Course Specifications

Course Title:	System Analysis And Design
Course Code:	502361-3
Program:	Bachelor in Information Technology
Department:	Department of Information Technology
College:	College of Computers and Information Technology
Institution:	Taif University

Table of Contents

A. Course Identification

1. **Credit hours:** 3	

2. Course type

a. University ☐   College ☐   Department ☑   Others ☐

b. Required ☑   Elective ☐

3. Level/year at which this course is offered:
9/3

4. Pre-requisites for this course (if any)**: 501323**-3

5. Co-requisites for this course (if any)**:None**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	8	100%
2	**Blended**	0	0
3	**E-learning**	0	0
4	**Distance learning**	0	0
5	**Other**	0	0

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	50
2	**Laboratory/Studio**	30
3	**Tutorial**	0
4	**Others** (specify)	0
	Total	80

B. Course Objectives and Learning Outcomes

1. Course Description
Fundamentals of system development methodologies, techniques and tools. Exposure to planning tools: Details of analysis and design tools and techniques: data flow diagrams, data dictionary, entity-relationship diagrams, process specifications, structure chart. Principles of user interface design. Practice of analysis and design through case studies. Use of CASE Tools in system planning, analysis and design. Emphasis on front-end SDLC phases of planning, analysis and design using traditional and object-oriented approach of system development.

2. Course MainObjective
By the end of this course, the student should be able to:
1. Understand the concept of systems analysis and design.
2. Recognition the properties and specifications of systems analysis and design specialist.
3. Analysis and design stages from the identification of multi-system problem to the stage of evaluation and development.
4. Use tools and methods in the analysis through the study of theory in the classroom and training applications on some systems

3. Course Learning Outcomes

	CLOs	AlignedPLOs
1	**Knowledge and Understanding**	
1.1	Define main concepts in context of systems analysis, design methods and information systems Development.	K1
1.2	Define systems analysis, systems analysis approaches, problem analysis, requirements analysis, logical design, and decision analysis phases in terms of information system building blocks	K1
1.3	Describe the design tasks in terms of a computer-based solution for an in-house development project and in terms of a computer-based solution involving procurement of a commercial systems software solution	K1
2	**Skills :**	
2.1	Analyze System requirements using use case	S1
2.2	Design data flow diagrams to model the processes of information system	S2
2.3	Use object oriented analysis and UML modeling to design information system	S2
3	**Values:**	
3.1	Work in a team to analysis and design a complete information system	V2

C. Course Content

No	List of Topics	Contact Hours
1	The context of system analysis and design methods	5
2	Information system development	10
3	System analysis	10
4	Modeling system requirements with use case	10
5	Process modeling	15
6	Object analysis and modeling using UML	15
7	System design	15
Total		80

D. Teaching and Assessment
1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	TeachingStrategies	AssessmentMethods
1.0	**Knowledge and Understanding**		
1.1	Define main concepts in context of systems analysis, design methods and information systems Development.	Lecture Discussion Lab work	Written Exams Assignments
1.2	Define systems analysis, systems analysis approaches, problem analysis, requirements analysis, logical design, and decision analysis phases in terms of information system building blocks	Lecture Discussion Lab work	Written Exams Assignments
1.3	Describe the design tasks in terms of a computer-based solution for an in-house development project and in terms	Lecture Discussion Lab work	Written Exams Assignments

Code	Course Learning Outcomes	TeachingStrategies	AssessmentMethods
	of a computer-based solution involving procurement of a commercial systems software solution		
2.0	**Skills**		
2.1	Analyze System requirements using use case	Lecture Discussion Lab work	Written Exams Assignments Practical Exam
2.2	Design data flow diagrams to model the processes of information system	Lecture Discussion Lab work	Written Exams Assignments Practical Exam
2.3	Use object oriented analysis and UML modeling to design information system	Lecture Discussion Lab work	Written Exams Assignments Practical Exam
3.0	**Values**		
3.1	Describe the System modeling concepts and analysis	Lecture Discussion Work group	Reports Oral Presentations

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Assignments	10	10%
2	Mid Exam	6	20%
3	Minor project	10	10%
4	Labs	10	20%
5	Final Exam	12	40%

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :

Academic advising and counseling of students is an important component of teaching; student academic advising is a mandatory requirement of College of Computers and Information Technology (CCIT). Appropriate student advising provides support needed for the student during times of difficulty. In addition, it helps the student to build a close relationship with his/her advisor and to provide student motivation and involvement with the institution.

In addition, since faculty are usually the first to recognize that a student is having difficulty, faculty members play a key role in developing solutions for the students or referring them to appropriate services. Faculty members also participate in the formal student-mentoring program.

Additional counseling is provided by course directors, who provide students with academic reinforcement and assistance and refer "at risk" students to the Vice Dean for Academic Affairs and the Vice Dean for female section.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	**Systems Analysis and Design Methods, Jeffery L. Whitten and Lonnie D. Bentley, 7th edition, 2010**
Essential References Materials	
Electronic Materials	Presentations and recorded lectures
Other Learning Materials	None

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	● A Lecture room appropriate for maximum 25 students with a personal computer, a data show and a smart board. ● A Lab room appropriate for maximum 15 students with a personal computer, a data show and a smart board.
Technology Resources (AV, data show, Smart Board, software, etc.)	● Lab materials and required software
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	None

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	Students	Students surveys and Students course evaluation
Improvement of Teaching	Course Coordinator	deficiencies based on the student Evaluation, faculty input, course file, and program assessment
Verifying Standards of Student Achievement	Curriculum Committee	● Review CAF (Course assessment file) ● Alumni surveys. Periodic exchange and remarking of tests or a sample of assignments with staff at another

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes,Quality oflearning resources, etc.)
Evaluators (Students,Faculty, Program Leaders,Peer Reviewer, Others (specify)
Assessment Methods(Direct, Indirect)

H. Specification Approval Data

Council / Committee	IT Department Council/ Executive program committee
Reference No.	11
Date	23/10/21443