

# 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
<b>REQUIRED COURSES</b>		
CS 11 or CS 21 or CS 31	Introduction to Computer Science- C++ Introduction to Computer Science-Java Introduction to Computer Science-Python	3
<b>Subtotal Units</b>		<b>3</b>
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
<b>Subtotal Units</b>		<b>29</b>
<b>Required Subtotal</b>		<b>32</b>
Complete one of the following: <sup>1</sup>		19-39
LBCC General Education (Plan A) ( <a href="https://lbcc-public.courseleaf.com/academic-requirements/general-education-transfer-degree-certificate-requirements/general-education-plans/plan-a/">https://lbcc-public.courseleaf.com/academic-requirements/general-education-transfer-degree-certificate-requirements/general-education-plans/plan-a/</a> )		
CSU GE Breadth (Plan B) ( <a href="https://lbcc-public.courseleaf.com/academic-requirements/general-education-transfer-degree-certificate-requirements/general-education-plans/plan-b/">https://lbcc-public.courseleaf.com/academic-requirements/general-education-transfer-degree-certificate-requirements/general-education-plans/plan-b/</a> )		

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) <sup>2</sup>

**Minimum Degree Total** **60**

<sup>1</sup> Units for the major may be double-counted for LBCC GE, CSU GE, or IGETC; see counselor for limitations.

<sup>2</sup> Elective units from course(s) numbered 1-599, if needed, to reach 60 degree-applicable units.