COMPUTER SCIENCE

CAREER INFORMATION

Computer Science is the study of computers and computational systems: their theory, design, development, and application. Principle areas within computer science include artificial intelligence, computer systems and networks, database systems, human factors, networks, numerical analysis, programming languages, software engineering, and theory of computing. Computer Scientists are concerned with problem-solving. They build computational models of systems, including physical phenomena (weather forecasting), human behavior (expert systems, robotics), and computer systems themselves (performance evaluation). Such models often require extensive numeric or symbolic computation. Computer scientists design and analyze algorithms to solve problems, and develop and study the performance of computer hardware and software. The major in computer science provides graduates with an educational foundation for careers in computer software or computer system design, including software engineers, application software designers, system programmers, or system engineers. Possible career alternatives also include operating systems, application programming, computer organization, and computer system design.

GENERAL INFORMATION

Not all universities with this major are listed below. The lower division core preparation is listed for universities with which LBCC has established articulation agreements. The first course listed is the LBCC course; the course in parentheses immediately after is the university equivalent. It is generally recommended to take as many lower-division major courses as possible prior to transfer. Please check www.assist.org for the most current articulation information and information regarding minimum grade for each course, impacted major recommendations, application procedures, etc. Moreover, you must see a counselor to develop an accurate educational plan to ensure your competitiveness for admissions for your school(s) of choice. To thoroughly understand admissions and general education requirements please check the catalog of the transfer university. CSU/UC admissions and general education requirements are outlined on a separate curriculum guide.

*** Schools are listed in alphabetical order ***

CAL POLY POMONA

- **B.S. Degree – Computer Science**
  CBIS 14A (CS 140 or CIS 234); Chem 1A (Chm 121 & 121L & 122L), 1B (122 & 123 & 123L); Math 60 & 70 (Mat 114 & 115 & 116), 80 (214 & 215), 84 (216); Physics 3A, (Phy 131 & 131L), 3B (133 & 133L), 3C (235 & 235L)
  (No LBCC equivalent to the following Cal Poly Pomona course: CBIS 37)

CSU CHICO

- **B.S. Degree – Computer Science: General Option**
  Math 60 (Math 7A), 70 (7B); Physics 3A, 3B, 3C (Phys 4A & 4B)
  (No LBCC equivalents to the following CSUC courses: Csci 15A, 15B, 51A)

- **B.S. Degree – Computer Science: Math/Science Option**
  Chem 1A (Chem 37); Math 60 (Math 7A), 70 (7B), 80 (7C); Physics 3A, 3B, 3C (Phys 4A & 4B & 4C)
  (No LBCC equivalents to the following CSUC courses: Csci 15A, 15B, 51A; Math 7D)
CSU Chico (continued)

- **B. S. Degree – Computer Science: Systems Option**
  Math 60 (Math 7A), 70 (7B); Physics 3A, 3B, 3C (Phys 4A & 4B)
  (No LBCC equivalents to the following CSUC courses: Csci 15A, 15B, 51A)

CSU DOMINGUEZ HILLS

- **B.S. Degree – Computer Science**
  CBIS 37 (Csc 221); Math 60 (Mat 191), 70 (193); Math 55A & 55B (Mat 281); Physics 3A (Phy 130), 3B (132).
  (No LBCC equivalents to the following CSUDH courses: Csc 123, 251; Mat 271)

CSU FULLERTON

- **B.S. Degree – Computer Science**
  Bio 1A & 1B (Biol 131 with lab); Math 60 (Math 150A), 70 (150B)
  One of the following combinations: Physics 3A & 3B (Phys 225 & 225L & 226 & 226L) or Chem 1A & 1B (Chem 120A & 125) or Geol 3H (Geol 201) & Geol Geol 1 or 1H or Geol 2 & 2L (Geol 101 & 101L)
  (No LBCC equivalents to the following CSUF courses: Cpsc 131, 223V, 231, 240, 241, 253U; Math 270A, 270B)

CSU LONG BEACH

- **B.S. Degree – Computer Science**
  Math 60 (122), 70 (222), 80 (247); Physics 3A (151), 3B (152)
  (No LBCC equivalents to the following CSULB courses: CECS 174, 201, 228, 261 or 281; EE 210, 210L)

CSU SACRAMENTO

- **B.S. Degree – Computer Science**
  CBIS 35A (CSC 30); Math 60 (Math 30), 70 (31); Physics 3A (Phys 11A), 3B (11C)
  (No LBCC equivalents to the following CSUS courses: CSC 1, 5, 6A, 6B, 6C, 15, 16, 20, 22, 25, 35, 35A, 60; Stat 50)

UC BERKELEY

- **A.B. Degree – Computer Science**
  This major is offered by the College of Letters & Science. Students must complete either: (1) the L&S Essential Skills Requirements (Reading & Composition, Foreign Language, and Quantitative Reasoning) or (2) IGETC by the end of the spring term that precedes fall enrollment at Berkeley.
UC Berkeley (continued)

Complete as many lower division major requirements as possible before transfer. In general, strength of academic preparation and GPA are the primary selection criteria for admission.

Advice Regarding Courses in Computer Science:
The Computer Science Department at Berkeley recognizes the fact that courses comparable to Berkeley’s Computer Science 61A-61B-61C series are difficult to find at most community colleges. With few exceptions, transfer students must take CS 61A and 61C during their first semester(s) at Berkeley.

To be competitive for admission purposes, the department advises prospective transfer students to take UC-transferable courses in (1) data structures – even if not officially comparable to Berkeley’s CS 61B, (2) JAVA (preferred) or C++, and (3) assembly language/machine structures.

The entire computer science 61 series is also offered during the Berkeley summer session. The department recommends that, when possible, students take these courses during the summer sessions prior to transfer.

Requirements: Math 60 (Math 1A), 70 (1B), 84 (54)
(No LBCC equivalents to the following UC Berkeley courses: Compsci 61A, 61B, 61C; El Eng 42; Math 55)

UC DAVIS

- **B.S. Degree – Computer Science (IGETC Not Recommended)**
  CBIS 11 (Eng Cs 30), 12 (40), 37 (Eng Cs 50 or Eng E & C 70); Math 60 (Math 21A), 70 (21B), 80 (21C), 84 (22A); Chem 1A & 1B (Chem 2A & 2B & 2C) or Bio 1A & Chem 1A & 1B (Biolsci 1A & Chem 2A & 2B), or Physics 3A & 3B & 3C & Math 80 (Physics 9A & 9B & 9C & Math 21D)
  (No LBCC equivalents to the following UC Davis courses: Math 85; Statist 32; Eng Cs 20; Chem 2AH, 2BH, 2CH)

UC LOS ANGELES

- **B.S. Degree – Computer Science (IGETC Not Recommended)**
  This major is offered by the UCLA School of Engineering and Applied Science (SEAS). Admission to the SEAS major as a junior level transfer is quite competitive. The University requires applicants to have completed a minimum of 60 transferable semester units and two transferable English courses prior to enrolling at UCLA. In addition, all applicants to the SEAS major must have at least a 3.2 GPA in their college work. Many of the majors in the SEAS are impacted. Excellent grades, especially for courses in preparation for the major, are expected.

  Applicants are expected to have completed all major preparation courses. SEAS accepts transfer applications for fall and winter quarters. Because completion of the required preparatory courses is critical for admission, students should apply for the term following the semester in which they will finish these requirements.

SEE REVERSE SIDE FOR ADDITIONAL REQUIREMENTS
UC Los Angeles (continued)

Requirements: Chem 1A & 1B (Chem 20A & 20B & 20L & 30AL); Engl 1 or 1H (Engcomp 3), 2 (Eng 4W); Math 60 (Math 31A), 70 (31B), 80 (32A & 32B), 84 (33A); Physics 3A & 3B & 3C (Physics 1A & 1B & 1C & 4BL)
(No LBCC equivalents to the following UCLA courses: CBIS 9, Engl 3 or 3H; Engr 17, 17L, 54, 58; Math 64)

UC RIVERSIDE

• **B.S. Degree – Computer Science** (IGETC Not Acceptable!)
  CBIS 11, (CS 10) 12 (12), 37 (61); Engl 1 or 1H, 2 or 3 or 3H (Engl 1A & 1B & 1C); Engr 17 & 17L (EE 1A & 1LA) or 35 (ME 10 or 14); Math 60 & 70 (Math 9A & 9B & 9C), 80 (10A); Physics 3A & 3B (Phys 40A & 40B & 40C)
(No LBCC equivalents to the following UCR courses: CS 14; Math 46, 85)

UC SANTA CRUZ

• **B. A. Degree – Computer Science**
  Math 60 & 70 (Math 19A & 19B), 80 (22), 84 (27)
(No LBCC equivalents to the following UCSC courses: Cmps 12A, 12B; Cmpe 12C, 12L, 16; Math 23A, 23B)

UNIVERSITY OF SOUTHERN CALIFORNIA

• **B.S. Degree – Computer Science**
  This major is offered by USC’s School of Engineering. Students should complete a minimum of 30 transferable semester units with a minimum GPA of 3.0 to be competitive for transfer admission. The School of Engineering expects its transfer students to have completed at least half of the core courses listed in this guide. In general, students who have completed a greater number of core courses will be more competitive for admission. Note that USC does not require completion of GE requirements for admission, but every student should complete English 1 & 2 or 3 before transferring.

  Requirements: CBIS 12; Engl 1 or 1H, 2 or 3 or 3H; Engr 50; Math 60, 70, 84; Physics 3A, 3B; Physics 3C or Chem 1A