

CIS PROFESSIONAL IN C++ PROGRAMMING (CERTIFICATE E0714)

Business Division

Certificate E0714

The CIS Professional Certificate in C++ Programming prepares students for a career in computer programming. It is intended for returning CIS professionals with several years of experience or current students who have completed several CIS courses. Emphasis is placed on object-oriented programming, database programming and developing a graphical user interface. Students will demonstrate the ability to create business-oriented applications using both the C++ and Visual C++ programming languages; demonstrate effective object-oriented design techniques; write effective program documentation, and demonstrate program troubleshooting skills. Opportunities available after the completion of this certificate include programming for standalone applications, games and databases.

Required Courses

Course Prefix	Course Name	Units
CISP 10	Principles of Object-Oriented Design	2.5
CISP 31	Programming in C++	3
CISP 31L	Programming in C++ Laboratory	0.5
CISP 34	Advanced C++ Programming	3
CISP 34L	Advanced C++ Programming Laboratory	0.5
Choose one from the following sequences:		3.5
CISD 11 & 11L	Database Management - Microsoft Access and Database Management - Microsoft Access Laboratory	
CISD 21 & 21L	Database Management - Microsoft SQL Server and Database Management - Microsoft SQL Server Laboratory	
CISD 31 & 31L	Database Management - Oracle and Database Management - Oracle Laboratory	
Total Units		13

CIS Program Website (<http://www.mtsac.edu/cis/>)

Program Learning Outcomes

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

- Create event-driven program, using Windows Forms.
- Connect C++ program to the database and incorporate SQL statements into C++ code.

Review Student Learning Outcomes (SLOs) (<http://www.mtsac.edu/instruction/outcomes/sloinfo.html>) for this program.

Looking for guidance? A counselor can help. This Guided Pathways for Success (GPS) is a suggested sequence of coursework needed for program completion. It is not an official educational plan. Schedule an appointment (<https://esars2012.mtsac.edu/appointments/counseling/eSARS.asp?WCI=Init&WCE=Settings>) with a counselor or advisor as soon as possible to create an individualized Mountie Academic Plan (MAP) specific to your goals and needs.

Course	Title	Units
Fall Term		
CISP 10	Principles of Object-Oriented Design ^{2,5}	2.5
CISP 31	Programming in C++ ³	3
CISP 31L	Programming in C++ Laboratory ⁵	0.5
Units		6
Spring Term		
CISP 34	Advanced C++ Programming ³	3
CISP 34L	Advanced C++ Programming Laboratory ⁵	0.5
Certificate: CIS Pro. C++ Program. E0714 ⁴		
Submit petition to Admissions Records ^{Submit petition to Admissions Records}		
Units		3.5
Total Units		9.5