



Jordan University of Science and Technology
Faculty of Computer & Information Technology
Software Engineering Department

SE321 Software Requirements Engineering - JNQF Level: 7

Second Semester 2023-2024

Course Catalog

3 Credit Hours. An introduction to concepts, methods, and tools for the creation of large-scale software systems. Methods, tools, notations, and validation techniques to analyze, specify, prototype, and maintain software requirements. Introduction to object-oriented requirements modeling, including use case modeling, static modeling, and dynamic modeling using the Unified Modeling Language (UML) notation. Concepts and methods for the design of large-scale software systems. Fundamental design concepts and design modeling using UML notation. Students participate in a group project on software requirements, specification, and object-oriented software design.

Teaching Method: Blended

Text Book

Title	Requirements Engineering: From System Goals to UML Models to Software Specifications
Author(s)	Axel Van Lamsweerde
Edition	1st Edition
Short Name	Ref #1
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
Ref #2	Software Requirements	Karl Wiegers and Joy Beatty	3rd Edition	

Instructor

Name	Dr. Malik Qasaimeh
Office Location	-
Office Hours	Sun : 11:30 - 12:30 Mon : 14:30 - 16:00 Tue : 13:30 - 15:30 Wed : 14:00 - 16:00
Email	mgqasaimeh@just.edu.jo

Class Schedule & Room

Section 1:
Lecture Time: Sun, Tue : 12:30 - 13:30
Room: C2007

Section 2:
Lecture Time: Mon : 13:00 - 14:30
Room: C3014

Prerequisites

Line Number	Course Name	Prerequisite Type
1762200	SE220 Software Modelling	Prerequisite / Study
1763200	SE320 System Analysis And Design	Prerequisite / Study

Tentative List of Topics Covered

Weeks	Topic	References
Weeks 1, 2	Setting the Scene: Introduction to Requirement Engineering	Chapter 1 From Ref #1
Weeks 2, 3	Domain Understanding and Requirements Elicitation	Chapter 2 From Ref #1
Week 4	Requirements Evaluation	Chapter 3 From Ref #1
Week 5	Requirements Specification and Documentation	Chapter 4 - 4.1,4.2 From Ref #1
Week 6	Requirements Quality Assurance	Chapter 5 From Ref #1
Weeks 7, 8	Requirements Evolution	Chapter 6 From Ref #1
Weeks 9, 10	Goal Orientation in Requirements Engineering	Chapter 7 From Ref #1

Weeks 11, 12	Modelling System Objectives with Goal Diagrams	Chapter 8 From Ref #1
Weeks 13, 14	Modelling Conceptual Objects with Class Diagrams	Chapter 10 From Ref #1
Weeks 15, 16	Final Project Discussions and Demos	

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Demonstrate comprehension and application of standard analysis techniques by effectively identifying and articulating problem statements.. [1C3] [1L7S2]	15%	
Analyze and prioritize elicited requirements through effective negotiation with clients and stakeholders, thereby applying scope management skills [1C5] [1L7S1]	15%	
Apply the principles of design and prototype to validate established requirements and to apply usability tests to evaluate the usability, utility, and efficiency of the developed user interface. [1C3] [1L7S1]	15%	
Implement semi-formal methods to specify the functional and non-functional requirements for software systems. [1C5] [1L7K1]	20%	
Evaluate and apply standard quality assurance techniques to ensure the verifiability, traceability, measurability, testability, accuracy, clarity, consistency, and risk mitigation of established requirements. [1C9] [1L7C4]	20%	
Recognize the role of requirement engineering and its standard process. [1C5] [1L7K1]	15%	

Relationship to Program Student Outcomes (Out of 100%)																								
SM1p	SM2p	SM3p	EA1p	EA2p	EA3p	EA4p	D1p	D2p	D3p	D4p	D5p	D6p	ET1p	ET2p	ET3p	ET4p	ET5p	ET6p	EP1p	EP2p	EP3p	EP4p	EP5p	EP6p

Relationship to NQF Outcomes (Out of 100%)			
L7K1	L7S1	L7S2	L7C4
35	30	15	20

Evaluation	
Assessment Tool	Weight
Midterm	25%
Final Exam	50%
Final Project	25%

Policy	
Project	* Late work will not be accepted. * All work has to be done independently within the team * Submit a hard copy of your work with your name, Section#, ID
Exams	* The format for the exams is generally (but NOT always) as follows: general definitions, Multiple-choice, design, and short essay questions. * Makeup exam should not be given unless there is a valid excuse.
Attendance	* If you miss a class, it is your responsibility to find out about any announcements or assignments you may have missed. * University policies will be applied regarding attendance.

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