

Peralta Community College District

CIS/Computer Programming

Overview

College	Laney College
Originator	Patrick McDermott
Award Type	A.S. Degree

Codes and Dates

State Approval Date	7/04/2016
Curriculum Committee Approval Date	10/10/2014
Board of Trustees Date	1/27/2015
Current Effective Date	8/22/2016
Program Control Number	35120
Top Code	0707.10 - 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 an understanding and competence in 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.
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Degree Requirements:

Introduction to Computer Science (5 units)	Credit Hours: (0 Required)
CIS 005 Introduction to Computer Science	5
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, es

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 Java Programming Language II	4
Electives (minimum 7 units)	Credit Hours: (0 Required)
CIS 006 Introduction to Computer Programming	5
CIS 025 Object Oriented Programming Using C++	4
CIS 027 Data Structures and Algorithms	4
CIS 025B C++ Programming Language II	4
CIS 036A Java Programming Language I	4
CIS 036B Java Programming Language II	4
CIS 061 Structure and Interpretation of Computer Programs	5
MATH 003A Calculus I	5
MATH 011 Discrete Mathematics	4
MATH 013 Introduction to Statistics	4
ECON 002 Principles of Economics (Micro-Economics)	3
BUS 020 General Accounting	3
BUS 001A Financial Accounting	4
BUS 001B Managerial Accounting	4
BUS 024 Computerized Accounting Principles	3
BUS 040A Introduction to Microsoft Access for Business Applications	4
BUS 005 Human Relations in Business	3
<i>Select programming-related electives to bring the total to 25 units. Any programming course, including those listed above</i>	
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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