

## Software Quality Assurance

Award Type: **Certificate of Completion**

Effective Term: 2010 Spring

Overall G.P.A.: 2.00

Initiating College: **Mesa Community College**

Program Availability: College Specific

Total Credits: 12

Major Code: **5393**

Faculty Initiator: Linda Collins

CIPS Code: 52.0101

Instructional Council: Business/Management (03)

MCCCD Governing Board Approval Date: 11-24-09

**Description:** The Certificate of Completion (CCL) in Software Quality Assurance in quality and testing are an integral part of software design, development, and construction. The Software Quality Assurance program prepares students to work in a variety of environments. The program emphasizes the importance of quality control in the software environment, the tools used in a testing environment, and how to apply quality assurance concepts in the working environment. The program is designed for both people seeking to enter a career in software quality assurance as well as those already working in the field who wish to advance and update their knowledge and skills.

### Program Notes:

Students must earn a grade of "C" or better for all courses required within the program.

+ indicates course has prerequisites and/or corequisites

### Admission Criteria: None

### Program Prerequisites: Credits: 3

CIS150AB	Object-Oriented Programming Fundamentals	3
CIS159	Visual Basic Programming I	3
CIS162AB	C++: Level I	3
CIS162AD	C#: Level I	3
CIS163AA	Java Programming: Level I	3

### Required Courses: Credits: 12

+ CIS244	Testing Software Tools	3
+ CIS246	Software Quality	3
+ CIS248	Engineering Quality in Software Development	3
+ CIS249	Software Testing for Quality Assurance	3

### Restricted Electives: None

### Free Electives: None

### General Education: None

### Program Competencies

1. Design, use, and explain software-testing tools for testing computing coding. (CIS244)
2. Describe the basic concepts of software quality and identify metrics specifically related to quality, costs and schedules related to software quality (CIS246)

3. Describe and explain the various techniques to improve software quality including: analyzing requirements, effective designs, unit test, static analysis, and code inspections. (CIS248)
4. Analyze test results for software quality including test planning, risk analysis, and test management practices. (CIS249)