Course Description

The aim of the course is to expose students to the systems theory, common methodologies, and tasks of analysis, design, and implementations of computer based information systems (CBIS).

Course Objectives

1. To introduce the student to different approaches to Information systems analysis and design.
2. To define and explain types of system, Business environment, Computer Based Information System (CBIS)
3. To define and describe the six phases of the systems development life cycle (SDLC).
4. To describe in detail the systems planning, systems analysis, systems design, systems implementation, and systems operation and support phases of the SDLC.
5. To implement the five phases of the SDLC in solving a real world information technology problem.
6. To provide the student with a system analysis toolkit that can help in developing the five stages of the SDLC.
7. To provide the students with a background into how IT supports a business environment.
8. To provide the students with background into the role of a systems analyst and how they interact with users, managers and other IT staff.

Course Content

WEEK	SUBJECT AREA	DISCUSSION TOPICS
1	Introduction	Overview of business information systems development. Definition of systems analysis and systems design. Importance of systems analysis and design
2	Systems Development Life Cycle	Stages of SDLC (Planning, Analysis, Design, Implementation & Maintenance). Roles of all participants in different stages of systems development. Problem definition, Requirements and data gathering techniques
3	System Life Cycle	Model techniques: Types of life cycle (waterfall model, V-model and spiral model)
4	Software Analysis and Design	Approaches in systems analysis and design (structured and object-oriented). Fundamentals of OO analysis and design. Introduction to Unified Modelling Language (UML)
5	**C.A.T. 1**	
6	Systems Analysis	Requirements determination/ Information gathering

	Techniques	(interviews, joint application design – JAD, questionnaires, document analysis, observation, rapid application development (RAD)
7	Modeling	Types of modeling (functional, structural and behavioral). Modeling techniques (Agile modeling, Entity modeling, and Use Case modeling). Dataflow diagramming Mechanics. Analysis models (Data Dictionary, Data Modeling and Analysis, Use Cases and Use Case Diagrams, Conceptual Class Diagrams, CRC Cards, and Context Diagrams.)
8	Systems Design Techniques	Object-Oriented Design: Design Class Diagrams, Interaction and Activity Diagrams, State Chart Diagrams, Package and Deployment Diagrams.
9	**C.A.T. 2**	
10	System Development Methodologies	Overview of design patterns and Human Computer Interaction (HCI). Unified Process. Rational Unified Process (RUP
11	Testing and Implementation of Information systems	Understand the various methods used in testing systems and methods of implementing information systems
12	REVISION	

Reading List

1. Avison D. and Fitz Gerald D. (1995) Information systems development: methodologies techniques and tools McGraw Hill.
2. Kenneth E. and Kendall J. E (2007) Systems analysis and Design Prentice Hall
3. Systems Analysis and Design in a Changing World, John Satzinger, Robert Jackson and Stephen Burd. 5th edition. Course Technology, 2009 (ISBN-13: 978-1-4239-0228-7)

Course evaluation

1. Continuous assessment tests and term paper 30%
2. Final semester exams 70%

Ground rules

1. Late assignments will not be accepted