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/#associatedegreeestext) (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.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 105</td>
<td>Theory and Practice I</td>
<td>3</td>
</tr>
<tr>
<td>CS 106</td>
<td>Theory and Practice II</td>
<td>3</td>
</tr>
<tr>
<td>CS 107</td>
<td>Computer Architecture and Organization</td>
<td>3</td>
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<tr>
<td>CS 108</td>
<td>Discrete Structures</td>
<td>4</td>
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<tr>
<td>CS 140</td>
<td>Object-Oriented Programming Using C++</td>
<td>4</td>
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<tr>
<td>MATH 150</td>
<td>Calculus with Analytic Geometry I</td>
<td>5</td>
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<tr>
<td>PHYS 121</td>
<td>Mechanics Of Solids And Fluids</td>
<td>5</td>
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<td>Complete at least 6 units from the following:</td>
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<tr>
<td>CS 104</td>
<td>Introduction to Programming</td>
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<td>CS 111</td>
<td>HTML And Webmastering</td>
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<tr>
<td>CS 115</td>
<td>Javascript Programming</td>
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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 (http://www.sbcc.edu/starfish/howtos/starfish_appt_how_to.pdf).