University of Indianapolis – Shaheen College of Arts & Sciences: R.B. Annis School of Engineering
2025-2026 Curriculum Guide for Computer Engineering (CMPE) Major
Bachelor of Science

Computer Engineering (CMPE) is an engineering discipline that focuses on the application of engineering principles to the design and development of electrical and electronic systems, specifically digital systems.

Lower-Level Courses

- **CHEM 150** General Chemistry I (3)
- **CHEM 151** General Chemistry Laboratory I (1)
- **CSCI 155** Introduction to Programming using C++ (3)
- **CSCI 156** Introduction to Object-Oriented Programming (3)
- **CSCI 240** Data Structures and Algorithms (4)
- **EENG 120** DC Circuits (3)
- **EENG 210** AC Circuits and Systems (3)
- **EENG 220** Digital Systems (3)
- **EENG 230** MCU Architecture and Programming (3)
- **ENGR 196** Introduction to Engineering (Design Lab I) (3)
- **ENGR 198** Engineering Design Lab II (1)
- **ENGR 296** Engineering Design Lab III (1)
- **ENGR 298** Engineering Design Lab IV (1)
- **MATH 190** Calculus and Analytic Geometry I (4)
- **MATH 191** Calculus and Analytic Geometry II (4)
- **MATH 195** Discrete Mathematics (3)
- **MATH 280** Linear Algebra (4)
- **MATH 330** Differential Equations (3)
- **PHYS 153** General Physics I, Calculus Based (4)
- **PHYS 163** General Physics II, Calculus Based (4)
- **PHYS 280** Scientific Computing (3)

Upper-Level Courses

- **EENG 310** Signals & Systems (3)
- **EENG 320** Electronics (3)
- **EENG 330** Probability & Random Processes (3)
- **EENG 340** Interfacing Laboratory (3)
- **EENG 370** Digital Design & Synthesis (3)
- **EENG 440** Modern Processor Architecture (3)
- **ENGR 396** Engineering Design Lab V (1)
- **ENGR 398** Engineering Design Lab VI (1)
- **ENGR 496** Engineering Design Lab VII (1)
- **ENGR 498** Engineering Design Lab VIII (2) (capstone)
- **SWEN 310** Operating Systems (3)

Tech Elective(s): Students must also complete at least three (3) credit hours of Tech Elective(s).

- **Option 1:** Complete at least three credits of EENG, ENGR, CSCI, ISEN, MENG, SWEN at the 300 level or higher in addition to already required program requirements, such as the following examples:
    - **EENG 350** (Signal Proc. I)
    - **EENG 405** (Controls I)
    - **EENG 420** (Image Processing)

  - **ENGR 400** (Special Topics)
  - **ENGR 450** (Research)
  - **MENG 440** (Mechatronics)

- **Option 2:** Complete one of the following:
  - **MATH 270** (Calc III) (4)
  - **ENGR 210** (Engineering Econ) (3)

NOTES

- A grade of C- (1.7 on a 4.0 scale) or higher is required in all courses in the Bachelor of Science in Computer Engineering Degree at the University of Indianapolis.
- A minimum of 120 hours is required to earn a Bachelor of Science degree from the University of Indianapolis.
- A typical CMPE major can satisfy degree requirements with 128 credits.
- An average grade of C or higher is required in all required Engineering, Mathematics, and Science courses for the Computer Engineering Program.
- A student may complete more than one major as long as each major has at least 24 discrete hours. Please see the Academic Catalog for additional details.

REMEMBER: If you have any questions about the Computer Engineering major requirements, contact a faculty advisor from the R. B. Annis School of Engineering (Kenneth Reid, 788-3657; Annis Hall, Room 105) or your academic advisor. Courses and requirements sometimes change so keep in contact with your advisor.