2023
TP-153

Course Specification

(Bachelor)

Course Title:	Software Engineering
Course Code:	CS314
Program:	Computer Science
Department:	Computer Science
College:	College of Computer and Information Science
Institution:	Dr. Hadeel Bin Amer
Version:	1
Last Revision Date:	15-10-2023

Table of Contents

A. General information about the course:

1. Course Identification

1. Credit hours:					
4(3,0,1)					
2. Course type					
A.	☐University	☐College	☒ Department	☐Track	☐Others
B.	☒ Required		☐Elective		
3. Level/year at which this course is offered: (Level 5/ Year 3)					
4. Course general Description:					
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.					
5. Pre-requirements for this course (if any)**:**					
N/A					
6. Pre-requirements for this course (if any)**:**					
7. Course Main Objective(s):					
1Understand the activities that are involved in the software development 2 Discuss various software process models 3 Explain the concepts of architectural design and detailed design 4 Understand the notation of Unified Modeling Language for modeling requirements 5 Describe the process of various testing techniques					

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom		
2	E-learning		
3	Hybrid • Traditional classroom • E-learning		
4	Distance learning	60	100%

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	**Lectures**	45
2.	**Laboratory/Studio**	
3.	**Field**	
4.	**Tutorial**	15
5.	**Others (specify)**	
Total		60

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding**			
1.1	Understand the activities that are involved in the software development	**K1**		Quiz, Mid exam , final exam, Lectures
1.2	Discuss various software process models	**K1, S1**		Quiz, Mid exam , final exam, Lectures

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.3	Explain the concepts of architectural design and detailed design	**S2**		Quiz, Mid exam , final exam, Lectures
2.0	**Skills**			
2.1	Understand the notation of modelling using Unified Modelling Language	**S2, S3, S4, V1**		Quiz, Mid exam , final exam, Lectures
2.2	Describe the process of various testing techniques.	**K1, S2**		Quiz, Mid exam , final exam, Lectures
2.3	Understand the process of software project management	**V1, V2**		Quiz, Mid exam , final exam, Lectures
3.0	**Values, autonomy, and responsibility**			
3.1				
...				

C. Course Content

No	List of Topics	Contact Hours
1.	Introduction to Software Engineering	**4**
2.	Requirements Engineering	**8**
3.	Software and project metrics	**6**
4.	Software processes	**6**
5.	Software project management	**6**
6.	Software quality assurance	**4**
7.	Unified Modeling Language (UML)	**12**
Total		

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Midterm Exam	8	20
2.	Project	11	15
3.	Homework and Assignments	5, 9	10
4.	Quiz	7,10	10
5.	Participation	1-12	5
6.	Final Exam	14	40

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.).

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	Ian Sommerville, "Software Engineering", Addison Wesley; 9th ed. (March 2010). ISBN-10: 0137035152, ISBN-13: 978-0137035151
Supportive References	ITimothy Lethbridge, Robert laganiere, "Object-Oriented Software Engineering: Practical Software Development using UML and Java", Mc Graw Hill;2nd ed. (December 2004). ISBN-10: 0077109082, ISBN-13: 978-0077109080
Electronic Materials	
Other Learning Materials	

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Classroom, Computer Lab
Technology equipment (projector, smart board, software)	Data show, UML design software (Visual Paradigm)
Other equipment (depending on the nature of the specialty)	

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students	Students Survey
Effectiveness of Students assessment	Students	Peer Review
Quality of learning resources	Students	Student Survey
The extent to which CLOs have been achieved	Instructor/ Students	Direct/ Indirect
Other		

Assessors (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	CS COUNCIL
REFERENCE NO.	
DATE	