Computer Science Minor

(CS26) 36 units

Department of Computer Science and Engineering, UC San Diego

Why should you do a Computer Science Minor?

- You get to take CSE courses otherwise open only to CSE majors
- Learn skills and knowledge that could help you get a job in one of the fast growing careers
- You don't have to take physics courses
- A CSE Major Advisor will help to put your schedule together
- You get to use our computer science labs that are otherwise open only to CSE Students
- Students help one another in the labs gathering in a warm and inviting environment
- Most recruiters at recent career fairs are only looking for students with a computer science background
- Will set you apart from others when applying to jobs

Program Description

The Computer Science Minor Program is designed to provide basic proficiency in computer science. The requirements focus on programming methodology and skills, computer organization, relevant mathematical skills, structure techniques, laboratory courses with programming projects, design and analysis of algorithms. Completing these requirements provides a strong foundation in computer science.

Required CSE Courses

- CSE 8B or CSE 11: Intro Computer Science & Object-Oriented: Java
- CSE 12: Data Structures and Object-Oriented Programming
- CSE 20: Discrete Mathematics
- CSE 21: Math/Algorithms and Systems Analysis
- CSE 30: Computer Organization and Systems Programming
- CSE 100: Advanced Data Structures
- CSE 101: Design and Analysis of Algorithms
- Two CSE upper division courses

Computer Science Building, Student Affairs Office on First Floor: ugradinfo@cs.ucsd.edu

CS Minor Requirements and Declaration

- 1) Submit a minor declaration form for approval to enroll into CSE 8A/8AL or CSE 11
- 2) **Lower Division:** Complete CSE 8B or 11, CSE 12, CSE 20, CSE 21 and CSE 30 with an average GPA of 2.5 or higher
- 3) **Upper Division:** Complete CSE 100 and CSE 101, plus two additional CSE upper division courses listed below
- 4) All lower and upper division courses must be taken for a letter grade
- 5) All lower division grades must be C- or better
- 6) After completion of the lower division courses submit grades to the CSE Student Affairs Office for review and calculation of GPA (a printout of your Academic History from TritonLink is acceptable)
- 7) Students must achieve at least a 2.0 average GPA in the upper division courses for the minor to be awarded

The remaining 2 upper division courses can be selected from this list: **CSE 102, CSE 103, CSE 105, CSE 111, CSE 120, CSE 132A, CSE 134A, CSE 134B, CSE 135, CSE 140, CSE 150, CSE 151, CSE 152, CSE 160, CSE 166, and CSE 167.**

Selective Areas of Focus for your four upper division courses:

- Theory: CSE 100, CSE 101, CSE 105, and CSE 107
- Programming Languages: CSE 100, CSE 101, CSE 105, CSE 130
- Software Design and Engineering: CSE 100, CSE 101, CSE 111, and CSE 112
- Operating Systems: CSE 100, CSE 101, CSE 120, and CSE 121
- Computer Networks: CSE 100, 101, 120, and 123
- Networked Systems: CSE 100, 101, 120, and 124
- Video Game Design: CSE 100, CSE 101, CSE 120, and CSE 125
- Security and Cryptography: CSE 100, CSE 101, CSE 120, and CSE127
- Concurrency: CSE 100, CSE 101, CSE 120, and CSE 128
- Databases: CSE 100, CSE 101, CSE 132A, and CSE 132B
- Web Server Languages: CSE 100, 101, 134A, and 134B
- Web Applications: CSE 100, 101, 135, and 136
- Computer Architecture: CSE 100, 101, 140, and 141
- Computer Graphics: Rendering: CSE 100, 101, 167, and 168
- Computer Animation: CSE 100, 101, 167, and 169

Restrictions and Availability of CSE Courses

- Students in the Jacob's School of Engineering CANNOT minor in CSE.
- Students in Math/CS major in the Mathematics Department CANNOT minor in CS.
- CS Minor students may take CSE 20 or Math 15A, CSE 21 or Math 15B, CSE 100 or Math 176, CSE 101 or Math 188, and CSE 105 or Math 166.
- **A**) CSE 11 vs. CSE 8A/8AL and CSE 8B: CSE 11 is a fast paced course compared to CSE 8A and CSE 8B, and requires experience in programming in a compiled language. **B**) Students without any programming experience in a compiled language are advised to take CSE 8A/8AL, and then CSE 8B instead of CSE 11.
- Fall quarter enrollment into CSE 8A/8AL and CSE 11 is open to majors only. CS Minor students will be allowed to enroll into CSE 8A/8AL and CSE 11 in the winter and spring quarter.
- If CSE 8A/8AL is unavailable due to over-enrollment, students may take CSE 5A (programming in C), as a preparation course for CSE 11.
- Due to requirement changes to the CSE Minor Program, students should be careful to follow requirements in place the year they were admitted to UC San Diego.