Science & IT
Faculty of Science & IT

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

"Tradition and Quality"

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

Study plan No.	2021/2022		University Specialization		Software Engineering
Course No.	0114343		Course name		Systems Analysis and Design
Credit Hours	3		Prerequisite Co-requisite		Software architecture
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
Wael alzyadat	Assistant Professor			Wael.Alzyadat@zuj.edu.jo

Division number	Time	Place	Number of students	Teaching style	Approved model

Brief description

The course covers the development of information systems and of their software components. it focuses on the elicitation and initial modelling of information systems requirements that enable identification of information problems and the subsequent analysis and modelling of an efficient solution to those problems. The approach follows the object-oriented (OO) methods expressed by the Unified Process software development life-cycle. including its methodological deliverables and models and tools, with exposure to manual and automated diagramming and modelling techniques. It critically examines the issues and professional responsibilities that need to be considered at different phases in the development of information systems for an organization; including the impact of the systems on intended users and maintenance of quality.

Learning resources

Course book information (Title, author, date of issue, publisher ... etc)	1. Systems Analysis and Design in a Changing World, Sharejohn w. satzinger, Robert b. Jackson, Stephen d. burd, Cengage Learning; 7th edition (January 29, 2015)
Supportive learning resources (Books, databases, periodicals, software, applications, others)	1. Systems Analysis and Design, Alan Dennis, Barbara Wixom, Roberta M. Roth, Wiley; 7th edition (December 27, 2018)
Supporting websites	International Requirements Engineering Board (https://www.ireb.org/en)
The physical environment for teaching	✔ Class room ‖ ✔ labs ‖ ☐ Virtual educational platform ‖ ☐ Others
Necessary equipment and software	Rational Rose
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	Understand the principles and tools of systems analysis and design	Mk1
K2	Illustrate how systems development extends to different types of information systems and not just transaction processing systems	Mk3, Mk4
K3	Show that the life cycle is a flexible basis for systems analysis and design and that it can support many different tools and techniques	Mk2, Mk4
K4	Prepare your students to develop a plan for conducting a term project involving several phases of systems development using the SDLC or other methodologies.	Mk1, MK2, MK
Skills		
S1	Provides assistance in the installation and use of tools for defining and modifying software processes.	Ms1
S2	Follows and applies defined processes for requirements engineering with guidance.	Ms2, Ms4
S3	Assists in domain analysis.	Ms2, Ms4
	Produce test cases, plans, and procedures that can be used to verify that they have defined, designed and implemented a system that meets the needs of the intended users.	Ms3, Ms1
Competences		
C1	Performs analysis of requirements for feasibility and emergent properties	Mc2
C2	Lead a small team in execution of some portion of a life cycle process model (such as software design).	Mc1, Mc3
C3	Selects the most appropriate formal and informal notations for describing interfaces and functional and nonfunctional requirements.	Mc1, Mc2
C4	Creates prototypes of different types as needed.	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)
Midterm exam	30%	30%	**40%**	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, and 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	The systems analyst and information systems development	Lecture	6-34
2	Project selection and management	Lecture	45-84
3	Requirement's determination	Lecture	101-139
4	Use Case Analysis	learning through problem solving	147-177
5	Process modeling	Lecture	183-217
6	Data modeling	Lecture	223-250
7	Moving into design	Lecture	259-275
8	Architecture design	learning through projects	280-308
9	User interface design	learning through projects	314-355
10	Program design	learning through projects	365-394
11	Data storage design	learning through projects	406-435
12	Moving into implementation	Lecture	435-466
13	Transition to the new system	participatory learning	472-497
14	The movement to objects	participatory learning	503-511
15	Unified Modeling Language, Version 2.0	participatory learning	513-537
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.

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

Week	Task / activity	Reference	Expected results