Jordan University of Science and Technology
Faculty of Computer & Information Technology
Computer Engineering Department

CPE311 Object-Oriented Software Analysis & Design - JNQF Level: 7
Second Semester 2023-2024

Course Catalog
3 Credit Hours. Software development processes, the Unified Modeling Language (UML), and object-oriented concepts such as data and program abstraction, decomposition of large systems into reusable objects, and inheritance encapsulation and polymorphism. Programming projects will be implemented in an object-oriented language such as JAVA and C#.
Teaching Method: Blended

Text Book	
Title	Object Oriented Design and Patterns
Author(s)	Cay Horstmann
Edition	2nd Edition
Short Name	Ref #1
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
Ref #2	Visual C# 2005 How to Program,	Harvey M. Deitel and Paul J. Dietel	2nd Edition	
Ref #3	Applying UML and Patterns: An Introduction to Object-Oriented Analysis and Design and Iterative Development	Craig Larman	3rd Edition	
Ref #4	Code Complete: A Practical Handbook of Software Construction	Steve McConne	2nd Edition	
Ref #5	UML Distilled: A Brief Guide to the Standard Object Modeling Language	Martin Fowler	3rd Edition	

Instructor

Name	**Mr. Mohammed Hammouri**
Office Location	C5 L2
Office Hours	
Email	hammori@just.edu.jo

Class Schedule & Room

Section 1:
  Lecture Time: Sun, Tue : 11:30 - 12:30
  Room: CPE06-M712

Prerequisites

Line Number	Course Name	Prerequisite Type
1761120	SE112 Introduction To Object- Oriented Programming	Prerequisite / Study
821123	HSS112SE Introduction To Object- Oriented Programming	Prerequisite / Study

Tentative List of Topics Covered

Weeks	Topic	References
	Introduction	
	Basics of Classes	
	Inheritance and Polymorphism	
	Properties and Interfaces	
	Object Class , Operator Overloading	
	Use Cases, UML Class Diagrams	
	Sequence and State Diagram	
	Exceptions and Input Output Files	
	Program by Contract	
	Design Patterns	

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Describe the basics of object oriented programming such as creating classes and objects [1SO1] [1L7K1]	20%	
Identify the difference between the class and objects [1SO1] [1L7K1]	5%	
Recognize the difference between static and dynamic binding [1SO1] [1L7K1]	10%	

Apply dynamic binding in building expandable, easy to maintain software systems [1SO1] [1L7K1]	10%	
Analyze systems based on given requirements [1SO1] [1L7K1]	10%	
Design large systems using UML [1SO2] [1L7S1]	10%	
Construct a program code based on given UML design [1SO2] [1L7S1]	10%	
Design and build large software systems through a team work [1SO3] [1L7C1]	15%	
Demonstrate how design patterns can be used in solving real world problems [1SO2] [1L7S1]	10%	

Relationship to Program Student Outcomes (Out of 100%)																	
A	B	C	D	E	F	G	H	I	J	K	SO1	SO2	SO3	SO4	SO5	SO6	SO7
											55	30	15				

Relationship to NQF Outcomes (Out of 100%)		
L7K1	L7S1	L7C1
55	30	15

Evaluation	
Assessment Tool	**Weight**
Project and lab works	30%
Final exam	40%
Midterm	30%

Policy	
Attendance	Excellent attendance is expected. In accordance with university regulations, students missing more than 20% of total classes are subject to failure. No excuses will be accepted. If you miss class, it is your responsibility to find out about any announcements or assignments you may have missed. Attendance will be recorded at the beginning or end of each class.
Participation	You are expected to participate in class. Participation includes asking and answering questions, raising issues, and suggesting solutions to the discussed problems.
Activity	Students are expected to work on an activity within a group of 3-4 students. The activity could be a small software project, or a case study of a healthcare provider.
Exams	All exams will be CLOSE-BOOK. The format for the exams is generally as follows: multiple-choice, and short essay questions.
Makeups	Makeup exam should not be given unless there is a valid excuse. Arrangements to take an exam at a time different than the one scheduled MUST be made prior to the scheduled exam time. In accordance with university regulations, students should bring a valid excuse authenticated through valid channels in JUST.

Workload	Average work-load student should expect to spend is 6 hours/week.
Code of Conduct	Quizzes and exams need to be done individually. Copying of another student's work, even if changes are subsequently made, is inappropriate, and such work will not be accepted. Cheating or copying from neighbor on exam is an illegal and unethical activity and standard JUST policy will be applied. All graded assignments must be your own work.

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