Faculty: Information Technology	
Department: Software Engineering	**Program:** Master
Academic year:	**Semester:**

Course Plan

First: Course Information

Course No.: 1503735	***Course Title:*** *Advanced Software Modelling*	***Credit Hours:***	***Theoretical:***	***Practical:***
Prerequisite No. and Title:		***Section No.:***	***Lecture Time:***	
Level in JNQF	***7***			
Type Of Course:	☐ ***Obligatory University Requirement*** ☐ ***Elective University Requirement*** ☐ ***Obligatory Faculty Requirement*** ☐ ***Elective Faculty Requirement*** ■ ***Obligatory Specialization Requirement*** ☐ ***Elective Specialization Requirement*** ☐ ***Ancillary course***			
Type of Learning:	☐ ***Face-to-Face Learning*** ■ ***Blended Learning (2 Face-to-Face + 1 Asynchronous)*** ☐ ***Online Learning (2 Synchronous + 1 Asynchronous)***			

Second: Instructor's Information

Course Coordinator:			
Name:	***Academic Rank:***		
Office Number:	***Extension Number:***	***Email:***	
Course Instructor:			
Name:	***Academic Rank:***		
Office Number:	***Extension Number:***	***Email:***	
Office Hours:	***Sunday*** ***Monday*** ***Tuesday*** ***Wednesday*** ***Thursday***		

Third: Course Description

This course aims to introduce the student to fundamental concepts of object oriented approach to development based on modeling objects from the real world and then using the model to build the language independent design organized around objects.

Fourth: Course Objectives

- Interpret / give the meaning of object-oriented concepts.
- Understand different Modeling Methodology.
- Prepare an object model for a given problem statement.
- Prepare dynamic for a given problem statement.
- Describe and Design the concepts of class diagram, object diagram, interaction diagram, sequence diagram collaboration, use case diagram, state diagram, and activity.
- Usage of anyone design tool.

Fifth: Learning Outcomes

Level descriptor according to (JNQF)	*CILOs Code*	*CILOs* If any CLO will not be assessed in the course, mark NA.	*Associated PILOs Code* *Choose one PILO for each CILO**	*Assessment method* *Choose at least two methods*
Knowledge	**K1**	Awareness of the fundamental concepts and components of software modelling , such as classes, objects, relationships, and diagrams	**PK4**	• Mid-term Exam • Final Exam
	K2	Understanding the strengths and limitations of each diagram type allows students to effectively communicate and model different aspects of a software system	**PK4**	• Mid-term Exam • Final Exam • **Assignments**
Skills	**S1**	The ability to model relationships accurately is critical for capturing the structure and interactions within a system	**PS1**	• Mid-term Exam • Final Exam
	S2	Develop strong analytical skills to decompose complex software systems into manageable components, identifying key relationships and interactions	**PS1**	• Mid-term Exam • Final Exam • **Assignments**
	S3	Translating real-world requirements into Software Modelling diagrams that accurately represent the system's structure and behavior	**PS2**	• Mid-term Exam • Final Exam
Competencies	**C1**	Addressing challenges related to system architecture, design, and interactions, allowing Software Modelling students to apply appropriate modeling solutions in different contexts by choosing the right diagram for a given scenario is crucial	**PC5**	• Presentation • Research paper • Mid-term Exam • Final Exam

*CILOs: Course Intended Learning Outcomes; PILOs: Program Intended Learning Outcomes; For each CILO, the PILO could be the same or different.

Sixth: Learning Resources

Main Reference:	UML @ Classroom: An Introduction to Object-Oriented Modeling		Addison Wesley Longman Publishing
Author: M. Seidl , M. Scholz, Ch. Huemer , G. Kappel	***Issue No.:*** *2015th edition*	***Print:***	***Publication Year:*** *2015*
Additional Sources&Websites:	• *Lecture Notes* • *Projects, Tasks, and Quizzes* • *Self-learning materials* • *Moodle*		
Teaching Type:	■ ***Classroom*** □ ***Laboratory*** □ ***Workshop*** ■ ***MS Teams*** ■ ***Moodle***		

Seventh: Course Structure

Lecture Date	Course Intended Teaching Outcomes (CILOs)	Topics	Teaching Procedures*	Teaching Methods**	References***
1	K1, K2	Outline Ch1: Requirements and Requirements Engineering Ch1: Introduction to software modelling	Face-to-Face	Lecture	Course Outline
2	K1, K2	User Stories Introduction to software modelling	Asynchronous	Video for learning activity	Course Slides / book / External Sources
3	K1, K2	Ch3: Introduction to UML Modelling Modelling Spaces	Face-to-Face	Lecture	Course Slides / book
4	K1,K2	Writing a simple scenario and java program to reflect some of the studied OO Concepts	Asynchronous	Video for learning activity	Course Slides / book / External Sources
5	K1, K2	Ch4:Use Case Diagram Ch5: Use Case Description	Face-to-Face	Lecture	Course Slides / book / External Sources
6	S1	Tools to Draw Use Case Diagram Use Case Diagram and Description	Asynchronous	Video for learning activity	Course Slides / book
7	K1, K2	Ch6: Classes and Business Entities	Face-to-Face	Lecture	Course Slides / book
8	K1, K2	Classes and Business Entities	Asynchronous	Video for learning activity	Course Slides / book / External Sources
Midterm Exam					
9	S1, S2, S3	Ch6: Classes and Business Entities	Face-to-Face	Lecture	Course Slides / book
10	S1, S2, S3	Writing a Java program to reflect Classes and Business Entities	Asynchronous	Video for learning activity	Course Slides / book / External Sources
11	K1,K2 S1, S2, S3	Ch7: Class Diagram	Face-to-Face	Lecture	Course Slides / book
12	S1, S2, S3	Tools to model a class diagram	Asynchronous	Video for learning activity	Course Slides / book
13	K1, K2	Ch8: Activity Diagram	Face-to-Face	Lecture	Course Slides / book / External

					Sources
14	C1	Activity Diagram	Asynchronous	Video for learning activity	Course Slides / book
Final Exam					

*Teaching procedures: (Face-to-Face, synchronous, asynchronous). ** Teaching methods: (Lecture, video….).
*** Reference: (Pages of the book, recorded lecture, video….)

Eighth: Assessment Methods

Methods	Online Learning	Blended Learning	Face-To-Face Learning	Measurable Course (CILOs); **Specific Course Output to be measured** *State the score identified for each CILO for each method of assessment out of 100 **If any CILO will not be assessed in the course, mark NA.					
				K1	K2	S1	S2	S3	C1
First Exam									
Second Exam									
Mid-term Exam		30		✓	✓	✓	✓	✓	✓
Participation		30							
Asynchronous Activities				✓	✓	✓	✓	✓	✓
Quizzes									
Assignments									
Group presentation									
Final Exam		40		✓	✓	✓	✓	✓	✓
Total out of 100		100		✓	✓	✓	✓	✓	✓

Ninth: Course Policies

- All course policies are applied on all teaching patterns (online, blended, and face-to-face Learning) as follows:
  a. Punctuality.
  b. Participation and interaction.
  c. Attendance and exams.
- Academic integrity: (cheating and plagiarism are prohibited).

Approval	Name	Date	Signature
Head of Department			
Faculty Dean			