

جامعة الزيتونسة الأردنية Al-Zaytoonah University of Jordan كلية العلوم وتكنولوجيا المعلومات Faculty of Science and IT



" عراقة وجودة" "Tradition and Quality"

(for MON. WED.)

(for MON. WED.)

2:1 (For SUN. TUE. THER) or 1:1

Study Plan for Bachelor program - Study Plan Development and Updating Procedures/ Software Engineering Department

OF01/0407-4.0E

Course Plan for Software Engineering (Bachelor Program) No.: (2021/2022)									
Approved by Deans Council by decision (09/19/2020-2021) dated (28/7/2021)									
(133) Cre	system / h	ybrid program							
Type of specialty	☐ Humanitarian	✓ Scient	✓ Scientific / □ I						
		techni	cal	Sciences					
Teaching style	Percentage of study plan h	nours / number	Model used (synchronous:						
				asynchronous)					
Complete e-learning	10% - 20% Maximum /	number()	2:1 (For	SUN. TUE. THER) or					
courses	C h		1:1 (for	MON. WED.)					
Blended Learning	40% - 60% Maximum / n	umber() C h	2:1 (For	SUN. TUE. THER) or 1:1					

Traditional learning courses (for humanity)

20% Minimum / number () C h

3:0 For all academic divisions

3:0 For all academic divisions

30% -50% Maximum / number () C

and medical)

Important note: (The teaching patterns of the subjects are distributed at all academic levels in the program)

Program vision: Building specialized competencies in the field of **Software Engineering** provided with the knowledge, skills and leadership, creative and entrepreneurial competencies necessary to compete in the global labor market, through creative application in the use of information technology and modern teaching and learning strategies

Program mission and objectives:

courses (For Humanity)

courses (for scientific

courses (for scientific

Blended learning

and medical)

- 1. Achieving the conformity of the learning outcomes in all areas of specialization with the seventh level descriptors (knowledge, skills and competencies) in the National Qualifications Framework.
- 2. Integrating modern information technology and employing it creatively in the teaching and learning processes in order to achieve more effective learning and take into account the needs of the learner.
- 3. Promote the principle of self-sustainable, lifelong learning, and highlight the creativity of the learner in light of global changes through the application of various teaching and learning strategies

Program learning outcomes (MK= Main Knowledge, MS= Main Skills, MC= Main Competences)

Tiograi	Trogram learning outcomes (I'm Main vinewodde, me Main exime, me Main exime)									
	Main knowledge									
MK1	The knowledge of software engineering principles, including a thorough understanding of									
	software analysis and design, evaluation and testing and software quality and correctness.									
MK2	Understanding of software engineering processes, including management of complex software									
	development projects.									
MK3	The knowledge of systems fundamentals, including architectures and organization, operating									
	systems, networking and communication, parallel and distributed computation, and security.									
MK4	The knowledge of software development fundamentals, including data structures, algorithms,									
	complexity, multiple programming languages, paradigms, and technologies.									
MK5	Understanding of mathematics, including discrete structures, probability and statistics.									
	Basic skills									
MS1	An ability to analyze, design, verify, validate, implement, apply, maintain, and manage the									
	development of software systems to meet desired needs within realistic constraints.									
MS2	An ability to identify, formulates, and solve software engineering problems.									



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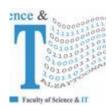
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MS3	An ability to use the techniques, skills, and modern tools necessary for software engineering practice.							
MS4	An ability to appropriately apply discrete mathematics, probability and statistics, and relevant topics in computer science and supporting disciplines to complex software systems.							
	General competencies							
MC1	An ability to function on multidisciplinary teams to communicate effectively.							
MC2	Ability to develop software systems in one or more significant application domains.							
MC3	An ability to communicate with, and learn from, experts from different domains throughout their careers.							

Teac	Teaching style					П	Pra		Indic	ative
Fully electronic	Blended learning	Traditional learning	Course No.	Course name	Credit hour	Theory Hours	Practical Hours	Prerequisite Co-requisite	Semester	year
1. R	Require	ments	(27) Credit Hours							
1.1 M	landato	ry rec	uirement (21 cred	it hour)						
			0420101	Military Sciences	3	3	0		1	1
			0420151	National Education	3	3	0		2	1
			0420271	Life skills	3	3	0		1	2
•			0420115	Communication skills in Arabic	3	3	0	Remedial Arabic Language	1	1
			0420123	Communication skills in English	3	3	0	Remedial English Language	2	1
•			0420261	Entrepreneurship and innovation	3	3	0		2	2
			0420241	Leadership and social responsibility	3	3	0		1	2
1.2 Un	iversity	electi	ive requirements(0	6 credit hour)						
	Ť		0420142	Human Civilization	3	3	0		1	1
			0420253	Development and environment	3	3	0		1	2
			0420172	Digital skills	3	3	0	Remedial computer skills	2	1
			0420201	first aid	3	3	0	•	2	2
			0420134	Sports and health	3	3	0		1	1
			0420212	Islamic culture	3	3	0		1	2

Teac	Teaching style					Th	Pra		Indicative	
Fully electronic	Blended learning	Traditional learning	Course No.	Course name	Credit hour	Theory Hours	Practical Hours	Prerequisite Co-requisite	Semester	year
2. Fac	culty R	equire	ments (24) Cred	it Hours						
		•	0101140	Principles of probabilities and Statistics	3	3	0		1	1
		•	0101101	Calculus	3	3	0		2	1
		•	0112110	Discrete Mathematics	3	3	0		1	1
		•	0112120	Principles of Programming	3	3	2	Introduction to Information Technology	1	2



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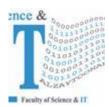
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	•	0112220	Object Oriented Programming	3	2	2	Principles of Programming	2	1
•		0114150	Communication Skills and Professional Ethics	3	2	0	Introduction to Information Technology	1	2
•		0115130	Introduction to Information Technology	3	3	0	*Remedial computer skills	1	1
	•	0115220	Web Design	3	2	2	Principles of Programming	2	2

Teac	Teaching style					1	Prac		Indic	ative
Fully electronic	Blended learning	Traditional learning	Course No.	Course name	Credit hour	Theory Hours	Practical Hours	Prerequisite Co-requisite	Semester	year
3. R	equirer	nents	for a major family	(30) Credit Hours						
	•		0115131	Computer Networks	3	3	0	Introduction to Information Technology	1	2
		•	0114213	Data Structure and Algorithms	3	2	2	Object Oriented Programming	2	2
	•		0112333	Operating Systems	3	3	0	Digital Logic Design	1	3
		•	0114223	Visual Programming Applications	3	2	2	Object Oriented Programming	2	2
	•		0112131	Digital Logic Design	3	3	0	Discrete Mathematics	2	1
		•	0114324	Web Applications Development	3	2	2	Web Design	2	3
	•		0112233	Computer Architecture	3	3	0	Digital Logic Design	1	3
		•	0114341	Database	3	2	2	Data Structure and Algorithms	1	3
		•	0114343	Systems Analysis and Design	3	2	2	Software architecture	2	2
		•	0114442	Database management	3	2	2	Database	2	3

Teac	hing sty	yle				∄	Pr		Indicative	
Fully electronic	Blended learning	Traditional learning	Course No.	Course name	Credit hour	Theory Hours	Practical Hours	Prerequisite Co-requisite	Semester	year
			nents (52) Credi							
4.1 M	andato	ry req	uirements (37) c					<u></u>		
	•		0114151	Software Engineering Principles	3	3	0	*Remedial computer skills	1	1
	•		0114152	Software specification and design	3	3	0	Software Engineering Principles	2	1
	•		0114453	Software testing	3	2	2	Systems Analysis and Design	2	3
	•		0114354	Software architecture	3	3	0	Software specification and design	1	2
		•	0114455	Software development and documentation	3	2	2	Systems Analysis and Design	1	3
		•	0114456	Software project management	3	2	2	Systems Analysis and Design	1	4
	•		0114357	Software economics	3	3	0	Systems Analysis and Design	1	4
	•		0114458	Software quality management	3	3	0	Software testing	1	4



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	•		0114381	Human computer interaction	3	3	0	Systems Analysis and Design	1	4
	•		0114471	Software documentation techniques	1	1	0	Software development and documentation	4	1
		•	0114443	Object oriented Systems Analysis and Design	3	2	2	Systems Analysis and Design		
		•	0114490	Filed Training	3	0	6	Department Approval	4	2
		•	0114472	Final Project	3	0	6	Department Approval	4	2
.2 e	lectives	requi	irements (9) cre	dit hours						
		•	0114382	Intelligent System engineering	3	3		Systems Analysis and Design	1	4
		•	0114494	Special topics in SE	3	2		Department Approval	1	3
		•	0114495	Software Security	3	3		Algorithms	2	3
		•	0114496	Special programming language	3	2		Department Approval	2	4
		•	0114391	User experience Design	3	3		Human computer interaction	1	4
		•	0114486	Software configuration management	3	3		Systems Analysis and Design	1	4
		•	0114392	Mobile application Engineering and development	3	3		Visual Programming Applications	1	2
		•	0114489	Software maintenance and re-engineering	3	2		Software development and documentation	2	4
		•	0114497	Cloud computing and Big data	3	3		Database management system	1	3
.3 su	pportin	g req	uirements (6) cr	edit hours			•			
		•	0101221	Linear Algebra 1	3	3	0	Principles of Mathematics and Statistics	1	2
		•	0101272	Numerical Analysis 1	3	3	0	Principles of Mathematics and Statistics	1	4

The end of the study plan for the major students

Subjects taught in the major for students of other majors (university requirements, college requirements, major family requirements, support requirements)

Teac	Teaching style					T	Pr	
Fully electronic	Blended learning	Traditional learning	Course No.	Course name	Credit hour	Theory Hours	Practical Hours	The type of requirement and the recipient
			0114251	Software Engineering Principles	3	3	1	Mandatory Major requirements for Computer Information Technology/Computer Information Technology, Supporting Requirements for computer science /computer science