جامعة الزيتونـــة الأردنيـة
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	**0113323**	Course Title	**Visual Programming**
Number of Credit Hours	3	Pre-Requisite/Co-Requisite	Object Oriented Programming

Brief Course Description

This course focuses on advance topics in Java programming language such as: designing GUI, advance GUI, different components, Menus, layout, event-driven programs. Java Graphics, Java Applet, Exception Handling, files in Java, connection with database using JDBC.

Course Goals and Learning Outcomes	
Goal 1	**Provide details about Graphical User Interface components including JLabel, JTextField, JButton, JCheckBox, JRadioButton, JComboBox, JList, JTextArea, and JSlider and so on.**
Learning Outcomes	**1.1** Be able to write simple GUI interfaces for a computer program to interact with users, and to understand the event-based GUI handling principles. **1.2** Understand the basic approaches to the design of software applications. **1.3** Understand the basic approaches to the design of software applications. **1.4** Design, implement, test, debug, and document GUI, event-driven programs.
Goal 2	**Provide basic understanding of Graphics and Java2D.**
Learning Outcomes	**2.1** Create Java applications with graphics. **2.2** Write code to add event handling capability to Graphics. **2.3** Create Java applications with Java2D.
Goal 3	**Provide and understand details about Java Applets.**
Learning Outcomes	**3.1** Create Java Applet applications. **3.2** Be able to run Applet using applet viewer and web browser.
Goal 4	**Provide principles of Exception Handling**
Learning Outcomes	**4.1** Write code to implement try catch and finally blocks. **4.2** Be able to handle exception of event-based GUI.
Goal 5	**Understand main principles of files and streams including creating, reading and updating sequential files, and main principles of database and how to read and store data in tables.**
Learning Outcomes	**5.1** Write code to read and write both binary and text files. **5.2** Write code to use serialization and read and write objects **5.3** Write code to read and write data to a relational database
Textbook	1. Deitel and Deitel, Java^{TM} How to Program, 10th edition, Pearson, Inc., 2014
Supplementary References	1. D.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	**Review of Object-Based Programming** − Classes and inheritance. − Interfaces.	**315-430**	**Chapter 8+9+10**
02	1 1 1	**GUI Components: Part 1** − GUI-Based Input/output with JOptionPane − Overview of Swing Components − Displaying Text and Images in a Window(Label) − Text Fields and an Introduction to Event Handling	**473-491**	**Chapter 12**
03	1 1 1	− JButton and How Event Handling Works − Buttons That Maintain State − JCheckbox, JRadiobutton, JTogglebutton	**492-501**	**Chapter 12**
04	1 1 1	− JComboBox. − JList − Mouse Event Handling	**502-525**	**Chapter 12**
05	1 1 1	− Key Event Handling − Introduction to Layout Managers − TextArea, JPassordField,JFormattedField	**525-542**	**Chapter 12**
06	1 1 1	**GUI Components: Part 2** − Swing Containers and JPanel − **First Exam**	**911-917**	**Chapter 22**
07	1 1 1	− J Slider.J Spinner − J Tabbed Pane. − Layout Mangers: Box Layout. Grid Bag Layout	**928-942**	**Chapter 22**
08	1 1 1	− Using Menus with Frames − J Popup Menu	**917-933**	**Chapter 22**
09	1 1 1	**Graphics and Java 2D** − Color Control − Manipulating Fonts − Drawing Lines, Rectangles and Ovals	**555-575**	**Chapter 13**
10	1 1 1	− Graphics and Java 2D (Cont.) − Drawing Arcs − Java 2D API − Graphics using Mouse and Key Events	**575-588**	**Chapter 13**
11	1 1 1	**Strings, Characters and Regular Expressions** − Fundamentals of Characters and Strings class String, class Character	**596-610**	**Chapter14**

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12	1 1 1	**Exception Handling** – Introduction – Arithmetic Exception, Input Mismatch Exception – Handling Arithmetic Exceptions. Try and catch – Finally block	441-466	**Chapter11**
13	1 1 1	**Files, Streams and Object Serialization** – Introduction – Files and Streams – The java.io and java.nio Packages	644-655	**Chapter15**
14	1 1 1	**Files, Streams and Object Serialization (Cont)** – Sequential-Access Text Files – Object Serialization – Opening Files with JFileChooser	655-670	**Chapter15**
15	1 1 1	**Accessing Databases with JDBC** – Introduction – Relational Database – SQL	1046-1060	**Chapter24**
16	1 1 1	**Accessing Databases with JDBC (Cont)** – Setting up a Java DB Database **Final Exam**	1060-1063	**Chapter24**

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			