

" حيث تصبح الرؤية واقعاً "
"When Vision Becomes
Reality"

" عراقة وجودة "
Tradition and Quality

Detailed Course Description - Course Plan Development and Updating Procedures/ Department Software Engineering	QF01/0408-3.0E
---	-----------------------

Faculty	Faculty Of Science & IT	Department	Software Engineering
Course number	0114221	Course title	Object Oriented Programming
Number of credit hours	3	Pre-requisite/co-requisite	0120110

This course gains knowledge about basic Java language syntax and semantics to write Java programs and use concepts such as variables, conditional and iterative execution methods etc. Beside; understanding the fundamentals of object-oriented programming in Java, including defining classes, objects, invoking methods, in addition to the main principles in OOP that talks about "Encapsulation", "Inheritance", "Polymorphism" and "Interface".

Course goals and learning outcomes	
Goal 1	Understand fundamentals of programming such as variables, conditional and iterative execution, methods, and arrays.
Learning outcomes	1.1 Knowledge of the structure and model of the Java programming language. 1.2 Use the Java programming language for various programming technologies.
Goal 2	Understand fundamentals of object-oriented programming in Java, including defining classes, invoking methods, using class libraries, etc.
Learning outcomes	2.1 Develop software in the Java programming language, 2.2 Propose the use of certain technologies by implementing them in the Java programming language to solve the given problem
Goal 3	Have the ability to write a computer program and Java application to solve specified problems and object oriented problems
Learning outcomes	3.1 Choose an engineering approach to solving problems, and be a good software developer. 3.2 Evaluate user requirements for software functionality required to decide whether the Java programming language can meet user requirements
Textbook	- Java Programming 8th Edition, Jan 23, 2015, by Joyce Farrell,

" حيث تصبح الرؤية واقعاً "
"When Vision Becomes
Reality"

" عراقة وجودة "
Tradition and Quality

Detailed Course Description - Course Plan Development and Updating Procedures/ Department Software Engineering	QF01/0408-3.0E
---	-----------------------

	ISBN-10: 1285856910
Supplementary references	<p>1- Java Methods: Object-Oriented Programming and Data, February 15, 2015, by Maria Litvin and Gary Litvin.</p> <p>2- Java Programming, 7th Edition 7th Edition, Jan 31, 2013 by Joyce Farrell, ISBN-10: 1285081951</p> <p>3- Learning Java Through Games 1st Edition, Dec 24, 2013 by Lubomir Stanchev, ISBN-10: 1466593318.</p>

Course timeline				
Week	Number of hours	Course topics	Pages (textbook)	Notes
01	1	Introduction to Java and Creating Java Program	11 – 31	
	1	Writing first Java program and makes run to it	53 – 81	
	1	Using Data and arithmetic operations	87 - 111	
02	1	Scanner Class	78 – 81	
	1	Making Decisions (if statement, if else)	245 - 299	
	1	nested if statements and switch statement Examples		
03	1	Looping (for statement)	301 - 352	
	1	while statement		
	1	Nested loop, Examples		
04	1	Using Methods	119 – 136	
	1	Using Methods		
	1	Understanding Blocks and Scope		184
05	1	Methods Overloading, Math Class	192, 221	
	1	First Exam		
	1	Answering Exam question and discussion		
06	1	Arrays	393 - 438	
	1	Arrays		
	1	Arrays		
07	1	Using Two-Dimensional Arrays	452	
	1	Understanding Classes, Objects and Encapsulation	7	

" حيث تصبح الرؤية واقعاً "
"When Vision Becomes
Reality"

" عراقة وجودة "
Tradition and Quality

Detailed Course Description - Course Plan Development and Updating Procedures/ Department Software Engineering	QF01/0408-3.0E
---	-----------------------

	1	Learning about classes and objects	142 - 145	
08	1	Creating a Class and Organizing Classes	145 - 150	
	1	Declaring Objects and using their methods	154, 155	
	1	Understanding Data hiding (Encapsulation)	156	
09	1	Introduction to Using Constructor	159 - 163	
	1	Using Constant Fields	213 -220	
	1	Using Static Fields and Static methods		
10	1	Understanding Composition and Nested Classes	230 – 234	
	1	Understanding Composition and Nested Classes	243	
	1	Case Problem		
11	1	Advanced Inheritance Concepts	537 - 564	
	1	Advanced Inheritance Concepts		
	1	Advanced Inheritance Concepts		
12	1	Practice and more examples		
	1	Second Exam		
	1	Answering Exam question and discussion		
13	1	Creating Interfaces to Store Related Constants	570	
	1	Understanding Polymorphism	9	
	1	Case Problem	590	
14	1	Character and Strings	353 - 391	
	1			
	1			
15	1	Review of previous chapters and solve more examples	-	
	1			
	1			
16	1	Final Exam	-	
	1			
	1			

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)

" حيث تصبح الرؤية واقعاً "
"When Vision Becomes
Reality"

" عراقة وجودة "
Tradition and Quality

Detailed Course Description - Course Plan Development and Updating Procedures/ Department Software Engineering	QF01/0408-3.0E
---	-----------------------

Name of teacher	M. Rana Bader	Office Number	
Phone number (extension)		Email	drranab@zuj.edu.jo
Office hours			