

# COMPUTER PROGRAMMING ASSOCIATE IN SCIENCE AND CERTIFICATE OF ACHIEVEMENT



The Computer Science Information Systems curricula provides a foundation in computing and information systems serving the diverse goals of the Grossmont community: employment in various phases of the computing industry, transfer to a baccalaureate institution for continued study in the computer and information sciences, training in selected topics for application in other professions or for personal enrichment, and advanced study for returning computing professionals. Throughout, emphasis is placed on blending fundamental theory and technique with practical applications in business, scientific and academic computing. A guiding principle is the use of intense hands-on instruction with state-of-the-art computer technology.

Five related but distinct areas of emphasis designed to provide corresponding job entry points are available as two-year curricula: Computer Programming, Web Design and Software Engineering. Completion of the Computer Science Information Systems core courses or their equivalent plus any one area of emphasis satisfies the major requirements for the Associate Degree.

An area of emphasis intended for the two-year vocational student who plans to gain entry level employment as a programmer for systems. Students who complete the sequence successfully are able to write or maintain code for program modules from design documents and specifications prepared by senior programmers or analysts.

## Career Opportunities

<https://www.grossmont.edu/student-support/career-center/resources.php>

Computer Support Specialist  
Communications Technician  
Computer Maintenance Technician  
Computer Systems Analysts<sup>1</sup>  
Database Administrators<sup>1</sup>  
Information Specialist<sup>1</sup>  
LAN (Local Area Network) Administrator  
Network Systems & Data Communication Analysts  
Office Administrators  
Programmer  
Software Engineers<sup>1</sup>  
Software Technician  
Systems Analyst<sup>1</sup>  
Technical Support Representative

<sup>1</sup> Bachelor's Degree or higher required.

The Program-level Student Learning Outcomes (PSLOs) below are outcomes that students will achieve after completing specific degree / certificate requirements in this program.

Students will perform computer end user support including identifying and implementing solutions to user requests.

1. Analyze and evaluate a computer-related situation in a business and/or scientific environment to identify a potential problem.
2. Design a technologically feasible and efficient solution.
3. Construct and complete the solution.
4. Demonstrate and explain the solution.

## Similar Course List

The following Grossmont and Cuyamaca College courses are considered similar enough to be accepted in the major for local Computer Science degrees in the district. No Modification of Major forms are required at either campus.

Grossmont Course	Similar Cuyamaca Course
CSIS-112	CIS-190
CSIS-113	CIS-191
CSIS-119	CS-119
CSIS-132	CIS-211
CSIS-133	CIS-213
CSIS-135	CIS-215
CSIS-180	CIS-140
CSIS-293	CS-182
CSIS-294	CS-282
CSIS-296	CS-181
CSIS-297	CS-281

## Associate Degree Major Requirements

**Note: All courses must be completed with a letter grade of "C" or higher or "Pass."**

Code	Title	Units
CSIS-112 or CSIS-113	Windows Operating System Introduction to Linux	3
CSIS-119	Introduction to Computer Programming	3
CSIS-293	Introduction to Java Programming	4
CSIS-294	Intermediate Java Programming and Fundamental Data Structures	4
Select one of the following sequences:		8
CSIS-296 & CSIS-297	Introduction to C++ Programming and Intermediate C++ Programming	
or		
CSIS-250 & CSIS-251	Introduction to Python Programming and Intermediate Python Programming and Fundamental Data Structures	
Select two of the following:		6-8
CSIS-132	Introduction to Web Development	
CSIS-133	Intermediate Web Development	
CSIS-135	JavaScript Programming	
CSIS-165	Assembly Language and Machine Architecture	

CSIS-250	Introduction to Python Programming
CSIS-251	Intermediate Python Programming and Fundamental Data Structures
CSIS-276	Introduction to SQL
CSIS-290	Introduction to C# Programming
CSIS-293	Introduction to Java Programming
CSIS-294	Intermediate Java Programming and Fundamental Data Structures
CSIS-295	Android Application Development with Java
CSIS-296	Introduction to C++ Programming
CSIS-297	Intermediate C++ Programming
<b>Total Units</b>	<b>28-30</b>

Plus General Education (<https://catalog.gcccd.edu/grossmont/admission-information/general-education-transfer/>) and Elective Requirements

## Certificate of Achievement

Any student who chooses to complete only the requirements listed above qualifies for a Certificate of Achievement in Computer Programming. An official request must be filed with the Admissions and Records Office prior to the deadline stated in the Academic Calendar.