



Shoubra Faculty of
Engineering

Model No.12

Course Specifications : System Analysis and Design 1

University : Benha university

Faculty : Shoubra Faculty of Engineering

Department : Electrical Engineering Department

1- Course Data

Course Code : ECE314C Course Title : System Analysis and Design 1 Study Year : Third Year

Specialization :

Teaching Hours:

Lecture : 4

Tutorial : 0

Practical : 2

2- Course Aim

For students undertaking this course, the aims are to:

- 2.1 Understand the different types of Information Systems
- 2.2 Recognize the different approaches to System Development
- 2.3 Know the role of the Analyst As a Project Manager
- 2.4 Investigate the System Requirements
- 2.5 Model the System Requirements using the Structured and Object-Oriented Approaches.
- 2.6 Design the Systems using the Traditional and Object-Oriented Approaches.
- 2.7 Design the Databases, User Interfaces, Controls, and System Interfaces.

3- Intended Learning Outcomes of Course (ILOS)

a- Knowledge and Understanding

On completing this course, students will be able to:

- a- 1 - Know the basics of information systems. (a2)

- a- 2 - Recognize the different approaches to System Development. (a4, a11)
- a- 3 - Learn business and management principles of designing information systems. (a7)
- a- 4 - Understand how to define the system requirements. (a5)
- a- 5 - Model the system requirements using DFD and UML. (a13)
- a- 6 - Design the Databases, User Interfaces, and System Interfaces. (a17)

b- Intellectual Skills

At the end of this course, the students will be able to:

- b- 1 - Think in a creative and innovative way in systems analysis and design. (b3)
- b- 2 - Select and apply the appropriate methodology for modeling and analyzing information systems. (b2, b9)
- b- 3 - Select and apply the appropriate tools to develop information systems. (b8, b14)
- b- 4 - Assess and evaluate the performance of system components, and processes. (b5)

c- Professional Skills

On completing this course, the students are expected to be able to:

- c- 1 - Demonstrate basic organizational and project management skills. (c9)
- c- 2 – Gather information and define the system requirements. (c1, c14)
- c- 3 - Use analytical tools, techniques, and software packages to design and analyze system requirements. (C6)
- c- 4 - Develop the system models using DFD and UML. (c3, c15)
- c- 5 - Prepare the proper Use cases to test the system. (c1)

d- General Skills

At the end of this course, the students will be able to:

- d- 1 - Collaborate effectively within multidisciplinary team. (d1)
- d- 2 - Communicate effectively. (d3)
- d- 3 - Lead and motivate individuals. (d5)
- d- 4 - Effectively manage tasks, time, and resources. (d6)

4- Course Contents

No.	Topics
1	Understanding Types of Information Systems
2	Approaches to System Development
3	The Analyst As a Project Manager

4	Investigating System Requirements
5	Modeling Systems Requirements: Events and Things
6	The Traditional Approach to Requirements (Structured)
7	The Object-Oriented Approach to requirements
8	Moving to Design
9	The Traditional Approach to Design
10	The Object-Oriented Approach to Design: Use Case Realization
11	Designing Databases
12	Designing the User Interface
13	Designing System Interfaces, Controls, and Security

5- Teaching and Learning Methods

- 5.1- Lectures
- 5.2- Class activity
- 5.3- Case study
- 5.4- Assignments / homework

6- Teaching and Learning Methods of Disables

- 6.1- Not available

7- Student Assessment

a- Student Assessment Methods

1	Assignments to assess knowledge, intellectual skills and professional and practical skills.
2	Quiz to assess knowledge, intellectual skills and professional and practical skills.
3	Mid-term exam to assess knowledge, intellectual skills and professional and practical skills.
4	Oral exam to assess professional, practical, general and transferable skills.
5	Final exam to assess knowledge, intellectual skills and professional and practical skills.

b- Assessment Schedule

No.	Assessment	Week
1	Assessment	2, 5, 9, 11

2	Quizzes	4, 6, 10, 12
3	Mid-term exam	8
4	Oral Exam	14
5	Final exam	15

c- Weighting of Assessments

Assessment	Weight
Mid_Term Examination	10 %
Final_Term Examination	60 %
Oral Examination	10 %
Quizzes	10 %
Semester work	10 %
Other types of assessment	0 %
Total	100 %

8- List of References

a- Course Notes

1- Handouts prepared by the instructor.

b- Books

1- Jeff Hedrington, Systems Analysis and Design in a Changing World,(4thEdition) , 2006

c- Recommended Books

1- Jeffery Hoffer, Joey George, Joseph Valacich, Modern System Analysis & Design (6th Edition), 2011

- **Course Coordinator :** Ass. Prof/ Abdulwahab Kamel Mohamed Al_Sammak

- **Head of Department :** Prof/ Sayed Abo-Elsood Sayed Ward



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Model No.11A Course Specifications : System Analysis and Design 1

University : Benha university

Faculty : Shoubra Faculty of Engineering

Department : Electrical Engineering Department

Matrix of Knowledge and Skills of the course

No.	Topics	week	Basic Knowledge	Intellectual Skills	Professional Skills	General Skills
1	Understanding Types of Information Systems	1	A1			d1
2	Approaches to System Development	2	A2	B1, b2		d1
3	The Analyst As a Project Manager	3	A3	B4	C1	D3, d4
4	Investigating System Requirements	4	a2, a4	B1, b2	C2	d1, d2
5	Modeling Systems Requirements: Events and Things	5	A5	B1, b2	C3, c4	D1, d2
6	The Traditional Approach to Requirements (Structured)	6	A5	B1, b2	C3, c4	D1, d2

7	The Object-Oriented Approach to requirements	7	A5	B1, b2	C3, c4	D1, d2
8	Mid Term Exam	8				
9	Moving to Design	9	A6	B1, b3, b4	C3, c4, c5	d1, d4
10	The Traditional Approach to Design	10	A6	B1, b3, b4	C3, c4, c5	d1, d4
11	The Object-Oriented Approach to Design: Use Case Realization	11	A6	B1, b3, b4	C3, c4, c5	d1, d4
12	Designing Databases	12	A6	B1, b3, b4	C3, c4, c5	d1, d4
13	Designing the User Interface	13	A6	B1, b3, b4	C3, c4, c5	d1, d4
14	Designing System Interfaces, Controls, and Security	14	A6	B1, b3, b4	C3, c4, c5	d1, d4
15	Final Exam	15				



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Matrix of course content and ILO's

Course content	A1	A2	A3	A4	A5	A6	B1	B2	B3	B4	C1	C2	C3	C4	C5	D1	D2	D3	D4
Understanding Types of Information Systems	✓															✓			
Approaches to System Development		✓					✓	✓								✓			
The Analyst As a Project Manager			✓							✓	✓							✓	✓
Investigating System Requirements		✓		✓			✓	✓				✓				✓	✓		
Modeling Systems Requirements: Events and Things					✓		✓	✓					✓	✓		✓	✓		
The Traditional Approach to Requirements (Structured)					✓		✓	✓					✓	✓		✓	✓		
The Object-Oriented					✓		✓	✓					✓	✓		✓	✓		

Approach to requirements																			
Moving to Design		✓					✓	✓	✓		✓					✓			✓
The Traditional Approach to Design						✓	✓		✓	✓			✓	✓	✓	✓			✓
The Object-Oriented Approach to Design: Use Case Realization						✓	✓		✓	✓			✓	✓	✓	✓			✓
Designing Databases						✓	✓		✓	✓			✓	✓	✓	✓			✓
Designing the User Interface						✓	✓		✓	✓			✓	✓	✓	✓			✓
Designing System Interfaces, Controls, and Security						✓	✓		✓	✓			✓	✓	✓	✓			✓



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Matrix of course aim and ILO's

Course aims	A1	A2	A3	A4	A5	A6	B1	B2	B3	B4	C1	C2	C3	C4	C5	D1	D2	D3	D4
Understand the different types of Information Systems	✓															✓			
Recognize the different approaches to System Development		✓					✓	✓								✓			
Know the role of the Analyst As a Project Manager			✓							✓	✓							✓	✓
Investigate the System Requirements		✓		✓			✓	✓				✓				✓	✓		
Analyze the Systems using the Structured Approach to Requirements and the Object-Oriented Approach					✓		✓	✓					✓	✓		✓	✓		
Design the Systems using the Traditional Approach and the Object-Oriented Approach						✓	✓		✓	✓			✓	✓	✓	✓			✓
Design Databases, User Interfaces, Controls, and System Interfaces.						✓	✓		✓	✓			✓	✓	✓	✓			✓

- Course Coordinator : Ass. Prof/ Abdulwahab Kamel Mohamed Al_Sammak

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