COMPUTER PROGRAMMING

CERTIFICATE OF ACHIEVEMENT

Description

This certificate focuses on core concepts in computer science. For students who already have work experience or a degree, this certificate offers tools for career transformation and career enhancement. Students who plan to transfer should consult with a counselor and complete the general education requirements for the Computer Programming A.S. degree.

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. Note for students who may plan to transfer in the future: 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		**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 | Game Design | 3 |
| CSIS78 | Web Sites with SQL and PHP | 4 |

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DM160   Game Design   3

CSIS78   Web Sites with SQL and PHP   4

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