COMPUTER SCIENCE, ASSOCIATE OF SCIENCE (AS)

Overview

Computer Science has grown dramatically over the last decade, until it now affects each of us in our daily lives. We come into contact with dozens of different computer systems each day. These range from automatic bank tellers and "intelligent" cash registers, to automobile fuel monitoring systems.

 The Computer Science Department teaches students how to design and implement the computer software that brings intelligence to computer systems. Santa Barbara City College's Computer Science program includes introductory to advanced topics. It is designed to provide general education, transfer and occupational training.

Requirements

Associate Degree Graduation Requirements

Complete all of the following:

1. All Department Requirements listed below with a "C" or better or "P" in each course (at least 20% of the department requirements must be completed through SBCC).
2. One of the following three General Education options:
    a. OPTION 1: A minimum of 18 units of SBCC General Education Requirements (https://catalog.sbcc.edu/degrees-certificates-awards/#associatedegreestext) (Areas A-D) and Institutional Requirements (Area E) and Information Competency Requirement (Area F) OR
    b. OPTION 2: IGETC (https://catalog.sbcc.edu/transfer-curricula/#igetctext) Pattern OR
    c. OPTION 3: CSU GE Breadth (https://catalog.sbcc.edu/transfer-curricula/#csugebtext) Pattern
3. A total of 60 degree-applicable units (SBCC courses numbered 100 and higher).
4. Maintain a cumulative GPA of 2.0 or better in all units attempted at SBCC.
5. Maintain a cumulative GPA of 2.0 or better in all college units attempted.
6. A minimum of 12 units through SBCC.

Code	Title	Units
Department Requirements		
CS 105	Theory and Practice I	3
CS 106	Theory and Practice II	3
CS 107	Computer Architecture and Organization	3
CS 108	Discrete Structures	4
CS 140	Object-Oriented Programming Using C++	4
MATH 150	Calculus with Analytic Geometry I	5
PHYS 121	Mechanics Of Solids And Fluids	5
Complete at least 6 units from the following:		6-10
CS 104	Introduction to Programming	
CS 111	HTML And Webmastering	
CS 115	Javascript Programming	
CS 116	Web Server Programming	
CS 123	Android Programming	
CS 130	Introduction to the Linux Operating System	
CS 132	Digital Logic Design	
CS 133	Introduction to Programming for Engineers	
CS 137	C Programming	
CS 165	Software Design Patterns	
CS 180	Software Engineering With UML	
CS 187	iOS Programming	
CS 189	Programming Practicum	
MATH 160	Calculus with Analytic Geometry II	
MATH 200	Multivariable Calculus	
MATH 210	Linear Algebra	
MATH 220	Differential Equations	
PHIL 205	Introduction to Logic	
PHYS 122	Electricity and Magnetism	
Total Units		**33.00-37.00**

Note: MATH 250/MATH 260 may also count toward the elective requirement.

Learning Outcomes

1. Decompose problems into algorithms.
2. Use current computer applications
3. Create programs that use flow control and looping constructs (e.g. for and while).
4. Create programs that utilize standard data structures (e.g. queues and lists).
5. Create programs that use object-oriented concepts.
6. Create programs using current programming environments.
7. Describe computer architecture.
8. Deliver and test programs.

Recommended Sequence

Make an appointment with your SBCC academic counselor through Starfish to create a Student Education Plan that reflects a recommended course sequence for this program that is tailored to your individual needs.

How to schedule an Academic Counseling appointment (https://www.sbcc.edu/counselingcenter/counselingappointments.php).