QF01/0408-4.0E	Course Plan for Bachelor program - Study Plan Development and Updating Procedures/ Department

Study plan No.		**University Specialization**		Software Engineering	
Course No.	**0114223**	**Course name**		Visual Programming Applications	
Credit Hours	**3**	**Prerequisite Co-requisite**		0112220	
Course type	☐ MANDATORY UNIVERSITY REQUIREMENT ☐ UNIVERSITY ELECTIVE REQUIREMENTS	☐ FACULTY MANDATORY REQUIREMENT ☐ Support course family requirements		☑ Mandatory requirements ☐ Elective requirements	
Teaching style	☐ **Full online learning**	☐ **Blended learning**		☑ **Traditional learning**	
Teaching model	☐ **2Synchronous: 1asynchronous**	☐ **2 face to face : 1synchronous**		☑ **3 Traditional**	

Faculty member and study division information (to be filled in each semester by the subject instructor)

Name	Academic rank	Office No.	Phone No.	E-mail	
Division number	**Time**	**Place**	**Number of students**	**Teaching style**	**Approved model**

Brief description

This course shows how to design different forms by using the different GUI controls in Java, design forms to be user friendly and clear using the Integrated Development Environment (IDE). It also solves the run time problem for a program with having "Exception Handling". In addition to know Files and streams, Multimedia, Multithreading.

Learning resources

Course book information (Title, author, date of issue, publisher ... etc.)	Java Programming 9th Edition, (March 20, 2018), by Joyce Farrell, ISBN-10: 1337397075, ISBN-13 : 978-1337397070, Publisher : Cengage Learning			
Supportive learning resources (Books, databases, periodicals, software, applications, others)	1- Java Methods: Object-Oriented Programming and Data, February 15, 2015, by Maria Litvin and Gary Litvin. 2-Java Programming, 7th Edition 7th Edition, Jan 31, 2013 by Joyce Farrell, ISBN-10: 1285081951 3-Learning Java Through Games 1st Edition, Dec 24, 2013 by Lubomir Stanchev, ISBN-10: 1466593318.			
Supporting websites				
The physical environment for teaching	☐ Class room	☑ labs	☐ Virtual educational platform	☐ Others
Necessary equipment and software	This distribution of the JDK includes the Java SE bundle of NetBeans IDE, which is a powerful integrated development environment for developing applications on the Java platform. JDK 8u111 with NetBeans 8.2 - Oracle			
Supporting people with special needs				
For technical support	Office hours, training hours in lab, assignments and project			

Course learning outcomes (S= *Skills, C= Competences K= Knowledge,)*

No.	Course learning outcomes	The associated program learning output code
	Knowledge	

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K1	Having the ability to explain advance programming concepts used in computer science field using java programming language	Revision; Methods;Class and objects; Constructor Inheritance; IDE
K2	Having the knowledge to use the different swing controls to design forms and solving problems	Swing Components
K3	Understand Graphics and Animation	**Graphics classes**
K4	Understand the different types of Files	File Input and Output
	Skills	
S1	The ability to understand some advanced object programming concepts in GUI environment	Revision; Methods;Class and objects; Constructor Inheritance; IDE
S2	The ability to analyses problem and determine what problem elements to represent as functions or objects and using the suitable controls in Swing-based GUI	Swing Components
S3	The ability to use graphics and animations in GUI	**Graphics classes**
S4	The ability to use files create files, sequential file and database file	File Input and Output
	Competences	
C1	The ability to develop GUI applications Swing-based GUI	Revision; Methods;Class and objects; Constructor Inheritance; IDE
C2	The ability to develop java applications to solve some real world problems	Swing Components
C3	The ability to add graphics and animations in GUI	**Graphics classes**
C4	The ability to use files and database operations insert update delete	File Input and Output

Mechanisms for direct evaluation of learning outcomes

Type of assessment / learning style	Fully electronic learning	Blended learning	Traditional Learning (Theory Learning)	Traditional Learning (Practical Learning)
Midterm exam	30%	30%	**40%**	30%
Participation / practical applications	0	0	**10%**	30%
Asynchronous interactive activities	30%	30%	**0**	0
Final exam	40%	40%	**50%**	40%

Note: Asynchronous interactive activities are activities, tasks, projects, assignments, research, studies, projects, work within student groups ... etc, which the student carries out on his own, through the virtual platform without a direct encounter with the subject teacher.

Schedule of simultaneous / face-to-face encounters and their topics

Week	Subject	learning style*	Reference **
1	Revision Methods Class and objects Constructor	Lecture	Lecture Notes

	Inheritance		
2	Introduction to swing package and GUI class Using JOptionPane Class to Accept GUI Input Using Input Dialog and Confirm dialog boxes	Lecture practical examples	87 - 91
3	Introduction to Swing Components	Lecture practical examples	729 - 788
4	Introduction to Swing Components Exception Handling	Lecture practical examples	729 – 788 593 – 663
5	Advanced GUI Topic Using the JPanel Class Using the JPanel Class	Lecture practical examples	792 – 795 813 - 821
6	EXERSICES - Project discussion Review of previous chapters First Exam (20 %)	EXERSICES - Project discussion	
7	Event Handling KeyListener, Event Handling MouseListener Using Menus	Lecture practical examples	824 – 837 824 – 837 837 - 843
8	Using Menus Using Menu Example	learning through projects	837 - 843
9	Graphics	Lecture practical examples	861 - 918
10	Graphics Apply Animation by Using Graphics Apply Animation by Using Graphics	Lecture practical examples	665 - 727
11	EXERSICES Review of previous chapters Second Exam (20 %)	EXERSICES - Project discussion	
12	File Input and Output	Lecture practical examples	665 - 727
13	File Input and Output Examples on File	Lecture practical examples	665 - 727
14	Design and implementation 1 • Wordpad	learning through projects	
15	Design and implementation 2 • Paint brush	Lecture	
16	Final Exam		

*** Learning styles: Lecture, flipped learning, learning through projects, learning through problem solving, participatory learning ... etc.**

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**** Reference: Pages in a book, database, recorded lecture, content on the e-learning platform, video, website ... etc.**

Schedule of asynchronous interactive activities (in the case of e-learning and blended learning)

Week	Task / activity	Reference	Expected results
1			
2			
3			
4			
5			
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15			
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