COMPUTER PROGRAMMING, CERTIFICATE OF ACHIEVEMENT

A computer programmer is a professional who is skilled in writing small, medium to large-scale computer applications. This requires the knowledge and practice of a variety of areas in Computer Science. This certificate focuses on learning and using advanced programming techniques like C++, Java, and Python to build a variety of software applications. In addition, it covers core computer science concepts such as Computer Architecture, Computer Organization, Data Structure, and Database Theory.

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To earn a Certificate of Achievement in Computer Programming, students must complete the following courses.

Course ID	Title	Units/Hours
Required Core: Complete the following		
CS M10A		4
or CS M125	Programming Concepts and Methodology I	
CS M10DB	Database Management Systems and Applications	3
CS M10J	Introduction to Computer Programming Using Java	4
CS M10P	Introduction to Computer Programming using Python Language	4
CS M135	Programming Concepts and Methodology II	3
CS M145	Computer Architecture and Organization	3

Year 1		
Fall Semester		**Units/Hours**
CS M10A		4
or CS M125	or Programming Concepts and Methodology I	
CS M10DB	Database Management Systems and Applications	3
	Units/Hours	**7**
Spring Semester		
CS M10J	Introduction to Computer Programming Using Java	4
	Units/Hours	**4**
Year 2		
Fall Semester		
CS M10P	Introduction to Computer Programming using Python Language	4
CS M135	Programming Concepts and Methodology II	3
	Units/Hours	**7**
Spring Semester		
CS M145	Computer Architecture and Organization	3
	Units/Hours	**3**
	Total Units/Hours	**21**

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

- design, code, test, and debug computer programs.
- understand and use application software, and the entire components of the system unit.