

جامعة الزيتونــة الأردنيـة Al-Zaytoonah University of Jordan كلية العلوم وتكنولوجيا المعلومات Faculty of Science and IT



QF01/0408-4.0E Course Plan for Master program - Study Plan Development and Updating Procedures/
Department

Study plan No.	2021/2022		University Special	lization	Software Eng	gineering	
Course No.	0104755		Course name		Advanced System Analysis and Design		
Credit Hours	3		Prerequisite Co-requisite				
Course type	☐ MANDATORY UNIVERSITY REQUIREMENT	UNIVERSITY ELECTIVE REQUIREMENTS	□ FACULTY MANDATORY REQUIREMENT	☐ Support course family requirements	√ Mandatory requirements	☐ Elective requirements	
Teaching style	☐ Full onlin	e learning	□ Blended lear	ning	√ Tradition	nal learning	
Teaching model	□ 2Synchronou	s: 1asynchronous	nous 2 face to face : 1synchronous		√3 Traditi	√3 Traditional	
Faculty member and study divisions information (to be filled in each semester by the subject instructor)							
			ion (to be filled i	n each semest	ter by the si	ubject	
Name	Academic			n each semest		ubject mail	
structor)	Academic	erank Offic		none No.		mail	

Brief description

Systems Analysis and Design helps students develop the core skills required to plan, design, analyze, and implement software
applications. Students are guided through the topics in the same order as professional software developer working on a typical real-world
project.

students

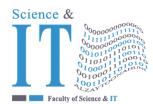
style

Traditional

number

I corning recourees

Learning resources					
Course book information (Title, author, date of issue,	Systems Analysis and Design: An Object-Oriented Approach with UML, 6th Edition, Alan Dennis, Barbara Wixom, David Tegarden, 2020, Wiley.				
publisher etc)	25				
Supportive learning resources	Object-Oriented Analysis, Design and Implementation: An Integrated Approach, Brahma Dathan and Sarnath Ramnath Nov 3, 2015.				
(Books, databases, periodicals, software,	 Object Oriented Analysis & Design Cookbook: Introduction to Practical System Modeling, 				
applications, others)	Edwin Mach Dec 6, 2019.				
Supporting websites					
The physical environment for	√ Class room	√ labs	□ Virtual	□ Others	
teaching			educational platform		
Necessary equipment and	CASE TOOLS		piatioriii		
software					
Supporting people with					
special needs					
For technical support					



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Course learning outcomes (S = Skills, C= Competences K= Knowledge,)

No.	Course learning outcomes	The associated program learning output code
	Knowledge	
K1	The knowledge of software engineering principles, including a thorough understanding of software analysis and design, evaluation and testing and software quality and correctness.	MK1
K2	Understanding of software engineering processes, including management of complex software development projects.	MK2
	Skills	
S1	An ability to analyze, design, verify, validate, implement, apply, maintain, and manage the development of software systems to meet desired needs within realistic constraints.	MS1
S2	An ability to identify, formulates, and solve software engineering problems.	MS2
S3	An ability to use the techniques, skills, and modern tools necessary for software engineering practice.	MS3
	Competences	
C1	An ability to function on multidisciplinary teams to communicate effectively.	MC1
C2	Ability to develop software systems in one or more significant application domains.	MC2

Mechanisms for direct evaluation of learning outcomes

Type of assessment / learning style	Fully electronic learning	Blended learning	Traditional Learning (Theory Learning)	Traditional Learning (Practical Learning)
First exam	0	0	%20	0
Second / midterm exam	%30	%30	%20	30%
Participation / practical applications	0	0	10	30%
Asynchronous interactive activities	%30	%30	0	0
final exam	%40	%40	%50	40%

Note: Asynchronous interactive activities are activities, tasks, projects, assignments, research, studies, projects, work within student groups ... etc, which the student carries out on his own, through the virtual platform without a direct encounter with the subject teacher.

Schedule of simultaneous / face-to-face encounters and their topics

Week	Subject	learning style*	Reference **
1	Introduction to Systems Analysis and Design	Lecture, learning through projects, learning through problem solving	1-40
2	Project Management	Lecture, learning through projects, learning through problem solving	41-90
3	Requirements Determination	Lecture, learning through projects, learning through problem solving	95-124



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4	Business Process and Functional Modeling	Lecture, learning through	126-167
7		projects, learning through	
		problem solving	
5	Structural Modeling	Lecture, learning through	169-209
		projects, learning through	
		problem solving	
6	Behavioral Modeling	Lecture, learning through	211-253
		projects, learning through	
		problem solving	
7	Moving on to Design	Lecture, learning through	255-285
		projects, learning through	
		problem solving	
8	Class and Method Design	Lecture, learning through	287-319
		projects, learning through	
		problem solving	
9	Data Management Layer Design	Lecture, learning through	320-362
		projects, learning through	
		problem solving	
10	Human-Computer Interaction Layer Design	Lecture, learning through	364-410
		projects, learning through	
	District to Distri	problem solving	414.440
11	Physical Architecture Layer Design	Lecture, learning through	414-449
		projects, learning through	
		problem solving	450,450
12	Construction	Lecture, learning through	452-478
		projects, learning through	
- 10	I the IO	problem solving	470.502
13	Installation and Operations	Lecture, learning through	479-503
		projects, learning through	
4.4	G G 1 (D : (1)	problem solving	
14	Case Study (Project 1)	Lecture, learning through	
		projects, learning through	
1.5	Consider (Dunited 2)	problem solving	
15	Case Study (Project 2)	Lecture, learning through	
		projects, learning through	
1.0	Final Exam	problem solving	
16	riliai exam		

^{*} Learning styles: Lecture, flipped learning, learning through projects, learning through problem solving, participatory learning ... etc.

** Reference: Pages in a book, database, recorded lecture, content on the e-learning platform, video, website ... etc.

Schedule of asynchronous interactive activities (in the case of e-learning and blended learning)

Week	Task / activity	Reference	Expected results
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			



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14				
15				
16				