Kingdom of Saudi Arabia
National Commission for
Academic Accreditation & Assessment

المملكــة العربيــة السعوديــة
الهيئــة الوطنيــة للتقويــم
والاعـتـمـاد الأكـاديـمــي

ATTACHMENT 5.

Kingdom of Saudi Arabia

The National Commission for Academic Accreditation & Assessment

T6. Course Specifications
(CS)

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Course Specifications

Institution	Umm Al Qura University	Date 16/04/2016
College/Department	College of Computers and Information Systems	

A. Course Identification and General Information

1. Course title and code: 14014306-3-Software Testing
2. Credit hours 3
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) Computer Science
4. Name of faculty member responsible for the course Dr Mohamed Nour
5. Level/year at which this course is offered 4th year / level 9 or 10
6. Pre-requisites for this course (if any) 14013303-3 - Software Engineering II
7. Co-requisites for this course (if any) N/A
8. Location if not on main campus

9. Mode of Instruction (mark all that apply)

a. traditional classroom	x	What percentage?	100%
b. blended (traditional and online)		What percentage?	
c. e-learning		What percentage?	
d. correspondence		What percentage?	
f. other		What percentage?	

Comments:

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B Objectives

What is the main purpose for this course? This course provides an introduction to software testing and quality assurance. The relationship of software testing to quality is examined with an emphasis on testing techniques. The students completing this course will learn quality and testing concepts. They will also be able to write test plans, test design specifications, and test cases, apply use test metrics to manage the test process.
2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field) • increased use of web based reference material • changes in content as a result of new research in the field

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description: The relationship of software testing to quality is examined with an emphasis on testing techniques. Topics include module and unit testing, integration and acceptance testing, testing methods, defining test plans and strategies that map to system requirements. Testing principles, formal models of testing and software testing standards are also examined. The students completing this course will learn quality and testing concepts. They will also be able to write test plans, test design specifications, and test cases, apply use test metrics to manage the test process.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
SQA Concepts Basic notions: Quality Assurance, Detection vs. Prevention, Verification & Validation, testing	1	2
Testing Concepts :Definition, Types and Levels of testing, Black vs. White Box testing	1	2
Static Techniques	2	2

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Specification-based or Black-box Techniques	3	2
Structure-based or White-box Techniques	3	2
Test Metrics : Pre-process metrics: Estimation In-process metrics: Process Management, End-process metrics: Process Improvement	2	2
Test Management : Test planning, resource management, test reporting, tools	2	2
Test Tools and Automation: What and How to automate	2	2

2. Course components (total contact hours and credits per semester):

	Lecture	Tutorial	Laboratory or Studio	Practical	Other:	Total
Contact Hours	: 30	0	30			
Credit						

3. Additional private study/learning hours expected for students per week. [ ]

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	**Knowledge**		
1.1	Understand the effectively strategies of testing, the methods and technologies of software testing	Lectures	Examination, Continuous Assessment
2.0	**Cognitive Skills**		

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2.1	Design test plan and test cases and Asses the software product correctly	Lectures-Assignments	Examination, Continuous Assessment
3.0	**Interpersonal Skills & Responsibility**		
3.1	Acquire skills to manage and perform the software testing and quality assurance activities	Lectures-Project	Project
4.0	**Communication, Information Technology, Numerical**		
5.0	**Psychomotor**		

5. Map course LOs with the program LOs. (Place course LO #s in the left column and program LO #s across the top.) (I = Introduction   P = Proficient   A = Advanced)

Course LOs #	Program Learning Outcomes (Use Program LO Code #s provided in the Program Specifications)										
	a	**b**	**c**	**d**	**e**	**f**	**g**	**h**	**i**	**j**	**k**
1.1									P		
2.1		P							P	P	
3.1		**P**									

6. Schedule of Assessment Tasks for Students During the Semester			
	Assessment task (e.g. essay, test, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Assignment 1	3	10
2	Assignment 2	6	10
3	Mid Term	8	20
4	Project	9	20
5	Final Exam	16	40

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

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4 Office hours per week

E Learning Resources

1. List Required Textbooks
[Glenford, Myers & Badgett 11] Glenford J. Myers; Corey Sandler; Tom Badgett; *"The Art of Software Testing"*, 3rd Edition; John Wiley & Sons;2011
2. List Essential References Materials (Journals, Reports, etc.)
[Ammann&Offutt08] Paul Ammann; Jeff Offutt, *"Introduction to Software Testing"*; Cambridge University Press,2008
3. List Recommended Textbooks and Reference Material (Journals, Reports, etc)
[Black16] Rex Black; *"Advanced Software Testing - Vol. 1"*, 2nd Edition; Rocky Nook;2016 [Brian15] Brian; Peter; Angelina; Geoff; Peter *"Software Testing - An ISTQB-BCS Certified Tester Foundation guide"* 3rd edition; BCS Learning & Development Limited; 2015 [Bath08] Graham Bath, Judy McKay, "The Software Test Engineer's Handbook", Rocky Nook, 2008 [Vance,13] Stephen Vance; *"Quality Code: Software Testing Principles, Practices, and Patterns"*; Addison-Wesley Professional; 2013
4. List Electronic Materials, Web Sites, Facebook, Twitter, etc.
[Web-1] www.testingstandards.co.uk [Web-2] http://www.nist.gov NIST National Institute of Standards and Technology, [Web-3] http://www.codeproject.com/KB/architecture/SWArchitectureReview.aspx
5. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

F. Facilities Required

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Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access etc.)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) Lecture room (max 40 students) Computer lab (max 20 students)
2. Computing resources (AV, data show, Smart Board, software, etc.) Rational Rose Software tool
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list) Lecture slides and notes

G   Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching A student-feedback form is distributed at the end of the course.
2 Other Strategies for Evaluation of Teaching by the Instructor or by the Department Peer Review

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3 Processes for Improvement of Teaching Review student feedback and marks with Program coordinator and quality department.
4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution) check marking by an independent member teaching staff of a sample of student work
5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement. Submit course report and file at the end of each course offering.

Name of Instructor: _____

Signature: _____   Date Report Completed: _____

Name of Course Instructor _____

Program Coordinator:_____

Signature: _____   Date Received: _____