



Course Specification

— (Bachelor)

Course Title: System Analysis & Design

Course Code: IS413

Program: Computer Science

Department: Information Technology

College: Computer and Information Sciences

Institution: Majmaah University

Version: Course Specification Version Number

Last Revision Date: Pick Revision Date.



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A. General information about the course:

1. Course Identification

1. Credit hours: 3 (3,0,1)

2. Course type

A. University College Department Track Others
 B. Required Elective

3. Level/year at which this course is offered: (7)

4. Course general Description:

This course is concerned with the fundamental knowledge, methods and skills needed to analyses, design and implement computer-based systems. It addresses the role of the systems analyst, and the techniques and technologies used. The structured software development life cycle approach, modelling techniques (e.g., Entity-Relationship Models) and development phases are comprehensively discussed and reviewed. In modelling techniques, process models (e.g., Data Flow Diagrams), information models, system architecture models, and object-oriented models are thoroughly described.

5. Pre-requirements for this course (if any): CS314

6. Pre-requirements for this course (if any):

7. Course Main Objective(s):

To focus on the concepts, skills, methodologies, techniques, tools, and perspectives essential for systems analysts. The exposure to object oriented and use-case driven, will require students to go through the steps of system analysis and design to solve a real-life business problem.

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	60	100%





No	Mode of Instruction	Contact Hours	Percentage
2	E-learning		
3	Hybrid <ul style="list-style-type: none"> • Traditional classroom • E-learning 		
4	Distance learning		

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	60
2.	Laboratory/Studio	
3.	Field	
4.	Tutorial	
5.	Others (specify)	
Total		60

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	Knowledge and understanding			
1.1	CLO1- To understand Information Systems their basic components, types and the key elements involved in the analysis, design & development of information Systems.	S4	Classroom Teaching Discussions	Quiz, Mid Exam, Final Exam
1.2	CLO4 - Students understand the importance of analyzing and	S4	Classroom Teaching Discussions	Quiz, Mid Exam, Final Exam



Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
	designing ethically and legally			
...				
2.0	Skills			
2.1	SO(6)Identify and analyze user needs and to take them into account in the selection, creation, integration, evaluation, and administration of	S6	Classroom Teaching Discussions	Quiz, Mid Exam, Final Exam
2.2	Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements	S2	Classroom Teaching Discussions	Quiz, Project, Mid Exam, Final Exam
2.3				
3.0	Values, autonomy, and responsibility			
3.1	CLO3 - A thorough understanding of the project handling, modelling techniques, business strategies and documentation involved in developing the information systems	S5	Classroom Teaching Discussions	Project, Mid Exam, Final Exam
3.2	CLO3-Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles	S4	Classroom Teaching Discussions	Project, Mid Exam, Final Exam
...				



C. Course Content

No	List of Topics	Contact Hours
1.	Introduction	4
2.	Fundamental knowledge, methods and skills needed to analyze, design and implementation of information systems	4
3	Role of the systems analyst, and the techniques and technologies used	4
4	The structured software development life cycle approach	8
5	Modelling techniques - Entity-Relationship Models	4
6	Development phases	4
7	Modelling techniques, process models - Data Flow Diagrams),	4
8	Making Forms and Reports	4
9	Business Strategies and solutions	4
10	Introduction to OO Modelling	8
11	Use case models	4
12	Data base modeling	4
13	Implementation	4
Total		60

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Assignments	2,4,6,8,10,12	20%
2.	Mid-Term	8	20%
3.	Project	13	10%
4.	Quiz	5,10	10%
5.	Final	Final Exams schedule	40%

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.).

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	System Analysis & Design by Kendall & Kendall Essentials of System Analysis & design by Valacich, George, Hoffer
Supportive References	Professionals guide to System Analysis (McGraw Hill Software Engineering Series)
Electronic Materials	SDL , ACM Library , and PowerPoint Presentation





Other Learning Materials

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Blackboard/ Telegram/ Email
Technology equipment (projector, smart board, software)	AV, data show, Smart Board
Other equipment (depending on the nature of the specialty)	

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students/ HoD	Indirect/ Direct
Effectiveness of Students assessment	Lecturer / HoD	Indirect/ Direct
Quality of learning resources	Students/ HoD	Indirect/ Direct
The extent to which CLOs have been achieved	Lecturer /Students/ HoD	Indirect/ Direct
Other		

Assessors (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	
REFERENCE NO.	
DATE	

