جـامعة الخليج للعلوم والتكنولوجيا GUST SINCE 2002 Gulf University For Science & Technology

Department of Computer Science

CSC 410: Software Testing and Quality Assurance

(3 contact hours – 0 lab hours - 3 credits)

Syllabus[6]

- **General Information**

Instructor	
Office	
Phone	
Class Time	
Class Location	
Office Hours	
Teaching Assistant	

- **Required Textbook**

"**Introduction to Software Testing**", Paul Ammann and Jeff Offutt, Cambridge University Press, 2008.

- **Supplementary Textbooks**

D. Galin, Software **Quality Assurance: From theory to implementation**, Pearson Education, 2004.

P. Jorgensen, **Software Testing: A Craftsman's Approach,** 3rd edition, CRC Press, 2008.

- **Course Description**

Techniques for software validation and verification. Topics include: concepts of software quality (metrics, assurance, planning and implementation, process standards, validation, verification, reviews, walkthroughs and inspections). Software testing process and techniques at different levels. Validating test data.

[6] This syllabus may change as needed. In such a case, students will be informed accordingly

- **Course Prerequisites**

  CSC 350

- **Course Category**

  Major Elective

- **Learning Outcomes:**

  At the completion of this course, students will be able to:
  1. Design comprehensive test plans. [ABET c]
  2. Apply software inspection techniques. [ABET c,i]
  3. Apply a wide variety of testing techniques. [ABET c,i]
  4. Demonstrate knowledge of key techniques and tools in software testing. [ABET i]
  5. Assess and evaluate software quality. [ABET c]
  6. Work as a team leader/member of a software testing team. [ABET d]

- **Tentative Schedule**

Topic	Week
Introduction	1
Software Inspections, Reviews and Walkthroughs	2-3
Graph Coverage Criteria	4-5
Input Space Partitioning	6
Syntax Based Testing	7-8
JUnit	9
Web Testing	10-11
Practical Considerations	12
Software Quality Assurance	13-14
Review	15

- **Grading Scheme**

Quizzes	**10%**
Assignments	**10%**
Project	**15%**
Midterm Exam	**30%**
Final Exam	**35%**