T-104
2022

Course Specification

Course Specification
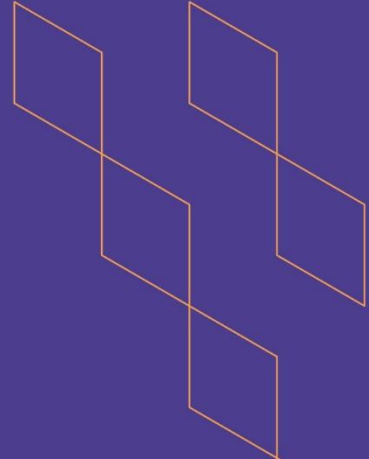
Course Title:	**System Analysis and Design**
Course Code:	**1321 CIS**
Program:	**Information Systems**
Department:	**NA**
College:	**Applied College**
Institution:	**King Khalid University**
Version:	**1**
Last Revision Date:	**6 August 2023**

Table of Contents:

A. General information about the course:

Course Identification				
1. Credit hours:	3			

2. Course type

a.	University ☐	College ☐	Department☐	Track☐	Others☒
b.	Required ☒	Elective☐			

3. Level/year at which this course is offered:	2nd Level

4. Course general Description:

System analysis and design deal with planning the development of information systems through understanding and specifying in detail what a system should do and how the components of the system should be implemented and work together. System analysts solve business problems through analyzing the requirements of information systems and designing such systems by applying analysis and design techniques. This course deals with the concepts, skills, methodologies, techniques, tools, and perspectives essential for systems analysts.

5. Pre-requirements for this course (if any): 1301 CIS

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

7. Course Main Objective(s):

1) Understand concepts relating to different types of information systems

2) Explain the purpose and activities of the systems development life cycle Phases

3) Understand project management techniques

4) Identify and understand system inputs and outputs

5) Understand and model system entities and data stores

6) Understand and model system processes, events, and data flows within a system

7) Understand and model classes of data within a system

1. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1.	Traditional classroom	64	100
2.	E-learning		
3.	Hybrid • Traditional classroom • E-learning		

No	Mode of Instruction	Contact Hours	Percentage
4.	Distance learning		

2. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	32
2.	Laboratory/Studio	32
3.	Field	
4.	Tutorial	
5.	Others (specify)	
	Total	64

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	Understand concepts relating to different types of information systems	k2	Lectures + Lab	Exams, Assignments, Quizzes
1.2	Explain the purpose and activities of the systems development life cycle phases	K3	Lectures + Lab	Exams, Assignments, Quizzes
1.3	Understand project management techniques	K3	Lectures + Lab	Exams, Assignments, Quizzes
2.0	Skills			
2.1	Identify and understand system inputs and outputs	s1 s2	Lectures + Lab	Exams, Assignments, Quizzes
2.2	Understand and model system entities and data stores	s3 s4	Lectures, Lab, group discussion	Exams, Assignments, Quizzes
2.3	Understand and model system processes, events, and data flows within a system	s4	Lectures, Lab, group discussion	Exams, Lab Assignments, Quizzes
2.4	Understand and model classes of data within a system	s3 s4	Lectures, Lab, group discussion	Exams, Lab Assignments, Quizzes
2.5	Understand concepts relating to various models, tools, and techniques used in system analysis and design.	s4	Lectures, Lab, group discussion	Exams, Lab Assignments, Quizzes
3.0	Values, autonomy, and responsibility			
3.1	Will be able to determine the requirements of a system	v1	Lectures, Lab, Case Study	Exams, Assignments and presentation
3.2	Will be able to design a System for an organization	v1	Lab	Exams, Assignments and presentation
3.3	Communicate effectively in oral and written form	v3	Lab demo, group discussion	presentation

C. Course Content

No	List of Topics	Contact Hours
1	**Systems Analysis and Design** – **Overview** Systems Analysis, Systems Design, what is a System? Properties of a System, Elements of a System, Types of Systems, Systems Models, Categories of Information.	10
2	**System Development Life Cycle:** Phases of SDLC, Life Cycle of System Analysis and Design, Role of System Analyst, Attributes of a Systems Analyst	9
3	**System Planning:** What is Requirements Determination? Major Activities in requirement Determination, Information Gathering Techniques, Feasibility Study, Steps Involved in Feasibility Analysis, Types of Feasibilities	9
4	**Determining System Requirements**: Performing Requirements, Determination, Traditional Methods for Determining Requirements, Modern Methods for Determining System, Radical Methods for Determining System Requirements	9
5	**Tools for System Analysis:** Data Flow Diagram (DFD), Logical and Physical DFDs, Developing DFD; System Flowcharts and Structured charts, Structured English, Decision trees and Decision tables.	9
6	**System Design:** Module specifications, Module Coupling and cohesion, Top-down and bottom-up design; Logical and Physical design, Structured design.	9
7	**Input and Output Input design:** Input data, Input media and devices; Output design; Form Design: Classification of forms, Requirements of Form design.	9
	Total	64

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Quiz 1	4	5
2.	Midterm Exam 1	7	10
3.	Practical Assessment	1 to 16	30
4.	Midterm Exam 2	12	10
5.	Quiz 2	14	5
6.	Final Exam	After week 16	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	Systems Analysis and Design Global Ed *Kenneth E. Kendall*, *Julie E. Kendall*. Modern Systems Analysis and Design, Global Edition, 9th Edition *JOE. GEORGE VALACICH (JOEY.)* Systems Analysis and Design: An Object-Oriented Approach with UML *Alan Dennis*, *Barbara Haley Wixom*, *David Tegarden*
Supportive References	System, Analysis, Design and Development: Concepts, Principles and Practices by Charles S. Wasson, John Wiley & Sons, Inc. System Analysis & Design, 5th Edition: By Denis, Wixom, Roth, John Wiley & Sons, Inc
Electronic Materials	https://www.studocu.com/row/document/technical-and-vocational-teachers-college/system-analysis-and-design/unit-1-lecture-notes-1/7448343 https://cosmolearning.org/courses/system-analysis-and-design-539/
Other Learning Materials	All other materials will be made available via course's Blackboard page

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	• Lecture Room with enough capacity Chairs Projector/Screen. • Laboratories with Computers
Technology equipment (projector, smart board, software)	• Laboratories computers with UML software (StarUML). • Projectors, Computer for Theory Classes and Practical Sessions.
Other equipment (depending on the nature of the specialty)	

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students	Indirect
Effectiveness of students assessment	Course Teacher	Direct
Quality of learning resources	Program Supervisor, Quality Unit	Direct
The extent to which CLOs have been achieved	Course Teacher	Direct
Other	Course Teacher, Quality Unit	Direct

Assessor (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

G. Specification Approval Data

COUNCIL /COMMITTEE	
REFERENCE NO.	
DATE	