Arab Academy for Science and Technology and Maritime Transport
Information Systems Curriculum
Course Syllabus

Course Code: IS391	**Course Title:** System Analysis and Design	**Classification:** **R**	**Coordinator's Name:** Dr. Walid Rabie **Lecturer**: Dr Essam Kosba	**Credit Hours:** 3
Pre-requisites: IS171(Introduction to Information Systems) CS243(Object-Oriented Programming)	**Co-requisites:** None	**Schedule:** Lecture: 2 hours Tutorial: 2 hours		

Office Hours: (Room 305)
Sunday 10:30 am- 12:30 pm

Course Description:
This course introduces information system development process. The course emphasizes the development phases of analysis and design, the application of structured methods, and the use of tools. As a term project, student teams determine and specify user requirements for an information system application. The main concern of the course is the analysis of business problems in an organization and the subsequent design of computer systems to meet the organization's needs. Students will study the stages of system development including problem definition, consideration of alternative solutions and selection of a solution, implementation, control, and management of the system.

Textbook:
Kenneth E. Kendall & Julie E. Kendall, *Systems Analysis and Design*, Prentice Hall International Edition.

References:

1. Jeffrey A. Hoffer, Joey F. George, and Joseph S. Valacich, *Modern Systems Analysis and Design*, Addison Wesley Longman, Inc.
2. Lejk, M. and Deeks, D., *An Introduction to Systems Analysis Techniques*, Addison Wesley.

Course Objective/Course Learning Outcome:	**Contribution to Program Student Outcomes:**

1. Understand analysis and design phases of information systems development life cycle.	(SO1) - Analyze a complex computing problem and to apply principles of computing and their relevant disciplines to identify solutions. (SO3) - Communicate effectively in a variety of professional contexts.
2. Apply several tools and techniques used in information systems analysis and design.	(SO1) - Analyze a complex computing problem and to apply principles of computing and their relevant disciplines to identify solutions. (SO2) - Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline. (SO5) - Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
3. Understand the use of systematic and structured methodologies used to develop information systems.	(SO1) - Analyze a complex computing problem and to apply principles of computing and their relevant disciplines to identify solutions. (SO2) - Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
4. Evaluate different approaches used to develop information systems in modern organizations.	(SO2) - Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.

Course Outline:

1. **Week 1:** Course Description and Introduction
2. **Week 2:** Assuming the Role of Systems Analyst
3. **Week 3:** Determining Feasibility and Managing Analysis and Design Activities
4. **Week 4:** Interviewing and Using Questionnaires
5. **Week 5:** Prototyping
6. **Week 6:** Using Data Flow Diagrams
7. **Week 7:** 7th Week Examination
8. **Week 8:** Analyzing Systems Using Data Dictionaries
9. **Week 9:** Describing Process Specifications and Structured Decisions
10. **Week 10:** Designing Effective Output
11. **Week 11:** Designing Effective Input
12. **Week 12:** Designing The File Or Database
13. **Week 13:** Designing The User Interface and Introduce the Self Reading Unit: Designing Accurate Data-Entry Procedures
14. **Week 14:** Quality Assurance Through Software Engineering
15. **Week 15:** Revision
16. **Week 16:** Final Examination

Grade Distribution:

7th Week Assessment (30%):
Exam (20%) + PERT Section Quiz (5%) + Gantt chart project (5%)

12th Week Assessment (20%):
Quiz on Decision Table and tress (10%) + Project (10%)

Coursework (10%): Attendance and participation

Final Exam (40%)

Policies:

Attendance:
AASTMT Education and Study Regulations (available at aast.edu)

Academic Honesty:
AASTMT Education and Study Regulations (available at aast.edu)

Late Submission:
Late submissions are graded out of 75% (1 week late), 50% (2 weeks late), 25% (3 weeks late), 0% (more than 3 weeks late)