





Course Specifications

Course Title:	Information Systems Engineering
Course Code:	452CIS-3
Program:	Information system
Department:	Information system
College:	Computer science and information systems
Institution:	: Najran University





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A. Course Identification

1. Credit hours: 2 hrs(theory) 2 hrs (Lab)	٦		
2. Course type: Information System Engineering, 342 CIS-3			
 a. University College Department Others b. Required T Elective 			
3. Level/year at which this course is offered: Level 7/Year 4			
4. Pre-requisites for this course (if any): 251CIS-3			
5. Co-requisites for this course (if any):N/A			

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom		80%
2	Blended		10%
3	E-learning		10%
4	Correspondence		
5	Other		

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours		
Conta	Contact Hours			
1	Lecture	30		
2	Laboratory/Studio	30		
3	Tutorial	15		
4	Others (specify)			
	Total			
Other	Other Learning Hours*			
1	Study			
2	Assignments			
3	Library			
4	Projects/Research Essays/Theses			
5	Others (specify)			
	Total			

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times





B. Course Objectives and Learning Outcomes

1. Course Description:

Information system engineering describe the software engineering principles and techniques that are used in developing quality software products. It concern on select an appropriate and effective software process models for a given project based on characteristics. Develop clear, concise and sufficiently formal software requirements specification based on the true needs of users and other stakeholders. In addition it is apply design principles and architectures in designing software and create a number of different UML models and structure approach. It Develop a project plan for software development project using application management techniques with working a team leader and a member of a team

2. Course Main Objective:

What is the main purpose for this course?

- Describe the software engineering principles and techniques that are used in developing quality software products.
- Select an appropriate and effective software process models for a given project.
- Develop clear, concise and sufficiently formal software requirements specification based on the true needs of users and other stakeholders.
- Apply design principles and architectures in designing software.
- Create a number of different UML models and structure approach.
- Develop a project plan for software development project using application management techniques with working a team leader and a member of a team

3. Course Learning Outcomes

	CLOs		
1	Knowledge:		
1.1	CLO_2: Describe various software process models for information		
	system.		
1.2	CLO_5: Understand the concept of software project management and		
	perform software testing		
2	Skills :		
2.1	CLO_3: Collect software requirements and build system requirements s)	
2.2	CLO_4: Develop software architecture and understand detailed software		
2.3	-		
2			
3	Competence:		
3.1	CLO_1: Model a system in UML using rational rose or ArgoUML.		
3.2			

CLOs	Aligned PLOs
3	

C. Course Content

No	List of Topics	Contact Hours
1	Software Process Models for Information Systems Development	4
2	Software Requirements Engineering	4
3	An Introduction into Object-Orientation	4
4	Software Architecture	2
5	Software Detailed Design	2
6	Software Testing	4
7	Software Project Management	4
	Total	

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge		
1.1	Knowing the Software Engineering concepts to develop software quality products	giving real case examples of how to solve and develop software	Home works and class works
1.2	Developing clear, concise and sufficiently formal software requirements specification based on the true needs of users and other stakeholders.	Express the session interactive by asking questions during the lecture.	Assignments and Class participation
1.3	Knowing the various software process models and applying the various architectures in designing the software.	Revising the last lecture before starting the new lecture and subject topic	Quiz
1.4	Understanding UML, to develop various models of the software to be developed.		Midterm examinations
1.5	Knowing the object oriented analysis and design verification and validation and testing to be implemented in developing software.		Final examination
2.0	Skills		
2.1	The ability to think independently and to analyze and solve the problems to develop software products.	 Most of cognitive skills will be 	

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
2.2	The ability to analyze and deepen the knowledge in subject like Software Engineering	 achieved by lectures, explaining and highlighting the concepts. Asking students at the end on each lecture to bring some materials or application related to the lecture's subject. Explaining the difficult topics by taking extra tutorial to students. Helping students to describe effective strategies to new situations. To develop creative thinking. 	 At the end of each lecture, students will be given an exercise that can help to develop certain cognitive skill. To arrange quizzes by including some materials that helps to develop certain cognitive skill. To arrange mini seminars to prepare them for the next major seminars.
	Competence		
5.0	Develop a project plan for software		
3.1	development project plan for software development project using application management techniques with working a team leader and a member of a team	Divided students into groups work	• Arrange presentation for each group
3.2	Apply design principles and architectures in designing software.	Give student real case study	presentation

2. Assessment Tasks for Students

#	Assessment task*	Week Du	e Percentage of Total Assessment Score
1	Theory Assignment	7&1	05%
2	Quizzes	4&	8 05%

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#	Assessment task*	Week Due	Percentage of Total Assessment Score
3	Midterm Exam-I&II	7	30%
4	Labs	5&12	20% (10% lab exam
•			final + 10% Project)
	Final Examination	16 th	40%
5		week	
3		(Approximat	
		ely)	
	Total		100%

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :

Office hours are arranged according to the timetable

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	 (i) Sommerville 8, Software Engineering 8, 2014. (ii) Laudon, K. & Laudon, and Management Information Systems: Managing the digital Firm, 2016. (iii)Ammann & Offutt, Introduction to Software Testing, (iv)Boch, Jacobson, Rumbaugh, The Unified Modelling Language User Guide, 	
Essential References Materials	(i) Sommerville 8, Software Engineering , 2014.	
Electronic Materials	 (eg. Web Sites, Social Media, Blackboard, etc.) 1.www.UML.org. 2. http://www.filecrop.com/software-engineering-ian-sommerville-pdf.html 	
Other Learning Materials	ArgoUML. www.argouml.org	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	 E-books are required Smart Boards.

Item	Resources	
Technology Resources (AV, data show, Smart Board, software, etc.)	 Internet Facility in the Labs is to be provided to the students. 	
	• Network printer is required.	
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Research facility is required for the teachers.	

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching and assessment	Students	Questionnaire
achievement of course learning outcomes	Students, leaders	Exam
Quality of learning resources	Faculty	Questionnaire

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify) Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	Department Council	
Reference No.	Session No. 10 (441-38-43300)	
Date	17/02/2020	



