

# COMPUTER PROGRAMMING

## A.S. DEGREE

### Description

This degree focuses on core concepts in computer science, preparing students to transfer to CSUMB, SJSU, UCSC, and other 4-year colleges. Students should consult a counselor and the Gavilan CSIS webpage for information on choosing courses that best meet the requirements for their intended 4-year institution.

### Program Learning Outcomes

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

1. Apply algorithmic, mathematical, and scientific reasoning to design and implement solutions to a variety of computational problems.

### Program Requirements:

#### Required Courses:

**Unit Hours: (9 - 10 Required)**

CSIS45 or	C++ Programming I	3
CSIS24	Java Programming I	3
CSIS46 or	C++ Programming II	3
CSIS27	Java Programming II	3
CSIS26 or	Discrete Structures	3
CSIS42 or	Python Programming	4
CSIS48	UNIX/Linux Operating System	4

**Electives: Choose additional units for a total 18 units in the major. Different electives are recommended for different transfer institutions. Students should check the requirements of their transfer institution, in consultation with a counselor and the information at [www.gavilan.edu/csis](http://www.gavilan.edu/csis)**

**Unit Hours: (8 - 9 Required)**

CSIS28 or	Computer Architecture and Organization	3
CSIS12 and	Assembly Language Programming	3
CSIS12L	Assembly Language Programming Lab	1
CSIS24 or	Java Programming I	3
CSIS45	C++ Programming I	3
CSIS51 or	Visual Basic Programming	4
CSIS49 or	UNIX/Linux Shell Programming	4
CSIS44 or	C# .NET Programming	4
CSIS5	C++ Scientific Programming	3
CSIS42 or	Python Programming	4
CSIS54 and	Perl Programming	3
CSIS54L	Perl Programming Lab	1
CSIS6 or	Webpage Authoring	3
DM6 or	Webpage Authoring	3
CSIS84 or	JavaScript Programming	2
CSIS160 or	Game Design	3
DM160 or	Game Design	3
CSIS78	Web Sites with SQL and PHP	4

**General Education Requirements: (35 - 39 Units)**

**Unit Hours: (35 - 39 Required)**

**Total: 52.00 - 58.00**

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