

Computer Information Systems (CIS)

Certificates

The **Business Productivity Software certificate** requires 19 credits in the courses listed below.

Field of Study Code: CIS.CER.BUSPRO

Total Credits Required	19
Cis 1130 Windows Basics.....	2
Cis 1150 Understanding Computers, Information and Systems	3
Cis 1205 Office Suite Software Integration.....	3
Cis 1221 Data Analysis with Spreadsheets	3
Cis 1230 Microcomputer Database Application	3
Cis 1240 Presentation Graphics – Windows Based	2
Cis 1300 Web Design Software	3

The **C++ Language Proficiency certificate** requires 15 credits in the courses listed below.

Field of Study Code: CIS.CER.CPLUS

Total Credits Required	15
Cis 1150 Understanding Computers, Information and Systems	3
Cis 1400 Programming Logic and Technique	4
Cis 2541 C++ Language Programming	4
Cis 2542 Advanced C++ With Data Structure Applications.....	4

The **Database Proficiency certificate** requires proficiency in using Windows and 10 credits in the courses listed below.

Field of Study Code: CIS.CER.DBPRO

Total Credits Required	10
Cis 1150 Understanding Computers, Information and Systems	3
Cis 1230 Microcomputer Database Application	3
Cis 2710 Database Management.....	4

The **Enterprise Database Proficiency certificate** requires 13 credits in the courses listed below.

Field of Study Code: CIS.CER.ENTDB

Total Credits Required	13
Cis 1400 Programming Logic and Technique	4
Cis 2720 Structured Query Language (SQL) I	3
Cis 2725 Enterprise SQL Application.....	3
OR	
Cis 2730 Enterprise Database Development	3
Cis 2770 Introduction to System Analysis & Design	3

The **Game Design and Development certificate** will prepare the student for careers in computer game design and development. This certificate requires 31 credits in the courses listed below.

Field of Study Code: CIS.CER.GAMED

Total Credits Required	32
Cis 1199 Introduction to Game Industry	3
Cis 1200 Game Design	3
Cis 1201 Advanced Game Design	3
Cis 1211 2D Game Development.....	3
Cis 1212 Game Asset Creation and File Optimization.....	3
Cis 1400 Programming Logic and Technique.....	4
Cis 2211 2D Game Scripting	3
Cis 2212 3D Game Development.....	3
Cis 2541 C++ Language Programming	4
Art 1101 Drawing I	3

The **Game Programming and Development certificate** prepares the student to program and develop video games using programming languages and development tools used in the game industry.

Field of Study Code: CIS.CER.GAMEP

Total Credits Required	34
Cis 1199 Introduction to Game Industry	3
Cis 1200 Game Design	3
Cis 1211 2D Game Development.....	3
Cis 1400 Programming Logic and Technique.....	4
Cis 2211 2D Game Scripting	3
Cis 2212 3D Game Development.....	3
Cis 2220 Game Programming Using C++	3
Cis 2420 Microprocessor Assembly Language	4
Cis 2541 C++ Language Programming	4
Cis 2542 Advanced C++ With Data Structure Applications	4

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The **iPhone/iPad Developer Proficiency certificate** prepares the student to design and develop applications for Apple iOS platform in accordance with Apple development standards. This certificate requires 16 credits in the courses listed below.

Field of Study Code: CIS.CER.IPHPD

Total Credits Required16		
Cis 1400	Programming Logic and Technique.....	4
Cis 2541	C++ Language Programming	4
Cis 2592	iPhone/iPad Application Development	4
Cis 2594	Advanced iPhone/iPad Application Development.....	4

The **JAVA Language Proficiency certificate** requires 15 credits in the courses listed below.

Field of Study Code: CIS.CER.JAVA

Total Credits Required15		
Cis 1150	Understanding Computers, Information and Systems	3
Cis 1400	Programming Logic and Technique	4
Cis 2571	Introduction to Java	4
Cis 2572	Collections in Java	4

The **LINUX certificate** documents proficiency in the Linux operating system and its environment. This certificate requires 16 credits in the courses listed below.

Field of Study Code: CIS.CER.LINUX

Total Credits Required16		
Cis 1150	Understanding Computers, Information and Systems	3
Cis 1400	Programming Logic and Technique.....	4
Cis 1450	Introduction to Linux/Unix Operating Systems	3
Cis 2440	Shell Programming for UNIX/LINUX.....	3
Cis 2455	LINUX System Administration	3

The **Windows Network Administration certificate** for Information Technology (IT) professionals with the knowledge to design and implement a Microsoft network using Active Directory (AD). This certificate requires 21 credits in the courses listed below.

Field of Study Code: CIS.CER.NETWK

Total Credits Required21		
Cis 1150	Understanding Computers, Information and Systems	3

Cis 1180	Introduction to Networking.....	3
Cis 1610	Windows Client OS.....	3
Cis 1620	Windows Server OS.....	3
Cis 1630	Windows Server Active Directory (AD)	3
Cis 1660	Managing a Microsoft Windows Server Network	3
Cis 1670	Planning a Microsoft Windows Server Network	3

This Windows based **Spreadsheet Proficiency certificate** prepares students to utilize spreadsheets, analyze data, and apply business intelligence tools in business applications.

Field of Study Code: CIS.CER.SPREAD

Total Credits Required11-12		
Cis 1110	Introduction to Informatics	2
OR		
Cis 1130	Windows Basics	2
OR		
Cis 1150	Understanding Computers, Information and Systems	3
OR		
Ofti 1200	MS Office for Professional Staff	3
Cis 1205	Office Suite Software Integration	3
Cis 1221	Data Analysis with Spreadsheets	3
Cis 1222	Advanced Spreadsheets with Business Intelligence.....	3

The **UNIX Proficiency certificate** requires 16 credits in the courses listed below.

Field of Study Code: CIS.CER.UNIX

Total Credits Required16		
Cis 1150	Understanding Computers, Information and Systems	3
Cis 1400	Programming Logic and Technique.....	4
Cis 1450	Introduction to Linux/Unix Operating Systems	3
Cis 2440	Shell Programming for UNIX/LINUX.....	3
Cis 2450	UNIX System Administration.....	3

The **Visual BASIC Language Proficiency certificate** requires 15 credits in the courses listed below.

Field of Study Code: CIS.CER.VB

Total Credits Required15		
Cis 1150	Understanding Computers, Information and Systems	3
Cis 1400	Programming Logic and Technique.....	4
Cis 1510	Graphical User Interface Programming	4
Cis 2510	Advanced Graphical User Interface Programming	4

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The **Web Programmer certificate** requires 31 credits in the courses listed below.

Field of Study Code: CIS.CER.WEBPRG

Total Credits Required			31
Cis	1120	The Internet	2
Cis	1130	Windows Basics.....	2
Cis	1150	Understanding Computers, Information and Systems	3
Cis	1180	Introduction to Networking	3
Cis	1300	Web Design Software.....	3
Cis	1310	HTML and CSS	3
Cis	1400	Programming Logic and Technique.....	4
Cis	2320	JavaScript and Advanced HTML	3
Cis	2571	Introduction to Java	4
Cis	2572	Collections in Java	4

The **Web Client Developer certificate** provides the necessary skills and knowledge for client-side Web site development. Learn to develop Web sites using Hypertext Markup Language version 5 (HTML5), Cascading Style Sheets (CSS), and JavaScript. You will write code manually, as well as use graphical user interface (GUI) authoring tools, and program client-side, platform-independent solutions. This certificate requires 13 credits in program requirements in the courses listed below.

Field of Study Code: CIS.CER.CLIENT

Total Credits Required			13
Cis	1300	Web Design Software.....	3
Cis	1310	HTML and CSS	3
Cis	1400	Programming Logic and Technique.....	4
Cis	2320	JavaScript and Advanced HTML	3

Contact Information:

If you are considering this program as an area of study, please contact the **Business & Applied Technology Division** office at 630-942-2592.

Program web site:

<http://www.cod.edu/academics/programs/cis/>