

Bachelor of Science Degree Requirements

Computer Science Major *Units*

Major requirements 60

CSCI 40, 41, 60, 112, 113, 115, 117, 119, 144.....(36)

Select seven courses from the following, including one sequence.....(21)

CSCI 124, 126, 130, 134, 146, 148, 150, 152, 154, 156, 164, 166, 172, 173, 174, 176, 177, 186, 188, 191T (max total 6 units)

Approved Sequences:

CSCI 124-126
CSCI 144-146
CSCI 144-148
CSCI 150-152
CSCI 156-ECE 146
CSCI 164-166
CSCI 172-173
CSCI 176-177
CSCI 186-188

CSCI 198 or complete an additional second course in one of the sequences above.....(3)

Additional requirements10*

MATH 75, 76; PHYS 2A and 2B or PHYS 4A, 4AL, 4B, 4BL

General Education requirements..... 51

Electives and remaining degree requirements 3

Total 124

*This total indicates that 6 units from MATH 75 and PHYS 2A or PHYS 4A are being used to satisfy the General Education requirement of 51 units.

Note: Pass the Upper-Division Writing Exam (recommended to satisfy the upper-division writing skills graduation requirement).

Computer Science Minor

The Computer Science Minor requires 20 units of computer science courses consisting of CSCI 40, CSCI 41, and 12 units from CSCI 1, 60, or upper-division courses. At least 6 of the 20 units must be upper division. No *CR/NC* courses will be accepted toward the Minor in Computer Science.

Suggested minor sequences (after completion of CSCI 40, 41):

- Artificial Intelligence: CSCI 60, 112, 117, 164, 166
- Computer Architecture: CSCI 112, 113, 176, 177

- Computer Graphics: CSCI 112, 172, 173
- Computer Languages: CSCI 60, 112, 115, 117, 134
- Database Emphasis: CSCI 60, 115, 124, 126, 144
- Scientific Computation: CSCI 60, 112, 154*, 172*
- Secondary Teaching: CSCI 60, 112, 113, 115, 117
- Software Engineering: CSCI 60, 112, 115, 150, 152
- System Software: CSCI 112, 113, 144, (146 or 148)
- Theory of Computation: CSCI 60, 119, 174, 186, 188

*CSCI 154 and 172 have a mathematics prerequisite. Note that these are only suggested combinations. While attention must be given to prerequisites, many combinations are available to interested students.

Note: The Computer Science Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Graduate Program

The Master of Science degree program in Computer Science is designed to offer the advanced principles, applications, and current topics in computer science. Students who obtain the M.S. will be ready to do significant developmental work in the computer industry or in an important application area and will also be well qualified to pursue a Ph.D.

Applicants may hold an acceptable bachelor's degree in any field of study and must submit Graduate Record Examination (GRE) scores.

To attain classified standing at the time of admission, an applicant must:

1. have a minimum grade point average of 2.75 in the last 60 units and
2. have completed the following undergraduate prerequisite courses or equivalents with a minimum grade point average of 3.0: CSCI 40, 41, 60, 112, 113, 115, 117, 119, 144, MATH 75, 76.

Applicants who do not meet the requirements 1 and 2 above may be admitted to conditionally classified standing to complete the remaining prerequisites at California State University, Fresno. Approved coursework up to a maximum of 10 units of the 30 units required for the M.S. can be taken

concurrently with prerequisite courses by a student with conditionally classified standing.

To attain classified standing from conditionally classified standing, a student must complete the remaining prerequisite courses with a minimum grade point average of 3.0 and have earned a minimum grade point average of 3.0 in all coursework taken toward the M.S. in Computer Science.

(See also *Graduate Studies*)

Master of Science Degree Requirements

The Master of Science requires a minimum of 30 units after the completion of the baccalaureate degree according to the criteria below. At least 21 units of the total must be taken in 200-level courses in computer science. The undergraduate courses used toward the bachelor's degree or toward fully classified status may not be used toward the master's degree.

Units

Required courses 10
CSCI 174 or 188, 200, 213, 217

Electives 9
Three of the following: CSCI 226, 230, 244, 250, 252, 253, 272, 274, 282, 284

Approved electives 5-8

Culminating experience 3-6
CSCI 298 or 299

Total 30

In order to be eligible for advancement to candidacy in the M.S. in Computer Science program, all students must pass CSCI 200 with a grade of *B* or better. In addition, all students must demonstrate competence in graduate-level writing prior to being advanced to candidacy. Students may fulfill this requirement by passing the writing component of CSCI 200. Please see the graduate program coordinator for further information.

COURSES

Computer Science (CSCI)

CSCI 1. Critical Thinking and Computer Science (3)

Prerequisite: intermediate algebra. Overview of the field of computer science with an emphasis on critical thinking skills. Problem-solving strategies, algorithm design, and data abstraction. Introduction to hardware, theoretical limitations of computers, and issues arising from the growing role of computers in society. G.E. Foundation A3.