

# CIS PROFESSIONAL IN JAVA PROGRAMMING (CERTIFICATE M0689)

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## Business Division

### Certificate M0689

The Java programming certificate is designed to prepare students for a career in computer programming. The certificate offers a balanced set of classes that provides students with client, server, and database programming skills required by industry. Emphasis is placed on object-oriented programming applications Web-based applets configuring an Apache Tomcat servlet, implementing JavaServer Pages, JavaBeans, and NetBeans for reusable software components. Students will demonstrate the ability to design and implement a Java application that will contain the front end user interface and back end database. 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
CISP 10	Principles of Object-Oriented Design	2.5
CISP 21	Programming in Java	3
CISP 21L	Programming in Java Laboratory	0.5
CISP 24	Advanced Java Programming	3
CISP 24L	Advanced Java 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	
<b>Total Units</b>		<b>13</b>

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

## Program Learning Outcomes

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

- Develop a dynamic web page programming Java Server Pages.
- Create an object oriented program that will use remote method invocation using the Java programming Language.

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