



CURRICULUM GUIDE 2014-2015

COMPUTER STUDIES

Associate in Arts in Computer Studies and Certificate of Achievement in Computer Studies

An associate degree in Computer Studies prepares students for entry-level employment within the IT field. Graduates can either use their degrees to obtain positions such as information technology project managers, program managers, or network administrators; or they may choose to pursue further study. An associate degree will prepare students for transfer to a bachelor's program when complemented with additional math, science, and GE requirements. Students must obtain certain technological skills before moving on to more advanced study. In addition to becoming familiar with basic computer principles, students will also acquire analytical skills, software engineering skills, programming skills, troubleshooting skills, data management skills, applied knowledge skills, and technical skills.

Requirements for Associate in Arts Degree:

- a) Complete Major Field courses from one of the two options indicated below with a grade of C or better.
- b) Complete Ohlone College General Education (Plan A), CSU GE (Plan B), or IGETC (Plan C) requirements. These requirements are specified in the Ohlone College catalog.
- c) Complete at least 60 degree-applicable units with a 2.0 grade point average.
- d) Complete at least 12 units at Ohlone College.

Requirements for Certificate of Achievement:

- a) Complete one of the Major Field options as indicated below.
- b) Complete at least six units at Ohlone College.
- c) Maintain a 2.0 grade point average in Major Field courses.

Student Learning Outcomes

1. Given a specification, design an algorithm and implement the pseudocode to solve the problem.
2. Given a program with logic errors, correct the code by applying debugging and data validation skills.
3. Demonstrate knowledge of fundamental computer science concepts (e.g. hardware, logic, discrete mathematics, software design, networks, and the Internet.)

MAJOR FIELD

Students must complete all courses in one of the following two options listed below:

Option #1-Computer Programming (Software Development)

CS-101	Introduction to Computers and Information Technology	3
CS-102*	Introduction to Computer Programming Using C++	4
CS-113/MATH-163*	Discrete Mathematics for Computers	3
CS-116*	Object-Oriented Programming Using C++	4
CS-118*	Introduction to Assembly Language Programming	4
CS-124*	Programming with Data Structures OR	4
CS-170	Java Programming	(4)
CS-152	Data Communications	2
CS-178	XML	3
	Major Field Electives	<u>3</u>
		30

*Note: These Major Field courses and other supporting courses are usually required by most baccalaureate colleges and universities for the computer science major. Consult the specific college's catalog for details.

MAJOR FIELD ELECTIVES

Courses may not be taken for duplicate credit.

CNET-160A	Microsoft Client Operating Systems	2
CS-146	Introduction to UNIX/Linux	<u>3</u>
		3
	Total Required Units:	30

Option #2 – Computer Programming (Internet/Web Programming)

CS-101	Introduction to Computers and Information Technology	3
CS-104A	Introduction to .NET Programming	4
CS-104B	Advanced .NET Programming	4
CS-113/MATH-163	Discrete Mathematics for Computers OR	3
MATH-156	Math for Liberal Arts OR	(3)
MATH-166	Finite Mathematics	(4)
CS-149	PERL Programming	4
CS-152	Data Communications	2
CS-170	Java Programming	4
CS-175	From JavaScript to AJAX	4
	Major Field Electives	<u>3</u>
		31-32

MAJOR FIELD ELECTIVES

Courses may not be taken for duplicate credit.

CNET-160A	Microsoft Client Operating Systems	2
CS-102	Introduction to Computer Programming Using C++	4
CS-146	Introduction to UNIX/Linux	3
CS-149	PERL Programming	<u>4</u>
		3-4

Total Required Units: 31-32