

COURSE DESCRIPTIONS

Faculty	Science and Information Technology				
Department	Software Engineering			NQF level	6
Course Title	System Analysis and Design	Code	503381	Prerequisite	503201
Credit Hours	3	Theory	3	Practical	0
Course Leader	Dr. Loiy Alsbtain	email	l.alsbatin@jadara.edu.jo		
Lecturers	Dr. Loiy Alsbtain	emails	loiy.alsbatin@gmail.com		
Lecture time	10:00-11:30 Mon/sat	Classroom	Blended learning (D310+ online)		
Semester	Second 2023/2024	Production		Updated	2023
Awards	Bachelor of Software Engineering			Attendance	Fulltime

Short Description

The course material encompasses the concepts, tools, and techniques required to analyze and design information systems. The course will include structured development approaches and the system development life cycle, as well as rapid application development through alternative approaches such as prototyping. Emphasis will be given to the role of information systems in organizations and how they relate to organizational objectives and structure. Students will be introduced to system analysis and design modeling tools such as data flow diagrams, entity-relationship diagrams, data dictionaries, decision tables, decision trees, structured English, and structure charts. This course also includes the project management principles such as: project planning, scheduling, team analyzing and staffing.

The course methodology will include assigned readings from the textbook, lecture, written assignments and class discussions.

Course Objectives

The student should be able to:

- Know what is meant by System Development Life Cycle (SDLC) and the main activities involved in each stage of the (SDLC).
- Determine the most appropriate systems development method to use in various scenarios.
- Determine and document a project management plan for information system development cases. This plan will include components that address the development's schedule, process and quality.
- Depict systems graphically using context-level data flow diagrams, and entity-relationship models, use cases, and use case scenarios.
- Use systems analysis models to document the information system requirements of an organization.

<ul style="list-style-type: none"> • Understand the interactive methods to elicit human information requirements. • Manage a project by preparing a budget, creating a work breakdown structure, scheduling activities, and controlling the schedule and costs.
Learning Outcomes
Knowledge
<p>a1. Discuss the activities and output of the seven stages of the SDLC, and realize the Interdependence and sequence between these stages.</p> <p>a2. Illustrate and explain the differences between the popular development methodologies such as: SDLC, agile approach, and Object-oriented systems analysis and design.</p> <p>a3. Understand the differences between the main types of information gathering: Interviewing, Joint Application Design (JAD), and Questionnaires, and implement these types.</p>
Skills
<p>b1. Develop the systems graphically by using Data Flow Diagrams (DFD), and Entity-Relationship (ER) Models, and Use Cases Model (UML).</p> <p>b2. Draw Gantt Chart and Program Evaluation Review Technique (PERT) diagrams for many projects.</p>
Competence
Teaching and Learning Methods
Face to Face and Online Lectures and meetings
Assessment Methods
- As mentioned in the Course Assessment Plan (CAP)

Course Contents						
Week	Hours	CILOs	Topics	Teaching & Learning Methods	Assessment Methods	
1,2	3 3	a1	- System analysis fundamentals, system role and development methodologies	Face to Face Online synchronous or asynchronous		
3,4,5	4.5 4.5	a1,a2	- Understanding and modeling organizational systems, use case modeling, UML methodology.	Face to Face Online synchronous or asynchronous	Quiz & assignment	
	3		- Project management	Face to Face	Quiz	

6,7	3	b2		Online synchronous or asynchronous	
8	1.5	a3	- Information gathering :interactive methods, interviewing , JAD, using questionnaires	Face to Face	Mid exam
	1.5		Mid Exam		
9,10	3	a2	- Agile modeling and prototyping	Face to Face	
	3			Online	
11,12	3	a2, b1	- The analysis process: using data flow diagrams	Face to Face	Assignment
	3			Online	
13,14, 15	4.5	b1	- Object oriented system analysis and design using UML	Face to Face	Quiz
	4.5			Online	
16	2		Final Exam	Face to Face	Final Exam
Infras tructu re					
Textbook			Systems analysis and design, Kendall, K. E., Kendall, J. E., Kendall, E. J., & Kendall, J. A. Eight edition, (2014).		
Other References			<ol style="list-style-type: none"> 1. Modern Systems Analysis and Design By: Jeffrey A. Hoffer, Joey F. George and Joseph S. Valacich Printed in the US....2nd edition to 6th edition, 2002...2010 by Pearson Education, Inc. ISBN: 0-8053-2499-2 2. Systems Analysis & Design (3rd Edition) By: Alan Dennis, Barbara Haley Wixom, Roberta M. Rogh Printed in the US 2006 by John Wiley & Sons Inc., ISBN: 13:978-0-471-72257-1 or ISBN: 10:0-471-72257-x { See: www.wiley.com/college/dennis} 		
Required reading			introduction to software Engineering		
Electronic materials					
Other					

Course Assessment Plan						
Assessment Method	Grade	CILOs				
		a1	a2	a3	b1	b2
Midterm	30	10	5	5	0	10
Final Exam	40	5	10	10	10	5
Coursework	30					
Coursework assessment methods	Assignments			5	5	
	Case study					
	Discussion and interaction					
	Group work activities					
	Lab tests and assignments					
	Presentations					
	Quizzes		5	5		
Total	100	20	20	25	15	20

Plagiarism
<p>Plagiarism is claiming that someone else's work is your own. The department has a strict policy regarding plagiarism and, if plagiarism is indeed discovered, this policy will be applied. Note that punishments apply also to anyone assisting another to commit plagiarism (for example by knowingly allowing someone to copy your code).</p> <p>Plagiarism is different from group work in which a number of individuals share ideas on how to carry out the coursework. You are strongly encouraged to work in small groups, and you will certainly not be penalized for doing so. This means that you may work together on the program. What is important is that you have a full understanding of all aspects of the completed program. In order to allow proper assessment that this is indeed the case, you must adhere strictly to the course work requirements as outlined above and detailed in the coursework problem description. These requirements are in place to encourage individual understanding, facilitate individual assessment, and deter plagiarism</p>