![Pasadena City College logo]

COMPUTER INFORMATION SYSTEMS – SOFTWARE DEVELOPMENT – ASSOCIATE IN SCIENCE DEGREE, CERTIFICATE OF ACHIEVEMENT

Top Code:

0707.10

This Software Development curriculum prepares students with necessary skills to seek entry-level employment in software development. Instruction includes development, testing, and maintenance of applications using programming languages including and not limited to Python, C++, Java, and SQL. Upon completion of coursework, students will have the foundation needed to pursue industry certifications including and not limited to Python institute's Certified Associate in Python Programming (PCAP) and Certified Professional in Python Programming (PCPP), C++ Institute's C++ Certified Associate Programmer (CPA) and C++ Certified Professional Programmer (CPP), Oracle Certified Associate (OCA) – Java SE Programmer, and Oracle Certified Professional (OCP) – Java SE Programmer.

A Certificate of Achievement is awarded upon completion of all required courses with a grade of C or better.

Program Outcomes

- Analyze a problem and formulate steps required to solve that problem using a programming language.
- Design Top Down or Object Oriented algorithms to solve problems.
- Develop, test, and, document a program based on a Top Down or Object Oriented algorithm.

Requirements for the Certificate of Achievement

Code	Title	Units
CIS 012	INTRODUCTION TO PROGRAMMING USING PYTHON	3
CIS 014	C++ PROGRAMMING	3
CIS 016	JAVA PROGRAMMING	3
CIS 031	INTRODUCTION TO DATABASE MANAGEMENT SYSTEMS	3
CIS 112	ADVANCED PROGRAMMING USING PYTHON	3
CIS 112D	DATA STRUCTURES AND ALGORITHMS	3
Total Units		**18**

Visit the Program Mapper (https://pasadena-city.programmapper.ws/academics/interest-clusters/35afad1b-8598-4ecf-a320-0ed4834a7df8/programs/c8e7840f-ceae-77ea-9aa9-163485c25efa/) for a suggested sequence of courses.

General Education Requirements for the Associate in Science Degree

- General Information (https://curriculum.pasadena.edu/academic-programs-leading-degree-certificate/)
- PCC Local Gen Ed (https://curriculum.pasadena.edu/academic-programs-leading-degree-certificate/#pcclocaltext)
- CSU Breadth (https://curriculum.pasadena.edu/academic-programs-leading-degree-certificate/#csubreadthtext)
- IGETC (https://curriculum.pasadena.edu/academic-programs-leading-degree-certificate/#igetctext)