Science & IT
Faculty of Science & IT

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

تراث - وجودة
"Tradition and Quality"

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

Study plan No.	2021-2022	University Specialization	Software Engineering
Course No.	0104752	Course name	Advanced Software Engineering
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 online learning		☐ Blended learning		☒ Traditional learning	
Teaching model	☐ 2Synchronous: 1asynchronous		☐ 2 face to face : 1synchronous		☒ 3 Traditional	

Faculty member and study divisions information (to be filled in each semester by the subject instructor)

Name	Academic rank	Office No.	Phone No.	E-mail

Division number	Time	Place	Number of students	Teaching style	Approved model

Brief description

The purpose of this course is to study different agile methods and find out the best one for software development. Each important agile method offers own practices, release planning methodology, sprint planning. They differ in sizes and principles.

Learning resources

Course book information (Title, author, date of issue, publisher ... etc)	Ajit Singh (2019). Agile & Scrum Methodologies, (1st edition, 2019). Ajit Singh.
Supportive learning resources (Books, databases, periodicals, software, applications, others)	1. James A. Crowder, Shelli Friess (2013). Systems Engineering Agile Design Methodologies. (1st edition, 2013), Springer-Verlag. 2. Bruce Powel Douglass (2021). Agile Model-Based Systems Engineering Cookbook: Improve system development by applying proven recipes for effective agile systems engineering. (1st edition, 2021). Packt Publishing. 3. John M. Borky, Thomas H. Bradley (2019). Effective Model-Based Systems Engineering. (1st edition, 2019) Springer.
Supporting websites	
The physical environment for teaching	☒ Class room ☐ labs ☒ Virtual educational platform ☐ Others
Necessary equipment and software	

Supporting people with special needs	
For technical support	

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

No.	Course learning outcomes	The associated program learning output code
Knowledge		
K1	A student will be able to understand the agile software development environment.	MK1
K2	A student will understand agile methods, analyze and explained them.	MK2
K3	A student will be able to understand the scrum software development environment.	MK2
Skills		
S1	A student will be able to create an agile and scrum model for systems.	MS1
S2	A student will be able to choose the best agile and scrum model for their systems	MS1
S3	A student will be able execute and validate agile and scrum models	MS2
Competences		
C1	A student will have the ability to create, execute and validate Agile models.	MC1
C2	A student will have the ability to create, execute and validate scrum models.	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	Lecture	Pages (textbook) 6
2	Agile Model	Lecture	Pages (textbook)

Science &
IT
Faculty of Science & IT

جامعة الزيتونــة الأردنيــة
Al–Zaytoonah University of Jordan
كلية العلوم وتكنولوجيا المعلومات
Faculty of Science and IT

تراث- وجودة
"Tradition and Quality"

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

			9
3	Agile Model vs other models	Lecture	Pages (textbook) 33
4	Agile Methodology	Lecture	Pages 45(textbook)
5	Agile best practices	Lecture	Pages 57(textbook)
6	Agile Implementation	Lecture	Pages 72(textbook)
7	Agile case study	Discussion	Pages 81(textbook)
8	Scrum Methodology	Lecture	Pages 90(textbook)
9	Scrum best practices	Lecture	Pages 103(textbook)
10	Scrum Implementation	Lecture	Pages 112(textbook)
11	Scrum case study	Discussion	Pages 123(textbook)
12	Review of previous chapters Midterm Exam (30 %)	Exam	
13	Testing in Agile	Lecture	Pages (textbook) 161
14	Testing in Scrum	learning through projects	Pages (textbook) 185
15	Revision	Discussion	Pages (textbook) 99
16	Final 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.