

COMPUTER ENGINEERING (BSCP)

The Program in Computer Engineering is jointly administered by the Department of Computer Science and Engineering and the Department of Electrical Engineering. The joint directors of the Computer Engineering program are Michael Niemier and Robert Stevenson. The program focuses on the intersection of hardware (digital logic devices, circuits, computer architectures, and embedded systems) and software (programming languages, operating systems, and algorithms). Modern design tools, techniques, and platforms are introduced early in the program, and continually used throughout to design, prototype, and analyze real digital computing systems to solve a given problem. All computer engineers participate in year-long, capstone design experience prior to graduation.

To earn the BS CPEG, students must complete the following requirements. The following course schedule is applicable to the students entering the College in Fall 2025.

Details about the specific courses and course options can be found in the *Computer Science Engineering Undergraduate Handbook* which can be found on the Computer Science Engineering website at cse.nd.edu/undergraduate (<https://cse.nd.edu/undergraduate/>).

Code	Title	Hours
University Core Curriculum Requirements ¹		26
College of Engineering requirements		22
EG 10117	Engineering Design	
EG 10118	Engineering Computing	
MATH 10550	Calculus I	
MATH 10560	Calculus II	
CHEM 10171 & CHEM 11171	Introduction to Chemical Principles and Introduction to Chemical Principles Laboratory	
PHYS 10310	Engineering Physics I: Mechanics	
Computer Engineering (CPEG) degree requirements		
<i>CPEG mathematics and science requirements</i>		<i>13.5</i>
CSE 20110	Discrete Mathematics	
MATH 20580	Introduction to Linear Algebra and Differential Equations	
ACMS 30440 or EE 30210	Probability and Statistics Random Phenomena in Electrical Engineering	
PHYS 10320	Engineering Physics II: Electromagnetism	
<i>CPEG Core requirements</i>		<i>26.5</i>
CSE 20311	Fundamentals of Computing	
EE 20100	Intro to ECE	
CSE 20xxx: Logic and Processor Design		
CSE 20312	Data Structures	
EE 20221	Signal and Information Systems	
CSE 30321	Computer Architecture	
NEW CPEG Capstone Design I		
NEW CPEG Capstone Design II		
<i>CPEG Core Electives: at least 3 from the following:</i>		<i>9</i>
EE 30122	System Theory and Application	

EE 30132	Applied Embedded System Design	
EE 30062	Fundamentals of Semiconductors	
CSE 20289	Systems Programming	
CSE 30341	Operating System Principles	
CSE 30342	Digital Integrated Circuits	
CSE 30151	Theory of Computing	
<i>CPEG Electives</i> ²		<i>18</i>
Any 30000+ EE or CSE course that is not one of the CPEG Core Requirements.		
EE 20231	Digital Design for Smart Interconnected Systems	
EE 20241	Electronic Devices and Systems	
CSE 20289	Systems Programming	
<i>Technical Electives</i> ²		<i>6</i>
Any 20000+ College of Engineering course		
Any 30000+ College of Science course		
MATH 20550	Calculus III	
EE 10200	Introduction to Embedded Systems	
Other First Year Technical Elective Engineering Courses		
BIO/CHEM pre-med classes		
<i>Free Electives</i>		<i>3</i>
Total Hours		124

¹ Note the Liberal Arts 1, 2 and 3 requirements will be covered by courses required by the College of Engineering. Also note that the University Seminars can double count as another core requirement.

² Please note that courses cannot double count within the CPEG major. Notwithstanding, if multiple requirements are met using one course, additional coursework might be required to ensure the student achieves the 124 minimum required total credits.