

COMPUTER SCIENCE

Certificate of Achievement

The goals and objectives of the Computer Science Certificate of Achievement are to provide a solid theoretical foundation and practice of computer organization and software development encompassing issues from analysis and design, to implementation and testing. The certificate is designed for those students who have a desire to pursue a career as: programmers, software developers, software quality assurance analysts and testers, computer engineers, and engineering technician.

Program Learning Outcomes

Upon successful completion of this program a student will be able to:

- Design, implement, test and debug simple programs in an object oriented programming language.
- Demonstrate an understanding of computer organization and hardware and be able to code in assembly language
- Use a scripting language like Python to perform data analysis.
- Implement and test common data structures like stacks, queues, heaps, maps, trees and graphs and algorithms with a compiled, object-oriented language like C++ or Java
- Design, implement and test programs written with a compiled, object-oriented language like C++ or Java.

Program Requirements (24 units)

Course Number	Course Title	Units
CIST005A	Introduction to Python	4 units
CIST039	Computer Organization and Assembly Programming	4 units
MATH019	Discrete Mathematics	4 units
Select one: CIST004A CIST004A1	Computer Programming I C++ Programming Computer Programming I Java	4 units 4 units
Select one: CIST004B CIST004B1	Data Structures using Advanced C++ Data Structures using Advanced Java	4 units 4 units
Select one: CIST005B CIST037	Advanced Python C Programming	4 units 4 units

Total Certificate Units: 24 units

To be awarded a certificate, a student must:

1. Complete all the program requirements.
2. Earn a grade of JCK or "P" or better for all required courses.