جامعة الزيتونة الأردنية
Al-Zaytoonah University of Jordan
كلية العلوم وتكنولوجيا المعلومات
Faculty of Science and Information Technology

" عراقة وجودة"
"Tradition and Quality"

Detailed Course Description - Course Plan Development and Updating Procedures/ Computer Information Systems Department	QF01/0408-3.0E

Faculty	Faculty of Science and Information Technology	Department	Computer Information Systems
Course Number	**0113222**	Course Title	**Object Oriented Programming**
Number of Credit Hours	3	Pre-Requisite/Co-Requisite	Principles Of Programming

Brief Course Description

This course introduces the fundamentals of object oriented programming (OOP) using JAVA programming language. The course presents declaration statements, I/O statements, control statements, methods, arrays, classes and objects and their relations (association, aggregation, and composition), abstract classes, inheritance, polymorphism, and interface, introduction to exception handling

	Course Goals and Learning Outcomes
Goal 1	**Understand fundamentals of programming such as variables, conditional and iterative execution, methods, etc.**
Learning Outcomes	**1.1** Understand the basic approaches to the design of software applications. **1.2** Write programs that use primitive data types, and data structures including arrays **1.3** Apply the techniques of structured (functional) decomposition to break a program into smaller pieces.
Goal 2	**Understand fundamentals of object-oriented programming in Java, including defining classes, invoking methods, using class libraries, etc**
Learning Outcomes	**2.1** Knowledge of the structure and model of the Java programming language. **2.2** Create a software application using the Java programming language using classes, sub classes and interfaces. **2.3** Students should be able to analyze and design a computer program to solve real world problems based on object-oriented principles
Goal 3	**Create, debug and test a software application using the Java programming language.**
Learning Outcomes	**3.1** Design, implement, debug, and document programs that use basic data types and computation, simple I/O, conditional and iterative structures, and methods. **3.2** Test java applications using object oriented principles.
Goal 4	**Be aware of the important topics of software development, and the ability to write a computer program to solve specified problems.**
Learning Outcomes	**4.1** Develop software in the Java programming language **4.2** Be able to write computer programs to solve real world problems in Java. **4.3** Write a package consist of many classes and interface.
Textbook	1. Deitel and Deitel, Java™ How to Program, 11th edition, Pearson, Inc., **2017**
Supplementary References	1. 1D.S. Malik, JAVA programming: from problem analysis to program design, 5th edition, Thomson Course Technology, Canada, 2012. 2. Joyce Farrell, Java Programming, 8th Edition, Cengage Learning,2015. 3. By Bart Baesens, Aimee Backiel, Seppe vanden Broucke, Beginning Java Programming: The Object-Oriented Approach. 1st Edition, John Wiley and Sons, Inc, 2015.

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Course Timeline				
Week	**Number of Hours**	**Course Topics**	**Pages (Textbook)**	**Notes**
01	1 1 1	**Introduction to Computers, the Internet and Java** − Typical Java Development Environment − Test-Driving a Java Application	2-29	**Chapter1**
02	1 1 1	**Introduction to Java Applications** − First Program in Java and modify it − Arithmetic operators and expressions.	36-49	**Chapter2**
03	1 1 1	− Input/Output statements − Displaying Text with printf.print,println − Introduction to Classes, Objects, Methods − Primitive Types vs. Reference Types	50-57 88-90	**Chapter2** **Chapter3**
04	1 1 1	**Control Statements: Part 1** − Section Statements. − If, if else, nested if − Switch.	104-137	**Chapter4**
05	1 1 1	**Control Statements: Part 2** − Repetition Statements − For, while, do while − Nested loop − Break, continue	164-191	**Chapter5**
06	1 1 1	**Methods** − Static method and class Math. Class String. **First Exam**	213-217	**Chapter6**
07	1 1 1	**Methods (Cont)** − Declaring Methods with Multiple Parameters − Scope of Declarations − Method Overloading	217-240	**Chapter6**
08	1 1 1	**Arrays** − Declaring and Creating Arrays − Passing Arrays to Methods − Pass-By-Value vs. Pass-By-Reference	257-284	**Chapter7**
09	1 1 1	− Multidimensional Arrays − Case Study − Variable-length Argument lists	285-300	**Chapter7**
10	1 1 1	**Classes and Objects** − Instance Variables, set and get Methods − UML − Time Class Case Study	69-78 329-335	**Chapter3** **Chapter8**

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11	1 1 1	**Classes and Objects (Cont)** – Constructors. – Controlling Access to Members – Referring to the Current Object's Members with the this Reference	**335-344**	**Chapter8**
12	1 1 1	**Classes and Objects (Cont)** – Composition – static Class Members **Second Exam**	**345-355**	**Chapter8**
13	1 1 1	**Object-Oriented Programming: Inheritance** – Superclasses and Subclasses – protected Members – Constructors in Subclasses – Class object	**373-400**	**Chapter9**
14	1 1 1	**Object-Oriented Programming: Polymorphism and Inheritance.** – Polymorphism Examples – Abstract Classes and Methods	**407-430**	**Chapter10**
15	1 1 1	**Object-Oriented Programming: Polymorphism and Inheritance (Cont).** – final Methods and Classes – Creating and Using Interfaces	**430-441**	**Chapter10**
16	1 1 1	– Introduction to Exception Handling – Review **Final Exam**	**455-464**	**Chapter11**

Theoretical Course Evaluation Methods and Weight	Participation = 10% First Exam 20% Second Exam 20% Final Exam 50%	**Practical (Clinical) Course Evaluation Methods**	Semester Students' Work = 50% (Reports, Research, Quizzes, Etc.) Final Exam = 50%

Approved by Head of Department		**Date of Approval**	

Extra information (to be updated every semester by corresponding faculty member)

Name of teacher		Office Number	
Phone number (extension)		Email	_____@zuj.edu.jo
Office hours			