



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

SE321 Software Requirements Engineering
Second Semester 2021-2022

<b>Course Catalog</b>
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.

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

**Course References**

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

<b>Instructor</b>	
Name	Dr. HAMZA ALKOFARI
Office Location	-
Office Hours	Sun : 12:00 - 13:00 Mon : 14:30 - 16:00 Tue : 12:00 - 13:00 Wed : 14:30 - 16:00 Thu : 12:00 - 13:00
Email	hoalkofari@just.edu.jo

<b>Class Schedule &amp; Room</b>	
Section 2: Lecture Time: Mon : 11:30 - 13:00 Room: SE01-N1L0	

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

<b>Tentative List of Topics Covered</b>		
Weeks	Topic	References
Weeks 1, 2	Setting the Scene: Introduction to Requirement Engineering	<b>Chapter 1</b> From <b>Ref #1</b>
Weeks 2, 3	Domain Understanding and Requirements Elicitation	<b>Chapter 2</b> From <b>Ref #1</b>
Week 4	Requirements Evaluation	<b>Chapter 3</b> From <b>Ref #1</b>
Week 5	Requirements Specification and Documentation	<b>Chapter 4 - 4.1,4.2</b> From <b>Ref #1</b>
Week 6	Requirements Quality Assurance	<b>Chapter 5</b> From <b>Ref #1</b>
Weeks 7, 8	Requirements Evolution	<b>Chapter 6</b> From <b>Ref #1</b>
Weeks 9, 10	Goal Orientation in Requirements Engineering	<b>Chapter 7</b> From <b>Ref #1</b>
Weeks 11, 12	Modelling System Objectives with Goal Diagrams	<b>Chapter 8</b> From <b>Ref #1</b>
Weeks 13, 14	Modelling Conceptual Objects with Class Diagrams	<b>Chapter 10</b> From <b>Ref #1</b>

Weeks 15, 16	Final Project Discussions and Demos	
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Mapping of Course Outcomes to Program Student Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Being able to know the role of requirement engineering and its standard process. [5EA1p, 5ET4p]	10%	Coursework(HW), Midterm, Final Exam, Quizzes
Being able to apply and know a problem statement using standard analysis techniques. [10D2p]	10%	Coursework(HW), Midterm, Final Exam, Final Project
Being able to know stakeholder requirements using multiple standard elicitation techniques. [5D1p]	5%	Coursework(HW), Midterm, Final Project, Quizzes
Being able to know functional and non-functional specifications based on the elicited requirements. [5EA2p, 10D1p, 10D2p]	25%	Coursework(HW), Midterm, Final Exam, Final Project, Quizzes
Being able to apply scope and prioritizations of elicited requirements by negotiating with clients and other stakeholders. [10ET2p]	10%	Midterm, Final Exam, Quizzes
Being able to apply standard quality assurance techniques to ensure that established requirements are: verifiable, traceable, measurable, testable, accurate, unambiguous, consistent, and complete. [2SM3p, 3EA1p, 2D1p, 3D3p]	10%	Coursework(HW), Final Exam, Final Project, Quizzes
Being able to apply test cases, plans, and procedures that can be used to verify whether established requirements have defined, designed and implemented a system that meets needs of the intended users. [5D3p, 5D4p]	10%	Coursework(HW), Final Exam, Final Project
Being able to fully and precisely organize the elicited and evaluated objectives, requirements, assumption, domain properties and definitions into a coherent structure to produce the requirements document. [5D1p, 5D2p, 5D6p]	15%	Coursework(HW), Final Exam, Final Project, Quizzes
Being able to know the different levels of goal abstraction and their importance in the requirement engineering process. [5EP2p]	5%	Final Exam, Quizzes

Relationship to Program Student Outcomes (Out of 100%)																															
A	B	C	D	E	F	G	H	I	J	K	SM1p	SM2p	SM3p	EA1p	EA2p	EA3p	EA4p	D1p	D2p	D3p	D4p	D5p	D6p	ET1p	ET2p	ET3p	ET4p	ET5p	ET6p	EP1p	
														2	8	5			22	25	8	5		5		10		5			

Evaluation	
Assessment Tool	Weight
Coursework(HW)	12%
Midterm	20%
Final Exam	50%
Final Project	10%
Quizzes	8%

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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