

COMPUTER AND INFORMATION SCIENCES: PROGRAMMER (CERT)

CERTIFICATE OF ACHIEVEMENT

The CIS Computer Programming degree is designed to provide students with skills in computer programming to enable graduates to gain employment as an entry-level programmer. Courses will emphasize skills on how to organize, code, and test computer programs for variety of applications.

Program Student Learning Outcomes

- Students create a graphical user interface to be used with a computer application.
- Students develop and maintain a database application.
- Students distinguish between the different programming languages.
- Students implement and use a Unix client or server.
- Students use object oriented programming to develop a computer application.
- Students utilize various fundamental database structures.

Program Requirements

Code Number	Course Title	Units
Division/Department Requirements		
CIS 103	Computer Programming Logic	3.5
CIS 180	Programming in C/C++	3.5
CIS 181	Python Programming	3.5
CIS 183	Java Programming	3.5
CIS 207	Database Design and SQL	3.5
or CIS 208A	Oracle SQL and PL/SQL	
CIS 214	Unix and Linux Operating Systems	3.5
CIS 280X	Object-Oriented Programming in C++	3.5
CIS 282	Advanced Java Programming	3.5
CIS 292	Data Structures	3.0
Select at least 6 units from the following:		6.5-7.0
CIS 160	Web Page Development	
CIS 162	HTML and CSS	
CIS 164	JavaScript Programming	
CIS 170L	Cybersecurity Fundamentals	
CIS 201	Systems Analysis and Design	
CIS 231	Computer Organization and Assembly Language Programming	
CIS 285A	ASP.Net Programming	
CIS 286	Software Development with C#	
CIS 288	Mobile Application Development	
Total Units		37.5-38