





Course Specifications

Course Title:	GUI Programming
Course Code:	313CIS-3
Program:	Information System
Department:	Information System
College:	College of Computer Science and Information Systems
Institution:	Najran University





Table of Contents

A. Course Identification	
6. Mode of Instruction (mark all that apply)	3
B. Course Objectives and Learning Outcomes	
1. Course Description	4
2. Course Main Objective	4
3. Course Learning Outcomes	4
C. Course Content	
D. Teaching and Assessment5	
1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods	5
2. Assessment Tasks for Students	6
E. Student Academic Counseling and Support	
F. Learning Resources and Facilities	
1.Learning Resources	7
2. Facilities Required	7
G. Course Quality Evaluation	
H. Specification Approval Data7	



A. Course Identification

1. Credit hours: 3(2,2,1)		
2. Course type		
a. University College Department X Others		
b. Required X Elective		
3. Level/year at which this course is offered: Level 6/Year 2		
4. Pre-requisites for this course (if any): No		
5. Co-requisites for this course (if any):		
No		

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	75	% 100
2	Blended		
3	E-learning		
4	Correspondence		
5	Other		

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Conta	ct Hours	·
1	Lecture	30
2	Laboratory/Studio	30
3	Tutorial	15
4	Others (specify)	
	Total	75
Other	Learning Hours*	
1	Study	15
2	Assignments	30
3	Library	
4	Projects/Research Essays/Theses/	
5	Others (specify)	
	Total	45

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing the study times the study times are study to be achieved as a study time to be achieved as a study to be achieved as a study time to be achieved as a study to be achiev



B. Course Objectives and Learning Outcomes

1. Course Description:

The course aims to introduce the students to some concepts of GUI advanced programming. It focuses on GUI controls and composite UI components, layout components, Event handling, Charts, transformation, and Client –server architecture. Working through databases for application through a carefully selected programming language such as JavaFX/.NET environment. Introduction to FXML for web development

2. Course Main Objective:

The student should be able to create Graphical User Interface applications, working through Database.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	Knowledge:	_
1.1	Describe GUI fundamentals, events, dialog boxes, client-server architecture, data access, web application	K1,
2	Skills :	
2.1	Implement the OOP concepts in GUI programs	S1,S2,S4
2.2	Create charts and transformations	S2,S4
2.3	Demonstrate Event handling mechanism	S2,S4
2.4	Develop application for database access	S1,S2,S4
3	Competence:	
3.1	Execute the assigned group task.	C1

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to GUI programming	6
2	Relating OOP concepts to GUI programs	10
3	Basic GUI controls and Composite UI components	14
4	Layouts components	3
5	Event handling, Dialog boxes	4
6	Exception handling	4
7	Charts and transformation	4
8	Client-server architecture and MVC	8
9	JDBC for database application	18
10	Using CSS and FXML	4
	Total	75





D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge		
1.1	Describe GUI fundamentals, events, dialog boxes, client-server architecture, data access, web application	The concepts of GUI and how the interactive GUI through dialog boxes and data access to the web applications.	Theory and Lab
2.0	Skills		
2.1	Implement the OOP concepts in GUI programs	How well the programming language adapts to the prevalent OOP concepts and provides classes and packages to create GUI incorporating the classes, objects inheritance and abstract classes are discussed and explained to students related to this CLO • Providing students with topic related programs for	Theory and Lab
	Create charts and transformations	executing Make understand whey graphs are used	Lab Exam
2.2		in decision-making and be able to create charts.	
2.3	Demonstrate Event handling mechanism	In creating interactive GUI the students need to know the about Event-handling concepts and specify the code for button events such as "Clear" , "Close", "Exit", "move to next page and some database operation	Theory and Lab Exams



Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
2.4	Develop application for database access	Provide lab programs in accessing data access to the database with two different databases like Microsoft Access and Oracle. And event handling using excepting handling on the Buttons such as Insert, Next, First, Precious, Last, Search and Delete operations	Theory and Lab Exams
3.0	Competence		
3.1	Execute the assigned group task.	Assignments	Assignments

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Theory Assignment 1	3	3
2	Lab Assignment 1	4	2
3	Mid Lab Exam	5	7
4	Mid Term 1	6	15
5	Lab Assignment 2	13	2
6	Theory Assignment 2	11	3
7	Mid Term 2	12	15
8	Lab Performance	Through out	3
9	Final Lab Exam	15	10
10	Final theory Exam	16	40

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :

The faculty allocated $\underline{10}$ office hours per week for the students individual consultation $\underline{4}$ weekly academic advising hours been added

F. Learning Resources and Facilities





1.Learning Resources

Required Textbooks	<u>Prescribed Books:</u> Java: The Complete Reference, Ninth Edition by Herbert Schildt, Oracle Press, Mc-Graw Hill Education (Publisher), 2014
Essential References Materials	Comprehensive version "Introduction to Java Programming" 7 th Edition, Y. Daniel Liang, 2009
Electronic Materials	Eclipse, NetBeans, Oracle, (All freely available software) and MS Access :
Other Learning Materials	Some Online material would be considered during lab or lecture time

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	20
Technology Resources (AV, data show, Smart Board, software, etc.)	AV, data show, Smart Board: 1 each Eclipse, NetBeans,Oracle,(All freely available software) and MS Access :
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching and assessment	Students	Indirect survey
Extent of achievement of course learning outcome	Faculty	Direct using CLO achievement sheet
Quality of learning resources	Students	Indirect survey
Effectiveness of teaching and assessment	Students	Indirect survey

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify) Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	Department Council
Reference No.	Session No. 10 (441-38-43300)
Date	17/02/2020

