

PROGRAMMING CERTIFICATE

Division: Business and Computer Information Systems

PROGRAM CODE: 2C36698

The **Programming Certificate** is designed to prepare students for an entry-level job in the programming field. Students receive a grounding in a breadth of current programming languages and must select electives focusing on web programming, Java and mobile applications programming, database management or game programming. A grade of C or better is required in each course taken. This certificate requires 34-35 units.

Code	Title	Units
Required Courses (25 units):		
CIS 130 F	Systems Analysis and Design	3
CIS 180 F	Introduction to Networking Concepts	4
CIS 200 F	Fundamentals of Computer Programming	1
CIS 217 F	Visual Basic Programming I	4
CIS 221 F	Introduction to C# Programming	3
CIS 223 F	Programming in C++	3
CIS 226 F	Java Programming I	4
CIS 230 F	PHP and MySQL Programming	3
For a focus on JAVA and MOBILE APPLICATIONS, select three courses for 9-10 units.		9-10
CIS 222 F	Computer Scripting (formerly CGI/Perl Scripting)	3
CIS 227 F	Advanced C# Programming	3
CIS 228 F	Java Programming II	4
CIS 229 F	XML Programming	3
CIS 240 F	Intro to Mobile Applications	4
OR		
For a focus on WEB PROGRAMMING, select three courses for 9 units.		
CIS 152 F	Web Design I (formerly Web Page Design II)	3
CIS 157 F	Web Design II (formerly Dreamweaver I)	3
CIS 155 F	Web Page Multimedia Design I	3
CIS 255 F	Web Page Multimedia Design II	3
OR		
For a focus on DATABASE MANAGEMENT, select three courses (9 units):		
CIS 142 F	Database I	3
CIS 242 F	Database II	3
CIS 270 F	SQL Server Administration	3
CIS 280 F	Introduction to Oracle: SQL and PL/SQL	3
CIS 285 F	Windows Server	3
CIS 286 F	Web Server Management	3
OR		
For a focus on GAME PROGRAMMING, select three courses (9 units):		
CISG 110 F	Introduction to Programming for Computer Games	3
CISG 160 F	C# for Game Programming	3
CISG 165 F	C++ for Game Programming	3

CISG 170 F	Java for Game Programming	3
CISG 175 F	Multimedia Game Programming	3
CISG 182 F	DirectX Graphics Programming	3
CISG 185 F	Artificial Intelligence in Game Programming	3
CISG 190 F	Programming Multiuser Online Games	3

Total Units **34-35**

Outcome 1: Demonstrate proficiency in one or more common business software programs.

Outcome 2: Demonstrate an understanding of common computer technology-related terms.

Outcome 3: Demonstrate the ability to be effective communicators using common business communication tools.

Outcome 4: Demonstrate knowledge of common internet-related technologies and software.

https://www.curricunet.com/fullerton/reports/program_report.cfm?programs_id=759