

ATTACHMENT 5.

Kingdom of Saudi Arabia

**The National Commission for Academic Accreditation &
Assessment**

**14013303-3 Software Engineering I
(CS)**

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: 14013303-3 Software Engineering I			
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 3rd year / level 7			
6. Pre-requisites for this course (if any) Data base I			
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	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="100%"/>
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. other	<input type="checkbox"/>	What percentage?	<input type="text"/>
Comments:			

B Objectives

What is the main purpose for this course? The course presents an introduction to software engineering, in particular to the requirement analysis activities. The objectives of the module are

- show the need for professional discipline and effective management throughout the software development process
- show the importance of teamwork and good interpersonal skills in successful software development
- give an appreciation of the importance of requirements engineering as the first phase of the software development 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:

Overview of requirements engineering, requirements elicitation and analysis, requirements definition and specification, requirements validation, requirements management, overview of specification techniques. Management of the software development process, including: how projects arise, choosing the right project, human factors in project management, basic project management techniques (e.g. planning, estimating, monitoring progress), advanced project management techniques (e.g. risk management, configuration management, quality management, process improvement).

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
Introduction to software engineering	1	
Project genesis. How projects arise, choosing the right project, software life-cycles	2	
Basic project management techniques. Planning, estimating, monitoring progress	3	
Human factors in project management. Organizations and players in the game, interpersonal skills, project teams	2	
Risk management, configuration management, quality management, process improvement	2	
Introduction to requirements engineering, Requirements elicitation and analysis,	3	
Requirements validation, requirements management	3	

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
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1.0	Knowledge		
1.1	explain the importance of successful requirements definition in commercial software development, identifying the difficulties involved	Lectures	Examination, Continuous Assessment
1.2	explain and apply appropriate techniques which help to define clear and unambiguous requirements	Lectures	Examination, Continuous Assessment
1.3		Lectures	
2.0	Cognitive Skills		
2.1	Acquire ability to understand and model user requirements	Lectures-Project	Examination, Continuous Assessment
3.0	Interpersonal Skills & Responsibility		
3.1	Acquire skills to manage and perform the systems development process more effectively	Lectures-Project	Project
4.0	Communication, Information Technology, Numerical		
4.1	Work in teams and organize tasks	Project	
5.0	Psychomotor		
5.1	Perform a task with minimum assistance	Project	Continuous Assessment – Project

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								
1.2			P								
2.1			P								P
3.1								P			
4.1				P		P					P
5.1											

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)

4 Office hours per week

E Learning Resources

1. List Required Textbooks

Systems Analysis and Design, by Dennis, Wixom and Roth. ISBN-13: 978-0471722571, 6th Edition. 2014

2. List Essential References Materials (Journals, Reports, etc.)

Software Engineering: A Practitioner's Approach, 8th Edition, 2014, Roger Pressman, Bruce Maxim

3. List Recommended Textbooks and Reference Material (Journals, Reports, etc)

Requirements Engineering: From System Goals to UML models to Software Specifications Axel van Lamsweerde John Wiley and Sons , 2010

Software Project Management (5th ed.) Bob Hughes and Mike Cotterell McGraw-Hill , 2009

Mastering the requirements process (2cnd ed.) Suzanne and James Robertson Addison-Wesley , 2006

Software Engineering (9th ed.) Ian Sommerville Addison-Wesley , 2011

4. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

5. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

F. Facilities Required

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
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: _____

