CIS PROFESSIONAL IN OBJECT-ORIENTED DESIGN & PROGRAMMING (CERTIFICATE M0813)

Business Division
Certificate M0813
The CIS Professional Certificate in Object-Oriented Design and Programming prepares students for a career in computer programming. The certificate offers a balanced set of classes that provides students the skills to design and develop business applications using the Unified Modeling Language (UML) and an object-oriented programming language. Students will demonstrate the ability to design and implement business environment applications that will contain the front end user interface and back end database. Students in this program select one of two programming language concentrations: Java or C++. Career opportunities available after the completion of this certificate include programming for systems, mobile devices, device drivers, and software engineering.

Required Courses

Course Prefix	Course Name	Units
Core Courses		
CISP 10	Principles of Object-Oriented Design	2.5
Choose one from the following programming tracks:		**7**
Java		
CISP 21	Programming in Java	
CISP 21L	Programming in Java Laboratory	
CISP 24	Advanced Java Programming	
CISP 24L	Advanced Java Laboratory	
C++		
CISP 31	Programming in C++	
CISP 31L	Programming in C++ Laboratory	
CISP 34	Advanced C++ Programming	
CISP 34L	Advanced C++ Programming Laboratory	
Total Units		9.5

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

Guided Pathways of Study Suggested Course Sequence (https://www.mtsac.edu/guided-pathways/pathway-results.html?pthwyvar=E0723&desc=CIS+Professional+Certificate+%28Object-Oriented+Design+%26+Programming%29+E0723&status=online)

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

- Write valid decision statements (if/else constructs) in the C#.NET programming language.
- Create an object oriented program using multiple classes in the C#.NET programming language.

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