



Computer Science

College of Engineering

The Computer Science program includes courses dealing with the design, implementation, analysis, and software-engineering issues related to algorithms and computer programs. A foundation in continuous and discrete mathematics is used to study numerical problems and to analyze algorithms. Through required and elective courses students are exposed to the fundamentals of computing theory and algorithms, programming languages, language translation and compiling, graphics, scientific computing, artificial intelligence, networks, databases, and operating systems.

Pre-Computer Science Requirements

In order to graduate and take most of the 300 level and above computer science courses, a student must attain engineering standing. To attain engineering standing a student must complete the following courses with a grade-point average of at least 2.50:

	Hours
ENG 104 Writing: An Accelerated Foundational Course	4
MA 113 Calculus I	4
MA 114 Calculus II	4
CS 100 The Computer Science Profession	1
CS 115 Introduction to Computer Programming	3
CS 215 Introduction to Program Design, Abstraction, and Problem Solving	4
CS 216 Introduction to Software Engineering	3
EE 280 Design of Logic Circuits	3
PHY 231 General University Physics	4
PHY 241 General University Physics Laboratory	1

Degree Requirements

In addition to satisfying University Studies requirements, each student completes the following:

Freshman Year

First Semester	Hours
CS 100 The Computer Science Profession	1
CS 115 Introduction to Computer Programming	3
ENG 104 Writing: An Accelerated Foundational Course or Natural Science Elective [N]	3-4
MA 113 Calculus I	4
University Studies [U]	3

Second Semester

CS 215 Introduction to Program Design, Abstraction, and Problem Solving	4
ENG 104 Writing: An Accelerated Foundational Course or Natural Science Elective [N]	3-4
MA 114 Calculus II	4
University Studies [U]	3

Sophomore Year

First Semester	Hours
CS 216 Introduction to Software Engineering	3
EE 280 Design of Logic Circuits	3
MA 213 Calculus III	4
or	

MA 322 Matrix Algebra and Its Applications	3
PHY 231 General University Physics	4
PHY 241 General University Physics Laboratory	1
University Studies [U]	3

Second Semester

CS 275 Discrete Mathematics	4
CS/EE 380 Microcomputer Organization	3
PHY 232 General University Physics	4
PHY 242 General University Physics Laboratory	1
STA 281 Probability and Statistics Using Interactive Computer Techniques	3
University Studies [U]	3

Junior Year

First Semester	Hours
CS 315 Algorithm Design and Analysis	3
CS/MA 321 Introduction to Numerical Methods	3
University Studies [U]	3
ENG 2XX Writing Intensive Course	3
Free Elective [E]	3

Second Semester

CS 375 Logic and Theory of Computing	3
Computer Science Elective [C]	3
Technical Elective [T]	3
COM 181 Basic Public Speaking or COM 252 Introduction to Interpersonal Communication or COM 281 Communication in Small Groups or COM 287 Persuasive Speaking	3
Natural Science Elective [N]	3
Free Elective [E]	3

Senior Year

First Semester	Hours
CS 470G Introduction to Operating Systems	3
Computer Science Elective [C]	3
Technical Elective [T]	3
University Studies [U]	3
Free Elective [E]	3

Second Semester

CS 499 Senior Design Project	3
Computer Science Elective [C]	3
Technical Electives [T]	6
Free Elective [E]	3

[U] To be selected from University Studies areas in Social Sciences, Humanities, Cross-Cultural, and Electives in conjunction with the academic advisor.
[N] Any natural science course excluding more elementary versions of completed required courses.

[C] Computer Science electives include 300-level and above computer science courses with two to be selected from: CS 335, CS 405G, CS 441G, CS 450G, and CS 463G.

[T] Technical electives include any 300-level and above courses in computer science, electrical engineering, mathematics, and business and economics. MA 214 is also an acceptable technical elective.

[E] Two of the electives (6 credits) cannot be mathematics, computer science, science or engineering courses; these two courses can be used to satisfy the University Studies elective requirement.