

COMPUTER ENGINEERING, MINOR (BEHREND)

Requirements for a minor may be completed at any campus location offering the specified courses for the minor. Students may not change from a campus that offers their major to a campus that does not offer their major for the purpose of completing a minor.

Program Description

This program of study provides graduates with a strong background in computer engineering. Upon completion of the minor, graduates will have developed an understanding of the operation and design of computers.

This objective is accomplished through a combination of classroom study, computer-related projects, and laboratory experience. Analysis and design of computer hardware and software systems are stressed. The program requires completion of mandatory courses in analog and digital circuits, microprocessors, transistor logic, and computer programming. Students complete the minor by selecting technical electives in computer hardware and software engineering.

What is Computer Engineering?

Computer engineering is the study of the design, analysis, and implementation of computer systems including processors, memory, embedded devices, and data communication systems for a wide range of application domains. It includes the study of digital systems, computer architecture, and computer networks. It encompasses many design activities spanning from designing individual logic components to designing complete computer systems composed of hardware, software, and hardware-software co-design. Computer engineering drives the development of new computing systems that enable the latest technologies impacting our everyday lives.

You Might Like This Program If...

- You want to add computing expertise to a more general engineering major program.
- You enjoy working with both hardware and software.

Program Requirements

Requirement	Credits
Requirements for the Minor	24

Requirements for the Minor

A grade of C or better is required for all courses in the minor, as specified by Senate Policy 59-10 (<https://senate.psu.edu/policies-and-rules-for-undergraduate-students/59-00-minors-and-certificates/#59-10>).

In addition, at least six credits of the minor must be unique from the prescribed courses required by a student's major(s).

Code	Title	Credits
Prescribed Courses		
<i>Prescribed Courses: Require a grade of C or better</i>		
EE 210	Circuits and Devices	4
EE 310	Electronic Circuit Design I	4
EE 316	Introduction to Embedded Microcontrollers	3
Additional Courses		
<i>Additional Courses: Require a grade of C or better</i>		

CMPEN 271 & CMPEN 275	Introduction to Digital Systems and Digital Design Laboratory	4
CMPSC 201 or CMPSC 202	Programming for Engineers with C++	3
Select two of the following:		6
CMPEN 352W	Embedded Systems Design	
CMPEN 411	VLSI Digital Circuits	
CMPEN 431	Introduction to Computer Architecture	
CMPEN 441	Operating Systems	
CMPEN 461	Communication Networks	
CMPSC 450	Concurrent Scientific Programming	
SWENG 411	Software Engineering	

Academic Advising

The objectives of the university's academic advising program are to help advisees identify and achieve their academic goals, to promote their intellectual discovery, and to encourage students to take advantage of both in-and out-of class educational opportunities in order that they become self-directed learners and decision makers.

Both advisers and advisees share responsibility for making the advising relationship succeed. By encouraging their advisees to become engaged in their education, to meet their educational goals, and to develop the habit of learning, advisers assume a significant educational role. The advisee's unit of enrollment will provide each advisee with a primary academic adviser, the information needed to plan the chosen program of study, and referrals to other specialized resources.

READ SENATE POLICY 32-00: ADVISING POLICY (<https://senate.psu.edu/policies-and-rules-for-undergraduate-students/32-00-advising-policy/>)

Erie

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Career Paths

The minor in Computer Engineering can be pursued by students enrolled in several of the School of Engineering degree programs. Penn State Behrend has a comprehensive support system to help you identify and achieve your goals for college and beyond. Meet with your academic adviser often, and take advantage of the services offered by the Academic and Career Planning Center beginning with your first semester.

Careers

The Computer Engineering minor has been designed so that you can choose technical electives in either computer hardware or in software. This allows you to better integrate the minor with your major degree program, tailoring it to the career path of your choosing.

MORE INFORMATION ABOUT POTENTIAL CAREER OPTIONS FOR GRADUATES WITH A MINOR IN COMPUTER ENGINEERING (<https://behrend.psu.edu/school-of-engineering/academic-programs/computer-engineering/curriculum/computer-engineering-minor/>)

Opportunities for Graduate Studies

Adding a specialized minor such as Computer Engineering to a broader engineering major program demonstrates to graduate programs your commitment to interdisciplinary research and advanced study.

MORE INFORMATION ABOUT OPPORTUNITIES FOR GRADUATE STUDIES
(<https://behrend.psu.edu/school-of-engineering/academic-programs/computer-engineering/curriculum/computer-engineering-minor/>)

Contact

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<https://behrend.psu.edu/school-of-engineering> (<https://behrend.psu.edu/school-of-engineering/>)