



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

SE220 Software Modelling
Second Semester 2022-2023

<b>Course Catalog</b>
3 Credit Hours. 3 Credit hours (3 h lectures): This course introduces the students to software modeling and the object oriented analysis and design process. The course covers the major Unified Modeling Language diagrams including uses cases, class diagrams, sequence diagrams, activity diagrams, and deployment diagrams. Furthermore, case studies will be presented to teach the students how to use and apply each of the UML models in real-life scenarios.

<b>Text Book</b>	
<b>Title</b>	The Unified Modeling Language User Guide
<b>Author(s)</b>	Grady Booch, James Rumbaugh, Ivar Jacobson
<b>Edition</b>	2nd Edition
<b>Short Name</b>	Text book
<b>Other Information</b>	

**Course References**

Short name	Book name	Author(s)	Edition	Other Information
Ref #1	Object-Oriented Analysis and Design with Applications	Grady Booch	3rd Edition	
Ref #2	Object-Oriented Software Engineering Using UML, Pattern and Java	Brend Bruegge, Allen Dutoit	3rd Edition	
Ref #3	2. Object-oriented design using Java	Skrien, Dale John	2nd Edition	

<b>Instructor</b>	
Name	Miss Rawan Khasawneh
Office Location	A2 L-3
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<b>Instructor</b>	
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Office Hours	Sun : 09:00 - 09:30 Sun : 13:30 - 14:30 Mon : 09:30 - 11:00 Tue : 09:00 - 09:30 Tue : 13:30 - 14:30 Thu : 09:00 - 09:30 Thu : 13:30 - 14:30
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<b>Class Schedule &amp; Room</b>	
Section 1: Lecture Time: Sun, Tue, Thu : 10:30 - 11:30 Room: A2120	
Section 2: Lecture Time: Sun, Tue, Thu : 11:30 - 12:30 Room: A3130	
Section 3: Lecture Time: Sun, Tue, Thu : 11:30 - 12:30 Room: G2120	

Prerequisites		
Line Number	Course Name	Prerequisite Type
1761120	SE112 Introduction To Object- Oriented Programming	Prerequisite / Study

Tentative List of Topics Covered		
Weeks	Topic	References
Week 1	Introduction to software Modelling	Chapter 1,2, & 3 From Text book
Weeks 2, 3	Modelling Software Requirements using Use case model	Chapter 16, 17 & 18 From Text book
Weeks 4, 5	Modelling software flow and behavior using activity diagrams	chapter 20 From Text book
Weeks 5, 6, 7, 8	Modelling software design using class diagrams and programming languages	Chapters 4,5,8,9, & 14 From Text book
Weeks 9, 10, 11	Modelling software behavior and interactions using sequence/communication diagrams and programming languages	chapter 19 From Text book
Weeks 11, 12	Modelling system state behavior as state machine diagram and programming languages	chapter 25 From Text book
Weeks 13, 14, 15	Static (Structural) models such as composite, package, deployment and component diagrams	Chapters 12, 15, 27 & 31 From Text book
Week 16	Review	

Mapping of Course Outcomes to Program Student Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Modelling Software Design Solutions based on object-oriented principles using Class diagrams models and programming languages [1C3]	35%	
Modelling Software Requirements mainly as Use Case diagrams including Identifying uses cases and scenarios. [1C2]	20%	
Model the software behavior and interactions using the Sequence and communication Diagrams, and programming languages [1C3]	15%	
Model the state of the software using the State Machine Diagram, and programming languages [1C3]	10%	
Model the control flow of the software using the Activity Diagram. [1C3]	10%	
Design appropriate large-scale static modelling structural diagrams using models like composite,package, deployment, component, and subsystems diagrams [1C6]	10%	

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

Evaluation	
Assessment Tool	Weight
Mid Exam	25%
Lab	25%
Final	50%

Policy	
Academic Honesty	You are responsible for making yourself aware of the policies and procedures in the Undergraduate Catalog that pertain to Academic Integrity. These policies include cheating, fabrication, falsification and forgery, multiple submission, plagiarism, complicity and computer misuse.
Homework	- Late work will not be accepted. - All work has to be done independently.
Exams	Makeup exam should not be given unless there is a valid excuse accepted by the university policies.
Attendance	1- If you miss a class, it is your responsibility to find out about any announcements, quizzes, or assignments you may have missed. 2- You are responsible for any lecture?s material covered in the class. You are encouraged to attend and take your own notes. 3- University policies will be applied regarding attendance (check the Undergraduate Catalog ?student book?). 4- Your attendance/absence is updated weekly into your student account
Others	*No discussion on assignments or course difficulties over telephone with the instructor. * No questions will be answered on the date of a test/exam. * Any disagreement with grading on tests must be pointed out immediately after the class period (in which graded papers are returned) with written arguments for your claim. * When you send an email: - Follow the standard emailing etiquette for Student/Professor communication as clarified by your instructor. - Consider a minimum of 24 to 48 hours for reply (emails sent on weekend days and holidays will get replies the next business day. - Emails sent from accounts that are not the university accounts will not be considered. - Write in proper language. - No casual emails without body. * Students may not use cell phones, smart phones, tablets, or similar communication devices during scheduled course meetings (including class time, laboratories, review sessions, individual instruction, or similar activities). Such devices must be silenced or turned off and should not be taken out during course meetings. Communication by electronic devices, including but not limited to instant messaging, text messaging, web surfing, and telephoning during class, is strictly prohibited unless expressly designated as part of the learning activities.

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