

Traditional Minor in Computer Science

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This minor is designed for students wishing to learn about the discipline of computing. Students in this minor take the same courses as do CS majors, stopping after 25 units of coursework is completed.

REQUIRED COURSES (17 UNITS)

CS	120	Introduction to Web Site Design and Development (3)
CS	122	Using Relational Databases and SQL (3)
CS	242	C Programming (4)
CS	245	Using Operating Systems and Networks for Programmers (3)
CS	342	Object Oriented Programming Using C++ (4)

ELECTIVES (8 UNITS) SELECT 8 units of upper division computer science courses from below.

- CS 301 Computer Ethics in the Information Age (1) Prerequisite: [CS 203](#).
- CS 312 Data Structures and Algorithms (4) Prerequisites: [CS 203](#), [MATH 208](#) and [248](#).
- CS 320 Web and Internet Programming (3) Prerequisites: [CS120](#), [CS 122](#), [CS 203](#).
- CS 332C Object Oriented Programming in C++ (2) Prerequisite: [CS 203](#).
- CS 332F Functional Programming (2) Prerequisite: [CS 203](#).
- CS 332L Logic Programming (2) Prerequisite: [CS 203](#).
- CS 337 Software Design (3) Prerequisite: [CS 203](#).
- CS 340 Assembly Language and Systems Programming (4) Prerequisite: [CS 245](#).
- CS 345 UNIX and Shell Programming (4) Prerequisites: CS 203.
- CS 350 Foundations of Computer Graphics (4) Prerequisites: [CS 203](#), [MATH 208](#), and [MATH 255](#).
- CS 370 Parallel and Distributed Programming (4) Prerequisites: [CS 203](#), [CS 245](#).
- CS 386 Introduction to Automata Theory (4) Prerequisites: [CS 202](#), and [MATH 248](#).
- CS 420 Web Applications Architecture (4 units) Prerequisite: [CS 320](#).
- CS 422 Principles of Data Base Systems (4) Prerequisites: [CS 122](#), and [312](#).
- CS 437 Software Engineering (5) Prerequisites: [CS 312](#) and completion of the GWAR.
- CS 440 Introduction to Operating Systems (4) Prerequisites: [CS 245](#), [312](#).
- CS 447 Computer Networks (4) Prerequisites: [MATH 270](#), [CS 440](#).
- CS 450 Computer Graphics (4) Prerequisites: [CS 312](#), [CS 350](#).
- CS 451 Multimedia Software Systems (4) Prerequisite: [CS312](#) or [CS 342](#).
- CS 460 Artificial Intelligence (4) Prerequisite: [CS 312](#).
- CS 461 Machine Learning (4) Prerequisite: [CS 312](#).
- CS 470 Computer Networking Protocols (4) Prerequisites: CS 245 and CS 312
- CS 480 Cryptography and Information Security (4) Prerequisites: CS 245 and CS 312
- CS 486 Computability and Intractability (4) Prerequisite: [CS 386](#).
- CS 488 Compilers (4) Prerequisites: [CS 312](#), 332, [386](#).