Course Profile

Course Name:-	**Software Engineering**
Course Code:-	**CEN 343**
Academic Year:-	**2013-2014**
Semester:-	**2**

Course Overview

This is a reading and discussion subject on issues in the engineering of software systems and software development project design. It includes the present state of software engineering, what has been tried in the past. Topics may differ in each offering, but will be chosen from: the software process and lifecycle; requirements and specifications; design principles; formal analysis, and reviews; quality management and assessment; product and process metrics; COTS and reuse; evolution and maintenance; team organization and people management; and software engineering aspects of programming languages.

Course Details	
Level:-	**8**
Credit:-	3 (3-1-0)
Pre-Requisites:-	CEN 110
Co- Requisites:-	**NIL**

Learning Outcomes of Course

After successful completion of this course, student will be able to-

1. Explaining the difference between software engineering and other engineering disciplines.
2. Explaining the components of a software process.
3. Demonstrate the software development models to be able to choose the appropriate model for the development and maintenance of a software product.
4. Understand the key elements and common methods for election and analysis to produce a set of software requirements for a software system.
5. Understand and use the appropriate guidelines to review a software design.
6. Evaluate the software system of multiple software designs based on key principles and concepts.

Course Assessment

Name of Assessment Task	Weight of Assessment	Week Due
1. Midterm Exam-1	**20%**	**Week 7**
2. Midterm Exam-2 – Quizzes	**10%**	**Week 13**
3. Assignments/Report/Seminar	**10%**	**Week 14**
4. Practical	**20%**	**Every Week**
5. Final Exam	**40%**	**Week 16/17**

Assessment Task and Learning Outcomes Alignment

Assessment Task Name	Course Learning Outcomes					
	1	2	3	4	5	6
1. Midterm Exam-1	√	√	√	√		
2. Midterm Exam-2 -Quizzes					√	√
3. Assignments/Report/Seminar				√	√	
4. Practical			√	√	√	√
5. Final Exam	√	√		√	√	√

Teaching Contact Details

Name of Course Coordinator:-	Prof. Saravanan
Email of Course Coordinator:-	s.tirumalai@mu.edu.sa
Lab/Tutorial Instructor:-	Mr. Rahim
Email of Lab/Tutorial Instructor:-	m.khan@mu.edu.sa
Office Hours:-	Sunday: 10 am to 11 am Tuesday: 8 am to 12 pm
Office Number:-	024-1-18-3
Office Phone Number:-	0164045385

Details of Required Text Book

Book Name	Authors Name	Publisher	Year	Edition
1. Software Engineering	Roger S. Pressman	Mc Graw hill	2012	**7**

Details of Required Reference Books

Book Name	Authors Name	Publisher	Year	Edition
1. Software Engineering	Ian Sommerville	Addison Wesley	2010	**9**
2. Object-Oriented Software Engineering: Practical Software Development using UML and Java	Timothy Lethbridge, Robert laganiere	Mc Graw Hill	2004	**2**
3. Software Engineering	K K Agarwal Yogesh Singh	New Age Internationals	2007	**3**

IT Resources

The following IT Resources will require to access-

- Internet
- http://faculty.mu.edu.sa/stirumalai/

Course Schedule

Course Topics	Book's Chapter	Event Name	Week Due
Introduction to Software Engineering	Roger S Pressman **Software Engineering** Part 1		Week-1
Software Process	Part 1		Week-2
Software Product	Part 1		Week-3
Software Requirement Specification	Part 1		Week-4
Software Process Model: Water fall model and Spiral model	Part 2		Week-5
	Part 2		Week-6
		Mid Term 1	Week-7
Object oriented Design	Part 2		Week-8
Software requirements	Part 2		Week-9
Configuration management	Part 3		Week-10
Software reliability	Part 3		Week-11
Software quality assurance	Part 3		Week-12
		Mid Term 2 - Quizzes	Week-13

Software testing	Part 3		Week-14
Software metrics		**Assignment Submission**	Week-15
			Exam Week

Referencing Style

The **American Psychological Association (APA)** referencing style must be use for all submissions of this course.

Course Assessment Task

Assessment Name	Midterm Exam-1
Description of Task Assessment	This assignment is aligned to learning outcomes 1,2,3 & 4. In that regard, the assignment contains questions that assess: 1) students' thorough understanding in the concepts of software engineering 2) software process 3) requirements specification
Task Assessment Due Week/Date	Week 7
Return Week/Date to Students	Week 8
Weight of Task Assessment	20%
List Learning Outcomes Assessed	1. Explaining the difference between software engineering and other engineering disciplines. 2. Explaining the components of a software process. 3. Demonstrate the software development models to be able to choose the appropriate model for the development and maintenance of a software product. 4. Understand the key elements and common methods for election and analysis to produce a set of software requirements for a software system.

Assessment Name	Mid Term 2 - Quizzes
Description of Task Assessment	This assignment is aligned to learning outcomes 5 & 6. In that regard, the assignment contains questions that assess students' thorough understanding of software maintenance, testing.
Task Assessment Due Week/Date	Week 13
Return Week/Date to Students	Week 14
Weight of Task Assessment	10%
List Learning Outcomes Assessed	5. Understand and use the appropriate guidelines to review a software design. 6. Evaluate the software system of multiple software designs based on key principles and concepts

Assessment Name	Assignment
Description of Task Assessment	This assignment is aligned to learning outcomes 4 & 5. In that regard, the assignment contains questions that assess: students' thorough understanding of requirement specification and design
Task Assessment Due Week/Date	Week 15
Return Week/Date to Students	Week 15
Weight of Task Assessment	10%
List Learning Outcomes Assessed	4. Understand the key elements and common methods for election and analysis to produce a set of software requirements for a software system. 5. Understand and use the appropriate guidelines to review a software design

Assessment Name	Practical
Description of Task Assessment	This assignment is aligned to learning outcomes 3,4,5 & 6. In that regard, the assignment contains questions that assess students' thorough understanding requirement specification, process models, design models and testing
Task Assessment Due Week/Date	Every week as prescribed
Return Week/Date to Students	Every week as prescribed
Weight of Task Assessment	20%
List Learning Outcomes Assessed	3. Demonstrate the software development models to be able to choose the appropriate model for the development and maintenance of a software product. 4. Understand the key elements and common methods for election and analysis to produce a set of software requirements for a software system. 5. Understand and use the appropriate guidelines to review a software design. 6. Evaluate the software system of multiple software designs based on key principles and concepts

Assessment Name	Final Exam
Weight of Task Assessment	40%
Duration	180 Minutes
Warning	No Calculator Permitted Closed Books
Learning Outcomes Assessed	1. Explaining the difference between software engineering and other engineering disciplines. 2. Explaining the components of a software process. 4. Understand the key elements and common methods for election and analysis to produce a set of software requirements for a software system. 5. Understand and use the appropriate guidelines to review a software design. 6. Evaluate the software system of multiple software designs based on key principles and concepts.