COMPUTER SCIENCE - ASSOCIATE IN SCIENCE

Plan Code: 2119

This degree prepares a student for an entry-level job in the computer software and hardware related fields by teaching them to apply the foundational skills and theory of Computer Science to a variety of problem domains, as well as a broad-based general education to prepare the students for global citizenship. This degree may help students succeed after transferring to a CSU or UC School Computer Science major program. Students wishing for a bachelor's degree (transfer program) should meet with a counselor to discuss the transferability of courses. Each CS course meets the California C-ID content standards for Computer Science.

Program Student Learning Outcomes

- Demonstrate the ability to attain the Institutional Student Learning Outcomes (ISLOs).
- Demonstrate a knowledge of common algorithms, their performance, and what applications to use them for.
- Create computer programs with object-oriented design principles, and demonstrate a solid understanding of the practice of programming.
- Articulate the basic structures of a processor and their relation to each other and performance, and demonstrate an understanding of assembly language.

Program Requirements

This degree requires the completion of General Education coursework plus the following:

Code Number	Course Title	Units
REQUIRED COURSES		
CS 11	Introduction to Computer Science- C++	3
or CS 21	Introduction to Computer Science-Java	
or CS 31	Introduction to Computer Science-Python	
Subtotal Units		**3**
IN ADDITION, complete the following:		
CS 22	Data Structures and Algorithms	3
CS 51	Introduction to Computer Architecture	3
CS 61	Discrete Structures	3
MATH 60/60H	First Calculus Course	5
MATH 70/70H	Second Calculus Course	5
PHYS 3A	Physics for Sci. & Eng. - Mechanics	5.5
PHYS 3B	Physics for Sci. & Eng. - E & M	4.5
Subtotal Units		**29**
Required Subtotal		**32**
Complete one of the following: [1]		19-39
LBCC General Education (Plan A) (https://lbcc-public.courseleaf.com/academic-requirements/general-education-transfer-degree-certificate-requirements/general-education-plans/plan-a/)		
CSU GE Breadth (Plan B) (https://lbcc-public.courseleaf.com/academic-requirements/general-education-transfer-degree-certificate-requirements/general-education-plans/plan-b/)		
IGETC Pattern (Plan C) (https://lbcc-public.courseleaf.com/academic-requirements/general-education-transfer-degree-certificate-requirements/general-education-plans/plan-c/)		
Electives (as needed to reach 60 degree-applicable units) [2]		
Minimum Degree Total		**60**

[1] Units for the major may be double-counted for LBCC GE, CSU GE, or IGETC; see counselor for limitations.

[2] Elective units from course(s) numbered 1-599, if needed, to reach 60 degree-applicable units.

COMPUTER SCIENCE - CERTIFICATE OF ACHIEVEMENT

Plan Code: 3119

This Certificate prepares a student for an entry-level job in the computer software and hardware related fields by teaching them to apply the foundational skills and theory of Computer Science to various domains. This series of courses is designed to place emphasis on problem solving with a balance of skill acquisition and fundamental theory. Each CS course meets the California C-ID content standards for Computer Science.

Program Student Learning Outcomes

- Demonstrate a knowledge of common algorithms, their performance, and what applications to use them for.
- Create computer programs with object-oriented design principles and demonstrate a solid understanding of the practice of programming.
- Articulate the basic structures of a processor and their relation to each other and performance and demonstrate an understanding of assembly language.

Program Requirements

Code Number	Course Title	Units
REQUIRED COURSES		
CS 11	Introduction to Computer Science- C++	3
or CS 21	Introduction to Computer Science-Java	
or CS 31	Introduction to Computer Science-Python	
Subtotal Units		**3**
IN ADDITION, complete the following:		
CS 22	Data Structures and Algorithms	3
CS 51	Introduction to Computer Architecture	3
CS 61	Discrete Structures	3
MATH 60/60H	First Calculus Course	5
MATH 70/70H	Second Calculus Course	5
PHYS 3A	Physics for Sci. & Eng. - Mechanics	5.5
PHYS 3B	Physics for Sci. & Eng. - E & M	4.5
Subtotal Units		**29**
Total Units		**32**

ANDROID APP DEVELOPER - CERTIFICATE OF ACCOMPLISHMENT

Plan Code: 4119

Program Student Learning Outcomes

- Demonstrate the ability to create, design, and implement java-based Android applications (apps) using the Android API.
- Show the skills to create, manage, and use databases and SQL for Android applications (apps).
- Be able to complete the full development process for Android Applications (apps).

Program Requirements

Code Number	Course Title	Units
REQUIRED COURSES		
CS 11	Introduction to Computer Science- C++	3
or CS 21	Introduction to Computer Science-Java	
or CS 31	Introduction to Computer Science-Python	
COSP 230	Android App Development in Java	3
Total Units		**6**