Course Specification

(Bachelor)

Course Title:	Graduation Project (2)
Course Code:	SE3502
Program:	BSc in Software Engineering
Department:	Software Engineering
College:	College of Computing
Institution:	Umm Al Qura University
Version:	1.0
Last Revision Date:	22/04/2025

Table of Contents

A. General information about the course:

1. Course Identification

1. Credit hours: (4)					
2. Course type					
A.	☐University	☐College	☒ Department	☐Track	☐Others
B.	☒ Required		☐Elective		
3. Level/year at which this course is offered: (3rd year/ 6th level)					
4. Course General Description:					
The Graduation Project course provides students with extensive, hands-on experience in designing, developing, testing, and presenting a software system. Students apply the knowledge and skills they have gained from previous coursework to address real-world problems while adhering to best practices in software engineering. The course emphasizes key aspects such as requirements gathering, system design, implementation, testing, validation, technical documentation, and professional presentation skills. This preparation equips students for their future careers or for further academic studies.					
5. Pre-requirements for this course (if any)**:**					
SE3501 - Graduation Project (1)					
6. Co-requisites for this course (if any)**:**					
N/A					
7. Course Main Objective(s):					
Upon successful completion of this unit, students should be able to: 1. Enable students to apply software engineering principles and methodologies to solve real-world problems through the design and implementation of a software system. 2. Develop students' ability to utilize modern tools and techniques for system implementation, testing, and validation. 3. Foster professional skills in technical report writing, effective communication, and presentation to various audiences. 4. Instill teamwork, project management, and ethical responsibility in delivering quality solutions.					

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	60	100%
2	E-learning	0	0
3	Hybrid • Traditional classroom • E-learning	0	0%
4	Distance learning	0	0%

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	**Lectures**	0
2.	**Laboratory/Studio**	0
3.	**Field**	0
4.	**Tutorial**	0
5.	**Others (Graduation Project)**	60
Total		60

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

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding**			
1.1	Understand the principles of system design, architecture, and implementation constraints.	K1	Brainstorming Self-learning Field Role Playing	Report, Presentation
1.2	Identify and analyze testing and validation strategies to ensure software quality and alignment with requirements.	K2	Hands-on workshops for testing techniques	Project deliverables
2.0	**Skills**			

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
2.1	Apply appropriate tools and techniques for system implementation, testing, and validation.	S2	Discussions, Cooperative learning, Guided project activities	Report, Presentation
2.2	Design and develop a functional user interface and database for a software system.	S3	Discussions, Cooperative learning, Guided project activities	Report, Presentation
2.3	Prepare and deliver a professional technical report and presentation demonstrating project outcomes.	S4	Discussions, Project	Report, Presentation
3.0	**Values, autonomy, and responsibility**			
3.1	Demonstrate ethical and professional responsibility in project development and teamwork.	V1	Team-based project reviews	Peer evaluations
3.2	Collaborate effectively within a team, taking responsibility for roles and achieving project objectives.	V2	Team management, Guided team meetings with milestones	Team project assessment, Instructor observation
3.3	Appreciate independent learning and professional development	V3	Team-based project	project assessment, Instructor observation

C. Course Content

No	List of Topics	Contact Hours
1.	**Requirements Elicitation** • Techniques for gathering and analyzing requirements from stakeholders.	**10**

	• Methods for documenting functional and non-functional requirements.	
2.	**System Design** • Overview of system architecture and design constraints • Roles and responsibilities in the development process • Database design and user interface design	**10**
3.	**Tools and Implementation Techniques** • Tools and techniques utilized for system implementation • Discussion of implementation challenges and solutions • User interface development and system operation	**10**
4.	**Testing and Validation** • Testing strategies for the implemented system • Validation techniques to ensure alignment with problem requirements	**10**
5.	**Technical Report Writing** • Guidelines for structuring and writing a comprehensive technical report	**10**
6.	**Presentation and Demonstration** • Techniques for preparing an effective presentation and system demonstration	**10**
Total		**60**

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Progress in the project	Every week	20%
2.	Final technical report	13	45%
3.	Final presentation	14	35%

*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	• Blokdyk, G. (2020). *Software project management: A complete guide – 2020 edition*. 5STARCooks. ISBN 978-0655922601. • Dawson, C. W. (2015). *Projects in computing and information systems: A student's guide* (3rd ed.). Addison-Wesley Professional. ISBN 978-1292073460.
Supportive References	• Kumar, R. (2011). *Research methodology: A step-by-step guide for beginners* (3rd ed.). Sage Publications Ltd. ISBN 978-1849203012. • Bell, J. (2010). *Doing your research project: A guide for first-time researchers in education, health and social science* (5th ed.). Open University Press. ISBN 978-0335235827.
Electronic Materials	• Umm Al-Qura University. (n.d.). *Final year graduation project handbook*. Computer Engineering Department, College of Computer and Information Systems. Retrieved from https://drive.uqu.edu.sa/_/cis_ce/files/Handbook_Nov%2719__Final%20Ver_G.pdf
Other Learning Materials	

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Webex and Blackboard
Technology equipment (projector, smart board, software)	N/A
Other equipment (depending on the nature of the specialty)	N/A

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students	Direct, Indirect

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of Students' assessment	Faculty, Peer reviewer	Direct, Indirect
Quality of learning resources	Faculty, Course coordinator	Direct, Indirect
The extent to which CLOs have been achieved	Course coordinator, Program management committee	Direct
Other		

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

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	**SOFTWARE ENGINEERING DEPARTMENT COUNCIL**
REFERENCE NO.	**THE 17TH MEETING FOR THE ACADEMIC YEAR 1446H**
DATE	**22/04/2025**