CEN 343

Software Engineering

Term 2 (2013-2014)

Course Profile

All details in this course profile for CEN 343 have been officially approved by CCIS – Majmah University and represent a learning partnership between the University and you (our student). The information will not be change unless absolutely necessary and any change will be clearly indicated by an approved correction included in the profile.

General Information

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.

DETAILS

Level	Under graduate - 8
Credit Points	3 (3-1-0)

PRE-REQUISITES OR CO-REQUISITES

Pre-requisite: CEN 110
Co-requisite: NA

ATTENDANCE REQUIRMENTS

Regular class attendance is expected of all students. Attendance falling below 75% will result in the students becoming ineligible to appear for the final examination. If a student arrives late for class and the roll has been taken, it is the responsibility of the student to notify the instructor at the end of that class that he/she arrived late and was not absent.

ASSESSMENT OVERVIEW

Assessment Task	Weighting
1. Midterm Exam-1	**20%**
2. Quizzes	**10%**
3. Assignments/Report/Seminar	**10%**
4. Practical	**20%**
5. Final Exam	**40%**

COURSE LEANING OUTCOMES

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.

ALLIGNMENT OF ASSESSMENT TASKS TO LEARNING OUTCOMES

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

Textbook and Resources

PRESCRIBED TEXTBOOKS / REFERENCE BOOKS

Software Engineering			
Author/s	Roger S. Pressman	Year	2012
Edition	7	Publisher	Mc Graw Hill
Software Engineering			
Author/s	Ian Sommerville	Year	2010
Edition	9	Publisher	Addison Wesley
Object-Oriented Software Engineering: Practical Software Development using UML and Java			
Author/s	Timothy Lethbridge, Robert laganiere	Year	2004
Edition	2	Publisher	Mc Graw Hill
Software Engineering			
Author/s	K K Agarwal Yogesh Singh	Year	2007
Edition	3	Publisher	New Age Internationals

IT RESOURCES

You will need access to the following IT resources:

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

Referencing style

All submissions for this course must use the **American Psychological Association (APA)** referencing style. For further information, see the Assessment Tasks below.

Teaching Contacts

Course Coordinator:	Prof. Saravanan
Lab/Tutorial Instructor:	Mr. Rahim
Email:	s.tirumalai@mu.edu.sa
Office Hours:	Sunday: 10 am to 11 am Tuesday: 8 am to 12 pm
Office Number:	0164045385

Schedule

Week	Module/Topic	Chapter	Event and submission
Week-1	Introduction to Software Engineering	Roger S Pressman **Software Engineering** Part 1	
Week-2	Software Process	Part 1	
Week-3	Software Product	Part 1	
Week-4	Software Requirement Specification	Part 1	
Week-5	Software Process Model: Water fall model and Spiral model	Part 2	
Week-6		Part 2	
		Part 2	
Week-7	Object oriented Design		**Mid Term 1**
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	Software testing	Part 3	
Week-13			**Quizzes**
Week-14	Software metrics	Part 3	
Week-15	Revision		**Assignment Submission**

Assessment Task

WRITTEN ASSESMENT

Assessment Title	Midterm Exam-1
Task Description	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
Assessment Due Date	Week 7
Return Date to Students	Week 8
Weighting	20%
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 Title	Quizzes
Task Description	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.
Assessment Due Date	Week 13
Return Date to Students	Week 14
Weighting	10%
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 Title	Assignment
Task Description	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
Assessment Due Date	Week 15
Return Date to Students	Week 15
Weighting	10%
Referencing Style	American Psychological Association (APA)
Submission	Online Submission through E-mail
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 Title	Practical
Task Description	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
Assessment Due Date	Every week as prescribed
Return Date to Students	Every week as prescribed
Weighting	20%
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.

FINAL EXAMINATION

Outline	Complete an examination
Date	**During University examination period**
Weighting	40%
Length	180 Minutes
Details	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. 3. Demonstrate the software development models to be able to choose the appropriate model for the development and maintenance of a software product. 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.