California State University, Sacramento (CSUS)
Computer Science Department

CSC 179
– Software Testing and Quality Assurance –

Spring 2024

Instructor: Ahmed Salem
Office: RVR 5005
Phone: (916) 278-3831
E-mail: asalem@csus.edu
Office Hours: TBD

Teaching Assistant:

Course Description:

Principle of software testing and quality assurance. Topics on software testing include test planning, test case design, test case generation, test case implementation, and test management, various testing techniques, inspection, test coverage analysis, prioritized testing, and configuration management. Software quality assurance topics include standards, policies, procedures, risk assessment and analysis, defect impact analysis.

Prerequisite: CSC 131

Textbook:

No Textbook is required

Extensive Lecture notes, Handouts, Papers and other Reading Materials will be assigned

Course Goals:

Upon successful completion of this course, students should be able to

1. Provide an overview of quality assurance and its relationship to verification and validation.
2. Survey current concepts, methods, tools, and techniques in software testing and quality assurance.
3. Determine the test technique applicable to a given program.
4. Construct a test suite using the various techniques.
5. Examine and analyze the results of test cases.
6. Determine various tests and quality metrics of a program.
7. Manage the software testing life cycle.

Academic Honesty:

Students expected to maintain high standards of academic integrity. All work you submit should be your own. All suspected cases of academic dishonesty would be reported and pursed.

It is important to understand what is meant by academic dishonesty so that you can avoid any misconduct in completing your course work. Academic dishonesty may take several forms including plagiarism. Collaboration (e.g. on an exam when it is not allowed), submitting work previously or concurrently done for another course without instructor approval, deliberate falsification of data, inference with other student's work, and copyright violations (including both document and software copyrights). When in doubt, ask the instructor for clarification on academic integrity violations.

Plagiarism is viewed as using the language, ideas, and representing them as your own. To avoid plagiarism, be sure to cite other's work or ideas. When you directly use another person words, be sure to clearly mark them as a quotation and identify the source.

Attendance policy:

Students expected to attend all classes. Unexcused absences from final exam or project presentations will result in zero grades for what the student missed.

Grading:

Final Exam	40%
Project	35%
Project Presentation	5%
Research Paper Report / Selected Topic Presentations	15%
Attendance and Class Participation	5%

Professional Societies:

Many technical disciplines have a number of professional societies and publications that exist to provide forum of presenting professional views and advancements in the state-of-the-art. As a computer scientist or software engineering, you should belong to and be active in at least one professional society. Here are a few:
IEEE – CS
ACM

Grading Scale:

Range	**Letter Grade**
94-100	A
90-93	A-
87-89	B+
84-86	B
80-83	B-
77-79	C+
74-76	C
70-73	C-
67-69	D+
64-66	D
60-63	D-
59 or Less	F