



CURRICULUM GUIDE 2021-2022

COMPUTER SCIENCE FOUNDATIONS

Certificate of Achievement in Computer Science Foundations

INTEREST AREA: SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS (STEM)

The Certificate of Achievement in Computer Science Foundations provides students with the programming skills needed to succeed in further studies in computer science and related fields and specializations such as data science, game programming, systems design, systems security, etc. Topics addressed include introduction to programming, objective-oriented programming, data structures and algorithms, discrete structures, and assembly language. With completion of the certificate, students will be able to create computer programs to effectively accomplish specific tasks or address identified problems.

The certificate is stackable to the Associate in Science in Computer Science for Transfer. Courses required for this certificate align with transfer requirements of many baccalaureate institutions.

Requirements for Certificate of Achievement

- a) Complete Major Field courses.
- 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. Create computer programs to effectively accomplish specific tasks or address identified problems, utilizing programming structures (such as sequence, iteration, and selection) and object-oriented programming concepts.
2. Recognize the importance of logical arguments and lower-level computing concepts in effective design, development, and implementation of computer programs.

MAJOR FIELD

CS-102	Introduction to Computer Programming Using C++	3
CS-113	Discrete Structures	3
CS-116	Object-Oriented Programming Using C++	4
CS-118	Introduction to Assembly Language Programming	3
CS-124	Programming with Data Structures	<u>3</u>
		Total Required Units: 16