT 10500 - Industrial Technology Introduction To Design **Credits:** 3.00
- MFET 10301 - Geometric Modeling Applications **Credits:** 3.00
- MFET 16300 - Graphical Communication And Spatial Analysis **Credits:** 2.00

Freshman Composition Selective +

- ENGL 10600 - First Year Composition With Conferences **Credits:** 4.00
- ENGL 10800 - First Year Composition **Credits:** 3.00
- HONR 19903 - Interdisciplinary Approaches In Writing **Credits:** 3.00
- SCLA 10100 - Transformative Texts, Critical Thinking And Communication I: Antiquity To Modernity **Credits:** 3.00

Freshman Speech Selective +

- COM 11400 - Fundamentals Of Speech Communication **Credits:** 3.00
- SCLA 10200 - Transformative Texts, Critical Thinking And Communication II: Modern World **Credits:** 3.00

Economics/Finance Selective

- AGEC 21700 - Economics **Credits:** 3.00
- CSR 34200 - Personal Finance **Credits:** 3.00
- ECON 21000 - Principles Of Economics **Credits:** 3.00
- ECON 25100 - Microeconomics **Credits:** 3.00
- ECON 25200 - Macroeconomics **Credits:** 3.00
- ENTR 20000 - Introduction To Entrepreneurship And Innovation **Credits:** 3.00

Communications Selective +

- COM 31500 - Speech Communication Of Technical Information **Credits:** 3.00
- COM 32000 - Small Group Communication **Credits:** 3.00
- COM 41500 - Discussion Of Technical Problems **Credits:** 3.00
- EDPS 31500 - Collaborative Leadership: Interpersonal Skills **Credits:** 3.00

Technical Writing Selective +

- ENGL 42000 - Business Writing **Credits:** 3.00
- ENGL 42100 - Technical Writing **Credits:** 3.00
- ENGL 42400 - Writing For High Technology Industries **Credits:** 3.00

Programming Selective

- CNIT 10500 - Introduction To C Programming **Credits:** 3.00
- CNIT 15500 - Introduction To Object-Oriented Programming **Credits:** 3.00
- CNIT 15501 - Introduction To Software Development Concepts **Credits:** 3.00
- CNIT 17500 - Visual Programming **Credits:** 3.00
- CS 15900 - C Programming **Credits:** 3.00
- CS 17700 - Programming With Multimedia Objects **Credits:** 4.00
- CS 18000 - Problem Solving And Object-Oriented Programming **Credits:** 4.00
- MET 16400 - Computing In Engineering Technology **Credits:** 3.00

Technical Selective

- A 300-400 level ENGR, ECET, MFET, CS or elective IET course (excluding MFET 30000).
- A CHM, MA, PHYS, or STAT course beyond what is required.
- Any MET elective course.
- Any MFET 200 level lab-based course.
- Purdue 3- session co-op with completed seminar courses.
- ANSC 23000 - Physiology Of Domestic Animals **Credits:** 4.00
- AT 27200 - Introduction To Composite Technology **Credits:** 3.00
- AT 27800 - Nondestructive Testing For Aircraft **Credits:** 3.00
- BCHM 22100 - Analytical Biochemistry **Credits:** 3.00
- BIOL 20300 - Human Anatomy And Physiology **Credits:** 4.00
- BIOL 22100 - Introduction To Microbiology **Credits:** 4.00
- CE 35000 - Introduction To Environmental And Ecological Engineering **Credits:** 3.00
- CE 35500 - Engineering Environmental Sustainability **Credits:** 3.00
- CM 23301 - Mechanical, Electrical And Piping Systems In The Built Environment **Credits:** 3.00
- ECET 22700 - DC And Pulse Electronics **Credits:** 3.00
- ECET 27700 - AC And Power Electronics **Credits:** 3.00
- ECET 27900 - Embedded Digital Systems **Credits:** 3.00
- FNR 31110 - Identification And Basic Properties Of Wood **Credits:** 3.00
- FNR 41800 - Properties Of Wood Related To Manufacturing **Credits:** 3.00
- FNR 41910 - Furniture Product Development And Strength Design **Credits:** 3.00
- FNR 42500 - Secondary Wood Products Manufacturing **Credits:** 3.00
- HSCI 31200 - Radiation Science Fundamentals **Credits:** 3.00
- IE 57700 - Human Factors In Engineering **Credits:** 3.00
- MA 15800 - Precalculus - Functions And Trigonometry **Credits:** 3.00
- MFET 11301 - Product Data Management **Credits:** 3.00
- MFET 28800 - Smart Manufacturing Operational And Information Networks **Credits:** 3.00
- MFET 30301 - Digital Manufacturing **Credits:** 3.00

- NS 35000 - Naval Ship Systems-Engineering **Credits:** 3.00
- TECH 22000 - Designing Technology For People **Credits:** 3.00
- TECH 34000 - Prototyping Technology For People **Credits:** 3.00
- TLI 36700 - Teaching Design And Innovation I **Credits:** 3.00
- TLI 46000 - Teaching Design And Innovation II **Credits:** 3.00

Management Selective

A management selective course is required. If ECET 38001, EDPS 31600, MFET 35800, MGMT 45500 or OLS 46500 is the Global/Professional selective than a Techical Selective is allowed.

- AFT 35100 - Leading People And Effective Communication I **Credits:** 3.00
- AFT 36100 - Leading People And Effective Communication II **Credits:** 3.00
- ECET 38001 - Global Professional Issues In Engineering Technology **Credits:** 3.00
- EDPS 31500 - Collaborative Leadership: Interpersonal Skills **Credits:** 3.00
- EDPS 31600 - Collaborative Leadership: Cross-Cultural Settings **Credits:** 3.00
- EDPS 31700 - Collaborative Leadership: Mentoring **Credits:** 3.00
- ENTR 31000 - Marketing And Management For New Ventures **Credits:** 3.00
- ENTR 31500 - Business Planning For Social Entrepreneurship **Credits:** 3.00
- IET 41400 - Financial Analysis For Technology Systems **Credits:** 3.00
- MFET 35800 - Smart Manufacturing And The Global Economy **Credits:** 3.00
- MGMT 20000 - Introductory Accounting **Credits:** 3.00
- MGMT 20100 - Management Accounting I **Credits:** 3.00
- MGMT 21200 - Business Accounting **Credits:** 3.00
- MGMT 45500 - Legal Background For Business I **Credits:** 3.00
- MSL 20200 - Army Doctrine And Decision Making **Credits:** 2.00 to 3.00
- MSL 30100 - Training Management And The Warfighting Function **Credits:** 3.00 to 4.00
- MSL 40100 - The Army Officer **Credits:** 3.00 to 4.00
- NS 21400 - Naval Leadership And Management **Credits:** 3.00
- NS 41300 - Naval Leadership And Ethics **Credits:** 3.00
- OLS 27400 - Applied Leadership **Credits:** 3.00
- OLS 36400 - Professional Development Program **Credits:** 3.00
- OLS 38600 - Leadership For Organizational Change **Credits:** 3.00
- OLS 45600 - Leadership In A Global Environment **Credits:** 3.00
- PSY 27200 - Introduction To Industrial-Organizational Psychology **Credits:** 3.00
- TLI 11200 - Foundations Of Organizational Leadership **Credits:** 3.00
- TLI 15200 - Business Principles For Organizational Leadership **Credits:** 3.00
- TLI 21300 - Project Management **Credits:** 3.00

MET Elective (9 credit hours)

* 5 session co-op with completed seminar courses.
- MET 30200 - CAD In The Enterprise **Credits:** 3.00
- MET 31100 - Experimental Strength Of Materials **Credits:** 3.00
- MET 31300 - Applied Fluid Mechanics **Credits:** 3.00
- MET 31500 - Applied Mechanism Kinematics And Dynamics **Credits:** 3.00
- MET 31601 - Mechanics Of Machine Design **Credits:** 3.00

- MET 31700 - Machine Diagnostics **Credits:** 3.00
- MET 31800 - Applied Room Acoustics **Credits:** 3.00
- MET 33400 - Advanced Fluid Power **Credits:** 3.00
- MET 34600 - Advanced Materials In Manufacturing **Credits:** 3.00
- MET 34900 - Stringed Instrument Design And Manufacture **Credits:** 3.00
- MET 37900 - Introduction To Aerospace Technology **Credits:** 3.00
- MET 38200 - Controls And Instrumentation For Automation **Credits:** 3.00
- MET 40000 - Mechanical Design **Credits:** 3.00
- MET 41100 - Introduction To The Finite Element Method **Credits:** 3.00
- MET 42100 - Air Conditioning And Refrigeration **Credits:** 3.00
- MET 42200 - Power Plants And Energy Conversion **Credits:** 3.00
- MET 42600 - Internal Combustion Engines **Credits:** 3.00
- MET 43200 - Hydraulic Motion Control Systems **Credits:** 3.00
- MET 43600 - Pneumatic Motion Control Systems **Credits:** 3.00
- MET 44301 - Joining Processes **Credits:** 3.00
- MET 44500 - Applied Metalcasting **Credits:** 3.00
- MET 45100 - Manufacturing Quality Control **Credits:** 3.00
- MET 45200 - Advanced GD&T Concepts Applied To Product Quality **Credits:** 3.00
- MET 48200 - Mechatronics **Credits:** 3.00
- MET 49000 - Special Topics In MET **Credits:** 1.00 to 3.00
- MET 49900 - Mechanical Engineering Technology **Credits:** 1.00 to 6.00
  - Independent Study

Global/Professional Selective

- AFT 47100 - National Security/Commissioning Preparation I **Credits:** 3.00
- AFT 48100 - National Security/Commissioning Preparation II **Credits:** 3.00
- ANTH 20500 - Human Cultural Diversity **Credits:** 3.00
- ANTH 34100 - Culture And Personality **Credits:** 3.00
- ARAB 28000 - Arabic Culture **Credits:** 3.00
- CHNS 28000 - Topics In Chinese Civilization And Culture **Credits:** 3.00
- COM 22400 - Communicating In The Global Workplace **Credits:** 3.00
- COM 30300 - Intercultural Communication **Credits:** 3.00
- ECET 38001 - Global Professional Issues In Engineering Technology **Credits:** 3.00
- EDPS 10500 - Academic And Career Planning **Credits:** 3.00
- EDPS 31600 - Collaborative Leadership: Cross-Cultural Settings **Credits:** 3.00
- FR 33000 - French Cinema **Credits:** 3.00
- GER 23000 - German Literature In Translation **Credits:** 3.00
- GER 28000 - German Special Topics **Credits:** 3.00 - Beer Brewing in the German Culture
- GER 33000 - German Cinema **Credits:** 3.00
- HIST 30000 - Eve Of Destruction: Global Crises And World Organization In The 20th Century **Credits:** 3.00
- HIST 33300 - Science And Society In Western Civilization I **Credits:** 3.00
- HIST 33400 - Science And Society In Western Civilization II **Credits:** 3.00
- HIST 35000 - Science And Society In The Twentieth Century World **Credits:** 3.00
- JPNS 28000 - Introduction To Modern Japanese Civilization **Credits:** 3.00
- LC 23500 - East Asian Literature In Translation **Credits:** 3.00
- LC 23900 - Women Writers In Translation **Credits:** 3.00

- MFET 35800 - Smart Manufacturing And The Global Economy **Credits:** 3.00
- MGMT 45500 - Legal Background For Business I **Credits:** 3.00
- MSL 30200 - Applied Leadership In Small Unit Operations **Credits:** 3.00 to 4.00
- MUS 37600 - World Music **Credits:** 3.00
- NS 41300 - Naval Leadership And Ethics **Credits:** 3.00
- OLS 45600 - Leadership In A Global Environment **Credits:** 3.00
- PHIL 11400 - Global Moral Issues **Credits:** 3.00
- PHIL 20600 - Introduction To Philosophy Of Religion **Credits:** 3.00
- PHIL 29000 - Environmental Ethics **Credits:** 3.00
- POL 23100 - Introduction To United States Foreign Policy **Credits:** 3.00
- POL 23500 - International Relations Among Rich And Poor Nations **Credits:** 3.00
- PSY 33500 - Stereotyping And Prejudice **Credits:** 3.00
- PTGS 33000 - Brazilian, Portuguese, And African Cinema **Credits:** 3.00
- SCLA 11100 - Language And Cultural Exchange II: Texts And Contexts **Credits:** 3.00
- SOC 31000 - Race And Ethnicity **Credits:** 3.00
- SPAN 23500 - Spanish American Literature In Translation **Credits:** 3.00
- SPAN 33000 - Spanish And Latin American Cinema **Credits:** 3.00
- SYS 30000 - It's A Complex World - Addressing Global Challenges **Credits:** 3.00
  Any foreign language 200 or higher (20100, 20200, 30100, 30200, 40100, 40200).
- TECH 33000 - Technology And The Global Society **Credits:** 3.00
- Approved Study Abroad Course

Intercultural Requirement

Step 1: Complete the Pre-test Intercultural Development Inventory Assessments (1st year)

Step 2: Complete one (1) of the following global experiences:*

- Participate in A Purdue University international capstone, collaborative project, or
- Participate in an international internship (international location), or
- Participate in a full semester abroad program program, or
- Complete 3 credit hours from the Polytechnic list of recommended Global/Cultural courses.

Step 3: Complete the Post-test Intercultural Development Inventory Assessments (4th year)

NOTE FOR TRANSFER/CODO STUDENTS: Transfer and CODO students with less than 75 credit hours remaining to completed their Polytechnic Plan of Study are exempt from Step 1 (taking the IDI Pre-test).

*Global experiences must take place during the time of enrollment in Polytechnic to complete Step 2. Experiences taken place prior to a student's initial enrollment will not serve to complete Step 2. Intercultural competencies gained on experiences prior to Polytechnic enrollment will be captured as baseline data on a student's IDI.

Approved Global/Cultural Course List for Intercultural Requirement

Professional Requirement

The SOET Professional Experience requirement is intended to document those experiences which help expose SOET students to the expectations of their professional prior to graduation. This may occur through industrial experience, technical or administrative involvement with community service, military service, et cetera. Approval has been granted for the following experiences. Additional experiences may also satisfy this graduation requirement. Requests for approval should be submitted to the SOET Curriculum Subcommittee Chair for consideration, allowing at least four academic weeks for review and response.

Table 1: Approved Professional Experiences

Approval by	Experience
Automatic	Any TECH Professional Practice course (co-op, intern, etc.)
Automatic	MET 29900 Internship for Credit
Automatic	EPICS courses, minimum of two
Advisor	Any approved internship (assuming student and/or employer provide documentation)
Advisor	Military service (ROTC completion, reservist, active duty, veteran)
Faculty	Supervised undergraduate research experiences or laboratory assistantships (e.g., employed in the AEL as lab technician)
Faculty	Independent study - by petition to ensure the project meets the spirit of the requirement
Faculty	Professional society/club activities (e.g., led the Solar Racing team) - by petition
Faculty	Any approved employment or industry project

* Approval Key:

- Automatic - student participation in this professional experience is already documented through existing means.

- Advisor - advisor reviews student's experience to determine if it meets the spirit of the Professional Experience requirement.
- Faculty - designated committee reviews student's experience to determine if it meets the spirit of the Professional Experience requirement

Organizational Leadership Major Change (CODO) Requirements

Major Change (CODO) Requirements

Purdue students interested in changing their major should meet with their current academic advisor to discuss their options and begin the online process. Once the student's Major Change (CODO) has been processed, students will receive an email with instructions to authorize the change.

Students will need to meet the criteria below to be eligible for this major. A student's catalog term, typically the semester you started at Purdue, will be used to determine the Major Change criteria that applies to you. Students can find their catalog term at the top of their MyPurduePlan below the degree progress bar.

This major change information below is for the catalog term you are currently viewing; see the University Undergraduate Academic Advising Major Change (CODO) website for prior catalog term criteria, more about the major change process and FAQs.

Students changing their major to a space restricted program, as designated by SPACE AVAILABLE BASIS ONLY, need to have their Curricular Change Request (CCR) submitted by their home college/school by 5pm the Thursday of Finals week for requests effective the following term to be considered.

Majors

- **Organizational Leadership, BS (OLSV)**

General Requirements

- **Minimum Semesters: 1**
- **Minimum Purdue Main Campus Credit Hours (West Lafayette/Indianapolis): 12**
- **Minimum Cumulative GPA: 2.0**

Course Requirements

- n/a

Other Requirements

- Students are accepted for effective terms FALL, SPRING, and SUMMER.
- Major is open with no anticipated space restrictions.
- Students must be in good academic standing (not on academic notice).

Advising Website

Technology, Leadership & Innovation Academic Advisors

Student Next Steps

Highly encouraged to set-up a meeting with a Technology, Leadership & Innovation academic advisor.

Organizational Leadership Supplemental Information

Written Communication Selective (3 credits)

- ENGL 10600 - First Year Composition With Conferences **Credits:** 4.00
- ENGL 10800 - First Year Composition **Credits:** 3.00
- HONR 19903 - Interdisciplinary Approaches In Writing **Credits:** 3.00
- SCLA 10100 - Transformative Texts, Critical Thinking And Communication I: Antiquity To Modernity **Credits:** 3.00

Humanities Foundation Selective (3 credits)

Courses must be from the approved UCC Human Cultures: Humanities list: http://www.purdue.edu/provost/initiatives/curriculum/course.html

Science Selective (6 Credits)

Courses must be from the approved UCC Science list: http://www.purdue.edu/provost/initiatives/curriculum/course.html

Specialization Selective (6 credits)

Any 200+ level Communication (COM) course **or** 200+ level declared minor course.

Globalization Experience (0 credits)

Minimum requirements:

1. Complete the Pre-test Intercultural Development Inventory Assessments (1st year)
2. Complete one (1) of the following global experiences:
     o   Participate in a Purdue University international capstone, collaborative project, or

     o   Participate in an international internship (international location), or

     o   Participate in Faculty-led Study Abroad program, or

     o   Participate in a full semester abroad program, or

     o   Complete 3 credit hours from the Polytechnic list of recommended Global/ Cultural courses.
3. Complete the Post-test Intercultural Development Inventory Assessments (4th year)

NOTE FOR TRANSFER/CODO STUDENTS: Transfer and CODO students with less than 75 credit hours remaining to complete their Polytechnic Plan of Study are exempt from Steps 1 & 3 (taking the IDI Pre & Post-tests) but must complete one option from Step 2.

Post-Baccalaureate Certificate

Hybrid Vehicle Systems ABE, Post Baccalaureate Certificate

Hybrid Vehicle Systems ECE, Post Baccalaureate Certificate

Hybrid Vehicle Systems ME, Post Baccalaureate Certificate

Hybrid Vehicle Systems MSE, Post Baccalaureate Certificate

Project Management, Post Baccalaureate Certificate

Other Degrees

2024-2025 Academic Calendar

This information is for Purdue West Lafayette, Purdue Indianapolis, and Purdue Polytechnic Statewide campuses

	Summer 2024	Fall 2024	Winter 2024	Spring 2025	Summer 2025
Classes/Term Begin	May 13, 2024	August 19, 2024	December 16, 2024	January 13, 2025	May 19, 2025
Last Day to Apply to Graduate/ Declare Candidacy	June 7	September 13		February 7	June 13
Classes End	August 2	December 7	January 3	May 3	August 8
Final Exams		December 9-14		May 5-10	
Term Ends	August 2	December 14		May 10	August 8
Commencements	August 3	December 15		May 16-18	August 9
Fall Break		October 7-8			
Spring Break				March 17-22	
Juneteenth - Class in Session	June 19				June 19
Thanksgiving Break		November 27-30			
Winter Recess		December 26-27 December 30-31			
Memorial Day - University Closed	May 27				May 26
Fourth of July - University Closed	July 4				July 4
Labor Day - University Closed		September 2			
MLK Day - University Closed				January 20	
President's Designated Holiday			December 23		
Christmas Holiday - University Closed			December 24 & 25		
New Year's Day - University Closed			January 1, 2025		

2024-2025 Add/Drop Calendars

Summer 2024 Add/Drop

Fall 2024 Add/Drop

Winter 2024 Add/Drop

Spring 2025 Add/Drop

- Please note the submission date is not the effective date. Your request cannot be processed until all required actions from campus partners are complete. This may affect your refund and/or if your request is canceled for not meeting the university established deadlines.

- All required actions must be completed by 11:59 PM EST on said deadline day
- Information on refunds from the University may be found at the following web site: https://www.purdue.edu/bursar/tuition/refund-withdrawals/policies.php
- Students withdrawing from ALL course assignments after classes have begun should go to myPurdue, Academic tab, and look for Withdraw Information.
- The revision/refund dates on this calendar apply to courses that exactly fit the time frames listed. Courses offered outside of these time frames have their own deadlines (2-week courses, etc.). For assistance, please contact Customer Service at 494 - 6165.

2025-2026 Add/Drop Calendars

Summer 2024 Add/Drop

Fall 2024 Add/Drop

Winter 2024 Add/Drop

Spring 2025 Add/Drop

Summer 2025 Add/Drop

- Please note the submission date is not the effective date. Your request cannot be processed until all required actions from campus partners are complete. This may affect your refund and/or if your request is canceled for not meeting the university established deadlines.
- All required actions must be completed by 11:59 PM EST on said deadline day
- Information on refunds from the University may be found at the following web site: https://www.purdue.edu/bursar/tuition/refund-withdrawals/policies.php
- Students withdrawing from ALL course assignments after classes have begun should go to myPurdue, Academic tab, and look for Withdraw Information.
- The revision/refund dates on this calendar apply to courses that exactly fit the time frames listed. Courses offered outside of these time frames have their own deadlines (2-week courses, etc.). For assistance, please contact Customer Service at 494 - 6165.

Fall 2023 Add/Drop

Please note the submission date is not the effective date. Your request cannot be processed until all required actions from campus partners are complete. This may affect your refund and/or if your request is canceled for not meeting the university established deadlines.

All required actions must be completed by 11:59 PM EST on said deadline day

Information on refunds from the University may be found at the following website: https://www.purdue.edu/treasurer/finance/bursar-office/tuition/refund-and-withdrawals/

Students withdrawing from ALL course assignments after classes have begun should go to myPurdue, Registration tab, and look for Withdraw Information.

The revision/refund dates on this calendar apply to courses that exactly fit the time frames listed. Courses offered outside of these time frames have their own deadlines (2-week courses, etc.). Additional information for these courses can be found by viewing the Short Course Drop/Add Refund Dates here: https://www.purdue.edu/registrar/calendars/index.html

- 16 Weeks / Full term: August 21 - December 16 (79 days)

- 1st 8 Weeks: August 21 - October 17 (39 days)
- 2nd 8 Weeks: October 18 - December 16 (40 days)
- No Classes: September 4 (Labor Day)
- No Classes: October 9-10 (Fall Break)
- No Classes: November 22-25 (Thanksgiving Break)

To ADD or MODIFY a Course

16 Weeks	1st 8 Weeks	2nd 8 Weeks	Authorizations Required
August 21 - August 25 (Week 1)	August 21 - August 22	October 18 - October 19	**(COURSE SPACE AVAILABILITY REQUIRED)** *Students may add courses via the Scheduling Assistant.*
August 26 - October 24 (Weeks 2 - 9)	August 23 - September 1	October 20 - October 31	**Advisor and Instructor** *Submit request via the Scheduling Assistant.*
September 1	August 25	October 24	**Last day to audit and/or request H grade mode.** *Submit change of grade mode to Audit / Honors after officially enrolled.*
August 29	August 29	August 29	Prepayment & $200 Late Registration Fee begins.

To DROP a Course

16 Weeks	1st 8 Weeks	2nd 8 Weeks	Authorizations Required
August 21 - September 1 (Week 1 & 2)	August 21 - August 25	October 18 - October 24	**No Authorizations required (Course not recorded)** *Students may drop courses via the Scheduling Assistant.*
September 2 - November 27 (Weeks 3 - 13)	August 26 - October 4	October 25 - December 6	**Advisor approval required (Course recorded with a grade of "W")** *Submit request via Scheduling Assistant*

REFUND Percentage of Fees & Tuition

16 Weeks	1st 8 Weeks	2nd 8 Weeks	PERCENTAGE
Before August 29	Before August 29	Before October 19	100%
August 29 - September 4	N/A	October 19 - 23	80%
September 5 - 18	August 29 - 30	October 24 - 28	60%
September 19 - October 2	August 31 - September 4	October 29 - November 2	40%

After October 2	After September 4	After November 2	NONE

Fall 2024 Add/Drop

Please note the submission date is not the effective date. Your request cannot be processed until all required actions from campus partners are complete. This may affect your refund and/or if your request is canceled for not meeting the university established deadlines.

All required actions must be completed by 11:59 PM EST on said deadline day

Information on refunds from the University may be found at the following website: https://www.purdue.edu/treasurer/finance/bursar-office/tuition/refund-and-withdrawals/

Students withdrawing from ALL course assignments after classes have begun should go to myPurdue, Registration tab, and look for Withdraw Information.

The revision/refund dates on this calendar apply to courses that exactly fit the time frames listed. Courses offered outside of these time frames have their own deadlines (2-week courses, etc.). Additional information for these courses can be found by viewing the Short Course Drop/Add Refund Dates here: https://www.purdue.edu/registrar/calendars/index.html

- 16 Weeks / Full term: August 19 - December 14 (79 days)
- 1st 8 Weeks: August 19 - October 15 (39 days)
- 2nd 8 Weeks: October 16 - December 14 (40 days)
- No Classes: September 2 (Labor Day)
- No Classes: October 7-8 (Fall Break)
- No Classes: November 27-30 (Thanksgiving Break)

To ADD or MODIFY a Course

16 Weeks	1st 8 Weeks	2nd 8 Weeks	Authorizations Required
August 19 - August 23 (Week 1)	August 19 - August 21	October 16 - October 18	**(COURSE SPACE AVAILABILITY REQUIRED)** *Students may add courses via the Scheduling Assistant.*
August 24 - October 22 (Weeks 2 - 9)	August 22 - September 19	October 19 - November 14	**Advisor and Instructor** *Submit request via the Scheduling Assistant*
August 29	August 22	October 22	**Last day to audit and/or request H grade mode.** *Submit change of grade mode to Audit / Honors after officially enrolled*
August 27	August 27	**October 17**	Prepayment & $200 Late Registration Fee begins.

To DROP a Course

16 Weeks	1st 8 Weeks	2nd 8 Weeks	Authorizations Required
August 19 - August 30 (Week 1 & 2)	August 19 - August 23	October 16 - October 22	**No Authorizations required (Course not recorded)** *Students may drop courses via the Scheduling Assistant.*
August 31 - November 19 (Weeks 3 - 13)	August 24 - October 3	October 23 - December 4	**Advisor approval required (Course recorded with a grade of "W")** *Submit request via Scheduling Assistant*

REFUND Percentage of Fees & Tuition

16 Weeks	1st 8 Weeks	2nd 8 Weeks	PERCENTAGE
Before August 27	Before August 27	Before October 17	100%
August 27 - September 2	N/A	October 17 - October 21	80%
September 3 - September 16	August 27- August 29	October 22 - October 26	60%
September 17 - October 1	August 30 - September 3	October 27 - October 31	40%
After October 1	After September 3	After October 31	NONE

Spring 2024 Add/Drop

Please note the submission date is not the effective date. Your request cannot be processed until all required actions from campus partners are complete. This may affect your refund and/or if your request is canceled for not meeting the university established deadlines.

All required actions must be completed by 11:59 PM EST on said deadline day

Information on refunds from the University may be found at the following website: https://www.purdue.edu/treasurer/finance/bursar-office/tuition/refund-and-withdrawals/

Students withdrawing from ALL course assignments after classes have begun should go to myPurdue, Registration tab, and look for Withdraw Information.

The revision/refund dates on this calendar apply to courses that exactly fit the time frames listed. Courses offered outside of these time frames have their own deadlines (2-week courses, etc.). Additional information for these courses can be found by viewing the Short Course Drop/Add Refund Dates here: https://www.purdue.edu/registrar/calendars/index.html

- 16 Weeks / Full term: January 8 - May 4 (79 days)
- 1st 8 Weeks: January 8 - March 1 (39 days)
- 2nd 8 Weeks: March 4 - May 4 (40 days)
- No Classes: January 15 (MLK Day)
- No Classes: March 11-16 (Spring Break)

To ADD or MODIFY a Course

16 Weeks	1st 8 Weeks	2nd 8 Weeks	Authorizations Required
January 8 - January 12 (Week 1)	January 8 - January 9	March 4 - March 5	**(COURSE SPACE AVAILABILITY REQUIRED)** *Students may add courses via the Scheduling Assistant.*
January 13 - March 8 (Weeks 2 - 9)	January 9 - Febuary 7	March 6 - April 9	**Advisor and Instructor** *Submit request via the Scheduling Assistant.*
January 22	January 12	March 8	**Last day to audit and/or request H grade mode.** *Submit change of grade mode to Audit / Honors after officially enrolled.*

To DROP a Course

16 Weeks	1st 8 Weeks	2nd 8 Weeks	Authorizations Required
January 9 - January 22 (Weeks 1 & 2)	January 8 - January 12	March 4 - March 8	**No Authorizations required (Course not recorded)** *Students may drop courses via the Scheduling Assistant.*
January 23 - April 12 (Weeks 3-13)	January 13 - February 21	March 9 - April 24	**Advisor approval required (Course recorded with a grade of "W")** *Submit request via the Scheduling Assistant.*

REFUND Percentage of Fees & Tuition

16 Weeks	1st 8 Weeks	2nd 8 Weeks	PERCENTAGE
Before January 17	Before January 17	Before March 6	100%
January 17-22	January 17-19	March 6-8	80%
January 23-February 5	January 20-25	March 9-13	60%
February 6-19	January 26-30	March 14-18	40%
After February 19	After January 30	After March 18	NONE

Summer 2023 Add/Drop

- 12 Weeks / Full term: May 15 - August 4 (57 days)
- 1st 8 Weeks: May 15 - July 7 (38 days)
- 2nd 8 Weeks: June 12 - August 4 (39 days)
- 1st 4 Weeks: May 15- June 9 (19 days)
- 2nd 4 Weeks: June 12 - July 7 (19 days)
- 3rd 4 Weeks: July 10 - August 4 (20 days)
- 1st Half Semester: May 1 - June 25 (34 days)

- 2nd Half Semester: June 26 - August 20 (34 days)

To ADD or MODIFY a Course

12 Weeks	1st 8 Weeks	2nd 8 Weeks	1st 4 Weeks	2nd 4 Weeks	3rd 4 Weeks	1st Half Semester	2nd Half Semester	Authorizations Required
May 15 - May 18	May 15	June 12	May 15	June 12	July 10	May 1 - May 2	June 26	**(COURSE SPACE AVAILABILITY REQUIRED)** *Students may add courses via the Scheduling Assistant.*
May 19 - June 5	May 16 - May 26	June 13 - June 23	May 16 - May 19	June 13 - June 16	July 11 - July 14	May 3 - May 12	June 27 - July 10	**Advisor and Instructor** *Submit request via the Scheduling Assistant.*
May 23	May 19	June 16	May 16	June 13	July 12	May 5	June 30	**Last day to audit and/or request H grade mode.** *Submit change of grade mode to Audit / Honors after officially enrolled.*
June 6 - June 29	May 27 - June 13	June 24 - July 12	May 20 - May 30	June 17 - June 26	July 15 - July 24	May 13 - May 31	July 11 - July 26	**Advisor, Instructor, and Head of Department in which the course is listed** *Submit via the Scheduling Assisstant.*
May 19	May 19	June 16	May 19	June 16	July 11	May 19	June 27	**$200 Late Registration Fee Begins**

To DROP a Course

12 Weeks	1st 8 Weeks	2nd 8 Weeks	1st 4 Weeks	2nd 4 Weeks	3rd 4 Weeks	1st Half Semester	2nd Half Semester	Authorizations Required
May 15 - May 23	May 15 - May 19	June 12 - June 16	May 15 - May 16	June 12 - June 13	July 10 - July 12	May 1 - May 5	June 26 - June 30	**No Authorizations required (Course not recorded)** *Students may drop courses via the Scheduling Assisstant.*
May 24 - June 5	May 20 - May 26	June 17 - June 23	May 17 - May 19	June 14 - June 16	July 13 - July 14	May 6 - May 12	July 1 - July 10	**Advisor (Course recorded with a grade of "W")** *Submit request via the Scheduling Assisstant.*
June 6 - June 29	May 27 - June 13	June 24 - July 12	May 20 - May 30	June 17 - June 26	July 15 - July 24	May 13 - May 31	July 11 - July 26	**Advisor, Instructor (Instructor shall indicate whether passing or failing.) Grades of "W", "WF", or "WN" will be recorded. Students with a semester classification of 1 or 2 do not require response from instructor; grades will**

								be "W." Submit via the Scheduling Assisstant.

REFUND Percentage of Fees & Tuition

12 Weeks	1st 8 Weeks	2nd 8 Weeks	1st 4 Weeks	2nd 4 Weeks	3rd 4 Weeks	1st Half Semester	2nd Half Semester	PERCENTAGE
Before May 19	Before May 19	Before June 16	Before May 19	Before June 16	Before July 11	Before May 2	Before June 27	100%
May 19 - May 25	May 19 - May 22	June 16 - June 20	N/A	N/A	July 11 - July 13	May 2 - May 5	June 27 - June 30	80%
May 26 - June 1	May 23 - May 28	June 21 - June 26	May 19 - May 23	June 16 - June 19	July 14 - July 16	May 6 - May 11	July 1 - July 6	60%
June 2 - June 8	May 29 - June 2	June 27 - June 30	May 24 - May 29	June 20 - June 24	July 17 - July 21	May 12 - May 16	July 7 - July 11	40%
After June 8	After June 2	After June 30	After May 29	After June 24	After July 21	After July 21	After July 11	NONE

Summer 2024 Add/Drop

Please note the submission date is not the effective date. Your request cannot be processed until all required actions from campus partners are complete. This may affect your refund and/or if your request is canceled for not meeting the university established deadlines.

All required actions must be completed by 11:59 PM EST on said deadline day

Information on refunds from the University may be found at the following website: https://www.purdue.edu/treasurer/finance/bursar-office/tuition/refund-and-withdrawals/

Students withdrawing from ALL course assignments after classes have begun should go to myPurdue, Registration tab, and look for Withdraw Information.

The revision/refund dates on this calendar apply to courses that exactly fit the time frames listed. Courses offered outside of these time frames have their own deadlines (2-week courses, etc.). Additional information for these courses can be found by viewing the Short Course Drop/Add Refund Dates here: https://www.purdue.edu/registrar/calendars/index.htm

- 12 Weeks / Full term: May 13 - August 2 (58 days)
- 1st 8 Weeks: May 13 - July 5 (38 days)
- 2nd 8 Weeks: June 10 - August 2 (39 days)
- 1st 4 Weeks: May 13 - June 7 (19 days)
- 2nd 4 Weeks: June 10 - July 5 (19 days)
- 3rd 4 Weeks: July 8 - August 2 (20 days)
- 1st Half Semester: Apr 29 - June 23 (39 days)
- 2nd Half Semester: June 24 - August 18 (39 days)

To ADD or MODIFY a Course

12 Weeks	1st 8 Weeks	2nd 8 Weeks	1st 4 Weeks	2nd 4 Weeks	3rd 4 Weeks	1st Half Semester	2nd Half Semester	Authorizations Required
May 13 - May 16	May 13 - May 14	June 10 - June 11	May 13	June 10	July 8	April 29 - April 30	June 24 - June 25	**(COURSE SPACE AVAILABILITY REQUIRED)** *Students may add courses via the Scheduling Assistant.*
May 17 - June 27	May 15 - June 11	June 12 - July 10	May 14 - May 28	June 11 - June 24	July 9 - July 22	May 1 - May 29	June 26 - July 24	**Add/Modify with Advisor and Instructor approval** *Submit request via the Scheduling Assistant.*
May 21	May 17	June 14	May 14	June 11	July 10	May 3	June 28	**Last day to audit and/or request H grade mode.** *Submit change of grade mode to Audit / Honors after officially enrolled.*
May 17	May 17	June 14	May 17	June 14	July 10	May 17	June 25	**$200 Late Registration Fee Begins**

To DROP a Course

12 Weeks	1st 8 Weeks	2nd 8 Weeks	1st 4 Weeks	2nd 4 Weeks	3rd 4 Weeks	1st Half Semester	2nd Half Semester	Authorizations Required
May 13 - May 21	May 13 - May 17	June 10 - June 14	May 13 - May 14	June 10 - June 11	July 8 - July 10	April 29 - May 3	June 24 - June 28	**No Authorizations required (Course not recorded)** *Students may drop courses via the Scheduling Assisstant.*
May 22 - July 18	May 18 - June 25	June 15 - July 24	May 15 - June 3	June 12 - June 28	July 11 - July 29	May 4 - June 12	June 29 - Aug 7	**Advisor (Course recorded with a grade of "W")** *Submit request via the Scheduling Assisstant.*

REFUND Percentage of Fees & Tuition

12 Weeks	1st 8 Weeks	2nd 8 Weeks	1st 4 Weeks	2nd 4 Weeks	3rd 4 Weeks	1st Half Semester	2nd Half Semester	PERCENTAGE
Before May 17	Before May 17	Before June 14	Before May 17	Before June 14	Before July 9	Before April 30	Before June 25	100%
May 17 - May 23	May 17 - May 20	June 14 - June 18	N/A	N/A	July 09 - July 11	Apr 30 - May 2	June 25 - June 28	80%

May 24 - May 31	May 21 - May 26	June 19 - June 24	May 17 - May 21	June 14 - June 17	July 12 - July 13	May 3 - May 8	June 29 - July 4	60%
June 1 - June 7	May 27 - June 1	June 25 - June 29	May 22 - May 27	June 18 - June 22	July 14 - July 18	May 9 - May 13	July 5 - July 9	40%
After June 7	After June 1	After June 29	After May 27	After June 22	After July 18	After May 13	After July 9	NONE

Summer 2025 Add/Drop

Please note the submission date is not the effective date. Your request cannot be processed until all required actions from campus partners are complete. This may affect your refund and/or if your request is canceled for not meeting the university established deadlines.

All required actions must be completed by 11:59 PM EST on said deadline day

Information on refunds from the University may be found at the following website: https://www.purdue.edu/treasurer/finance/bursar-office/tuition/refund-and-withdrawals/

Students withdrawing from ALL course assignments after classes have begun should go to myPurdue, Registration tab, and look for Withdraw Information.

The revision/refund dates on this calendar apply to courses that exactly fit the time frames listed. Courses offered outside of these time frames have their own deadlines (2-week courses, etc.). Additional information for these courses can be found by viewing the Short Course Drop/Add Refund Dates here: https://www.purdue.edu/registrar/calendars/index.htm

- 12 Weeks / Full term: May 13 - August 2 (58 days)
- 1st 8 Weeks: May 13 - July 5 (38 days)
- 2nd 8 Weeks: June 10 - August 2 (39 days)
- 1st 4 Weeks: May 13 - June 7 (19 days)
- 2nd 4 Weeks: June 10 - July 5 (19 days)
- 3rd 4 Weeks: July 8 - August 2 (20 days)
- 1st Half Semester: Apr 29 - June 23 (39 days)
- 2nd Half Semester: June 24 - August 18 (39 days)

To ADD or MODIFY a Course

12 Weeks	1st 8 Weeks	2nd 8 Weeks	1st 4 Weeks	2nd 4 Weeks	3rd 4 Weeks	1st Half Semester	2nd Half Semester	Authorizations Required
May 15 - May 18	May 15	June 12	May 15	June 12	July 10	May 1 - May 2	June 26	**(COURSE SPACE AVAILABILITY REQUIRED)** *Students may add courses via the Scheduling Assistant.*
May 19 - June 5	May 16 - May 26	June 13 - June 23	May 16 - May 19	June 13 - June 16	July 11 - July 14	May 3 - May 12	June 27 - July 10	**Advisor and Instructor** *Submit request via the Scheduling Assistant.*

12 Weeks	1st 8 Weeks	2nd 8 Weeks	1st 4 Weeks	2nd 4 Weeks	3rd 4 Weeks	1st Half Semester	2nd Half Semester	Authorizations Required
May 23	May 19	June 16	May 16	June 13	July 12	May 5	June 30	**Last day to audit and/or request H grade mode.** *Submit change of grade mode to Audit / Honors after officially enrolled.*
June 6 - June 29	May 27 - June 13	June 24 - July 12	May 20 - May 30	June 17 - June 26	July 15 - July 24	May 13 - May 31	July 11 - July 26	**Advisor, Instructor, and Head of Department in which the course is listed** *Submit via the Scheduling Assisstant.*
May 19	May 19	June 16	May 19	June 16	July 11	May 19	June 27	**$200 Late Registration Fee Begins**

To DROP a Course

12 Weeks	1st 8 Weeks	2nd 8 Weeks	1st 4 Weeks	2nd 4 Weeks	3rd 4 Weeks	1st Half Semester	2nd Half Semester	Authorizations Required
May 15 - May 23	May 15 - May 19	June 12 - June 16	May 15 - May 16	June 12 - June 13	July 10 - July 12	May 1 - May 5	June 26 - June 30	**No Authorizations required (Course not recorded)** *Students may drop courses via the Scheduling Assisstant.*
May 24 - June 5	May 20 - May 26	June 17 - June 23	May 17 - May 19	June 14 - June 16	July 13 - July 14	May 6 - May 12	July 1 - July 10	**Advisor (Course recorded with a grade of "W")** *Submit request via the Scheduling Assisstant.*
June 6 - June 29	May 27 - June 13	June 24 - July 12	May 20 - May 30	June 17 - June 26	July 15 - July 24	May 13 - May 31	July 11 - July 26	**Advisor, Instructor (Instructor shall indicate whether passing or failing.) Grades of "W", "WF", or "WN" will be recorded. Students with a semester classification of 1 or 2 do not require response from instructor; grades will be "W."** *Submit via the Scheduling Assisstant.*

REFUND Percentage of Fees & Tuition

12 Weeks	1st 8 Weeks	2nd 8 Weeks	1st 4 Weeks	2nd 4 Weeks	3rd 4 Weeks	1st Half Semester	2nd Half Semester	PERCENTAGE
Before May 19	Before May 19	Before June 16	Before May 19	Before June 16	Before July 11	Before May 2	Before June 27	100%
May 19 - May 25	May 19 - May 22	June 16 - June 20	N/A	N/A	July 11 - July 13	May 2 - May 5	June 27 - June 30	80%

May 26 - June 1	May 23 - May 28	June 21 - June 26	May 19 - May 23	June 16 - June 19	July 14 - July 16	May 6 - May 11	July 1 - July 6	60%
June 2 - June 8	May 29 - June 2	June 27 - June 30	May 24 - May 29	June 20 - June 24	July 17 - July 21	May 12 - May 16	July 7 - July 11	40%
After June 8	After June 2	After June 30	After May 29	After June 24	After July 21	After July 21	After July 11	NONE

Winter 2024 Add/Drop

Please note the submission date is not the effective date. Your request cannot be processed until all required actions from campus partners are complete. This may affect your refund and/or if your request is canceled for not meeting the university established deadlines.

All required actions must be completed by 11:59 PM EST on said deadline day

Information on refunds from the University may be found at the following website: https://www.purdue.edu/treasurer/finance/bursar-office/tuition/refund-and-withdrawals/

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- 3 Weeks / Full term: December 16 - January 3 (10 days)
- No Classes: December 23 (President's Designated Holiday)
- No Classes: December 24-25 (Christmas Holiday)
- No Classes: January 1 (New Year's Day)

To ADD or MODIFY a Course

3 Weeks	Authorizations Required
December 16	**(COURSE SPACE AVAILABILITY REQUIRED)** *Students may add courses via the Scheduling Assistant.*
December 17	Last day to audit a course, **submit change of grade mode to Audit after officially enrolled**
December 17 - December 20	.**Advisor and Instructor** *Submit request via the Scheduling Assistant.*

To

DROP a Course

3 Weeks	Authorizations Required
December 16	No authorizations required (Course not recorded) Students may drop courses via Scheduling Assistant.

3 Weeks	Authorizations Required
December 17 - December 31	**Advisor approval required (Course recorded with a grade of "W")** *Submit request via Scheduling Assistant*

REFUND Percentage of Fees & Tuition

3 Weeks	PERCENTAGE
Before December 18	100%
December 18 -19	80%
December 20 - 21	60%
December 22 - 23	40%
After December 23rd	NONE

IUPUI Plans of Study for Continuing Students at Purdue in Indianapolis

Navigation:

Applied Computer Science BA	Artificial Intelligence BS	Biochemistry BS	Biology BS
Fall 2022 - Fall 2024	Fall 2022 - Fall 2024	Fall 2022 and beyond	Fall 2022 and beyond
Fall 2021 - Summer 2022	Fall 2021 - Summer 2022	Fall 2021 - Summer 2022	Fall 2015 - Summer 2022
Fall 2015 - Summer 2021		Fall 2020 - Summer 2021	Fall 2014 - Summer 2015
Fall 2014 - Summer 2015		Fall 2019 - Summer 2020	
		Fall 2018 - Summer 2019	
		Fall 2017 - Summer 2018	
		Fall 2015 - Summer 2017	
		Fall 2014 - Summer 2015	

Biomedical Engineering BS	Biomedical Engineering Tech Associates	Biotechnology BS	Computer & Info Technology -

			Data Management BS
Fall 2022 and beyond	Fall 2023 and beyond	Fall 2023 and beyond	Fall 2023 and beyond
Fall 2021 - Summer 2022			Fall 2018 - Summer 2019
Fall 2019 - Summer 2021			Fall 2017 - Summer 2018
Fall 2018 - Summer 2019			Fall 2016 - Summer 2017
Fall 2017 - Summer 2018			Fall 2015 - Summer 2016
Fall 2015 - Summer 2017			
Fall 2014 - Summer 2015			

Computer & Info Technology - Information Security BS	Computer & Info Technology - Networking Systems BS	Computer Engineering BSCE	Computer Engineering Technology BS
Fall 2023 and beyond	Fall 2023 and beyond	Fall 2022 and beyond	Fall 2022 - Summer 2023
Fall 2022 - Summer 2023	Fall 2022 - Summer 2023	Fall 2019 - Summer 2022	Fall 2019 - Summer 2022
Fall 2018 - Summer 2022	Fall 2018 - Summer 2022	Fall 2018 - Summer 2019	Fall 2018 - Summer 2019
Fall 2017 - Summer 2018	Fall 2017 - Summer 2018	Fall 2017 - Summer 2018	Fall 2017 - Summer 2018
Fall 2016 - Summer 2017	Fall 2016 - Summer 2017	Fall 2016 - Summer 2017	Fall 2016 - Summer 2017
Fall 2015 - Summer 2016	Fall 2015 - Summer 2016	Fall 2015 - Summer 2016	Fall 2015 - Summer 2016
Fall 2014 - Summer 2015	Fall 2014 - Summer 2015	Fall 2014 - Summer 2015	Fall 2014 - Summer 2015

Computer Graphics Technology -	Computer Graphics	Computer Graphics	Computer Graphics

Animation/Spatial Graphics BS	Technology - Interactive Multimedia Development BS	Technology - Motion Graphics Design BS	Technology - Themed Attraction Design BS
Fall 2022 and beyond	Fall 2022 and beyond	Fall 2022 and beyond	Fall 2022 and beyond
Fall 2019 - Summer 2022	Fall 2019 - Summer 2022	Fall 2020 - Summer 2022	Fall 2020 - Fall 2021
Fall 2018 - Summer 2019	Fall 2018 - Summer 2019		Spring 2020 - Summer 2020
Fall 2017 - Summer 2018	Fall 2017 - Summer 2018		
Fall 2016 - Summer 2017	Fall 2016 - Summer 2017		
Fall 2015 - Summer 2016			
Fall 2014 - Summer 2015			

Computer Science BS	Construction Management BS	Cybersecurity BS	Data Science BS
Fall 2022 and beyond	Fall 2022 and beyond	Fall 2023 and beyond	Fall 2023 and beyond
Fall 2021 - Summer 2022	Fall 2020 - Summer 2022	Fall 2022 - Summer 2023	
Fall 2018 - Summer 2021	Fall 2019 - Summer 2020	Fall 2021 - Summer 2022	
Fall 2017 - Summer 2018			
Fall 2015 - Summer 2017			
Fall 2014 - Summer 2015			

Electrical Engineering BSEE	Energy Engineering BS	Forensic & Investigative	Forensic & Investigativ

		Science - Forensic Biology BS	Science - Forensic Chemistry BS
Summer 2022 and beyond	Fall 2022 and beyond	Fall 2022 - Summer 2024	Fall 2022 - Summer 2024
Fall 2019 - Spring 2022	Fall 2019 - Summer 2022	Fall 2021 - Summer 2022	Fall 2021 - Summer 2022
Fall 2018 - Summer 2019	Fall 2018 - Summer 2019	Fall 2020 - Summer 2021	Fall 2020 - Summer 2021
Fall 2017 - Summer 2018	Fall 2017 - Summer 2018	Fall 2015 - Summer 2020	Fall 2015 - Summer 2020
Fall 2016 - Summer 2017	Fall 2016 - Summer 2017	Fall 2014 - Summer 2015	Fall 2014 - Summer 2015
Fall 2015 - Summer 2016	Fall 2015 - Summer 2016		
Fall 2014 - Summer 2015	Fall 2014 - Summer 2015		

Healthcare Engineering Tech Management BS	Interdisciplinary Engineering BS	Interdisciplinary Studies BS	Interior Design AS
Fall 2022 and beyond	Fall 2023 and beyond	Fall 2023 and beyond	Fall 2022 and beyond
Fall 2019 - Summer 2022			Fall 2019 - Summer 2022
Fall 2018 - Summer 2019			Fall 2018 - Summer 2019
Fall 2017 - Summer 2018			Fall 2017 - Summer 2018
Fall 2016 - Summer 2017			Fall 2016 - Summer 2017

Fall 2015 - Summer 2016			Fall 2015 - Summer 2016
Fall 2014 - Summer 2015			Fall 2014 - Summer 2015

Interior Design Technology BS	Mathematics - Actuarial Science BS	Mathematics - Applied Statistics BS	Mechanical Engineering Technology BS
Fall 2022 and beyond	Fall 2022 and beyond	Fall 2022 and beyond	Fall 2023 and beyond
Fall 2019 - Summer 2022	Fall 2015 - Summer 2022	Fall 2014 - Summer 2022	
Fall 2018 - Summer 2019	Fall 2014 - Summer 2015		
Fall 2017 - Summer 2018			
Fall 2016 - Summer 2017			
Fall 2015 - Summer 2016			
Fall 2014 - Summer 2015			

Mechanical Engineering BSME	Motorsports Engineering BS	Neuroscience BS	Organizational Leadership BS
Fall 2022 and beyond	Fall 2022 and beyond	Fall 2022 and beyond	Fall 2023 and beyond
Fall 2019 - Summer 2022	Fall 2019 - Summer 2022	Fall 2018 - Summer 2022	Fall 2022 - Summer 2023
Fall 2018 - Summer 2019	Fall 2018 - Summer 2019	Fall 2015 - Summer 2018	Fall 2019 - Summer 2022
Fall 2017 - Summer 2018	Fall 2017 - Summer 2018	Fall 2014 - Summer 2015	Fall 2018 - Summer 2019
Fall 2016 - Summer 2017	Fall 2016 - Summer 2017		Fall 2017 - Summer 2018
Fall 2015 - Summer 2016	Fall 2015 - Summer 2016		Fall 2015 - Summer 2017
Fall 2014 - Summer 2015	Fall 2014 - Summer 2015		Fall 2014 - Summer 2015

Physics BS	Psychology BS	Technical Communication BS (Online)
Summer 2022 and beyond	Fall 2022 and beyond	Fall 2022 and beyond
Fall 2015 - Summer 2022	Fall 2018 - Summer 2022	Fall 2019 - Summer 2022
Fall 2014 - Summer 2015	Fall 2017 - Summer 2018	Fall 2018 - Summer 2019
	Fall 2015 - Summer 2017	Fall 2017 - Summer 2018
	Fall 2014 - Summer 2015	Fall 2016 - Summer 2017
		Fall 2015 - Summer 2016
		Fall 2014 - Summer 2015

Applied Computer Science Certificate	Artificial Intelligence Certificate	Computer & Info Technology IT Certificate	Construction Management Certificate
Fall 2023 and beyond	Fall 2023 and beyond	Fall 2023 and beyond	Fall 2023 and beyond

Engineering Design Innovation Certificate	Fundamentals of Data Analytics Certificate	Human Resource Management Certificate	International Leadership Certificate
Fall 2023 and beyond	Fall 2023 and beyond	Fall 2023 and beyond	Fall 2023 and beyond

Leadership Studies Certificate	Lean Six Sigma Certificate	Medical Device Cybersecurity Certificate	Motorsports Engineering Tehcnology Certificate
Fall 2023 and beyond	Fall 2023 and beyond	Fall 2023 and beyond	Fall 2023 and beyond

Network Security Certificate	Sustainable Technology Certificate	Technical Communication Certificate	Themed Entertainment Design Certificate
Fall 2023 and beyond	Fall 2023 and beyond	Fall 2023 and beyond	Fall 2023 and beyond

Biomedical Engineering MS	Biomedical Engineering PhD	Computer Information Science MS	Computer Science PhD
Fall 2023 and beyond	Fall 2023 and beyond	Fall 2023 and beyond	Fall 2023 and beyond

Cybersecurity and Trusted Systems MS	Electrical & Computer Engineering PhD	Electrical & Computer Engineering MS	Facilities Management MS
Fall 2023 and beyond	Fall 2023 and beyond	Fall 2023 and beyond	Fall 2023 and beyond

Information Assurance & Security MS	Mechanical Engineering MS	Mechanical Engineering PhD	Motorsports Engineering MSE

Fall 2023 and beyond	Fall 2023 and beyond	Fall 2023 and beyond	Fall 2023 and beyond

Technology - Applied Data Management & Analytics MS	Pharmaceutical Engineering	Pre-Veterinary Science MS	Technolog Organizati Leadership MS
Fall 2023 and beyond	Fall 2023 and beyond	Fall 2023 and beyond	Fall 2023 and beyon

Technology - Technical Communication MS
Fall 2023 and beyond

Architectural and Interior Design Graphics Graduate Certificate	Computer-Aided Mechanical Engineering Graduate Certificate	Computing Security Graduate Certificate	Energy Management & Assessment Graduate Certificate
Fall 2023 and beyond	Fall 2023 and beyond	Fall 2023 and beyond	Fall 2023 and beyond

Human Resource Development Graduate Certificate	Hybrid Electric Vehicle Technology	Power & Energy Processing	Project Management Graduate Certificate

	Graduate Certificate	Graduate Certificate	
Fall 2023 and beyond	Fall 2023 and beyond	Fall 2023 and beyond	Fall 2023 and beyond

Systems Engineering Graduate Certificate

Fall 2023 and beyond