

Laney College

CIS/Computer Programming

Overview

College	Laney - Mathematics and Sciences
Originator	Kim Bridges
Award Type	A.S. Degree

Codes and Dates

State Approval Date	1/02/2018
Curriculum Committee Approval Date	5/12/2017
Board of Trustees Date	1/27/2015
Current Effective Date	1/22/2018
Program Control Number	35120
Top Code	0707.10 - Computer Programming/Programmer, General*
CIP Code	11.0201: Computer Programming/Programmer, General.

Description

The major in Computer Programming prepares students for careers as software developers. The program provides the analytical, methodological, and language skills required within the computer industry, and serves as a partial foundation for continued education at four-year institutions.

Career Opportunities

Computer programming continues to be an excellent career, with openings in all industries. Job titles include: Computer Programmer, Programmer/Analyst, Software Developer, Computer Systems Analyst, Computer Applications Developer, Computer Applications Engineer, Computer Language Coder, Computer Systems Consultant, Software Architect, Software Engineer

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Computer Software Development: Demonstrate the ability to apply data requirements, algorithmic principles, and software development practice in the modeling and design of computer-based systems in a way that proves comprehension of the tradeoffs involved in design choices.
2. Programming Skills: Demonstrate the ability to analyze a problem, using algorithms to create computer systems and appropriate problem solving using a programming language.
3. Solve Business Problems with Computers: Interpret and analyze a business information problem and design, code, compile, test and debug a program solution in C++ using proper program syntax balancing efficiency and maintainability, and manage project tasks required for completion of a computer system development project.

Degree Requirements:

Introduction to Computer Science (5 units) **Credit Hours:** (0 Required)

CIS 005	Introduction to Computer Science	5
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Introductory Programming (Choose one of the following) (5 units) **Credit Hours:** (0 Required)

CIS 006	or	Introduction to Computer Programming	5
CIS 061		Structure and Interpretation of Computer Programs	5

Take one of these introductory programming courses. Students planning to transfer to a Computer Science program, especially at UC Berkeley, .

Programming Fundamentals (Choose one of the following) (4 units) **Credit Hours:** (0 Required)

CIS 025	or	Object Oriented Programming Using C++	4
CIS 036A		Java Programming Language I	4

Advanced Programming (Choose one of the following) (4 units) **Credit Hours:** (0 Required)

CIS 025B	or	C++ Programming Language II	4
CIS 036B	or	Java Programming Language II	4
CIS 020		Microcomputer Assembly Language	4

Electives (minimum 7 units) **Credit Hours:** (0 Required)

BUS 001A		Financial Accounting	4
BUS 001B		Managerial Accounting	4
BUS 005		Human Relations in Business	3
BUS 020		General Accounting	3
BUS 024		Computerized Accounting Principles	3
CIS 006		Introduction to Computer Programming	5
CIS 020		Microcomputer Assembly Language	4
CIS 025		Object Oriented Programming Using C++	4

CIS 025B	C++ Programming Language II	4
CIS 027	Data Structures and Algorithms	4
CIS 036A	Java Programming Language I	4
CIS 036B	Java Programming Language II	4
CIS 061	Structure and Interpretation of Computer Programs	5
CIS 062	Introduction to Systems Analysis and Design	3
CIS 081	Systems Analysis with UML	3
CIS 098	Database Programming with SQL	4
CIS 099	Database Administration with SQL	4
ECON 002	Principles of Economics (Micro-Economics)	3
MATH 003A	Calculus I	5
MATH 011	Discrete Mathematics	4
MATH 013	Introduction to Statistics	4

Select programming-related electives to bring the total to 25 units.

Total Major Units (25 units)	Credit Hours: (0 Required)
25	
General Education and Electives	Credit Hours: (0 Required)
35	
Total Units	Credit Hours: (60 Required)
60	

Total: 60

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