Course Specifications

Course Title:	Object-Oriented Programming
Course Code:	ICS 211
Program:	Computer Science and Information
Department:	Computer Science and Information
College:	College of Science at Az Zulfi
Institution:	Majmaah university

Table of Contents

A. Course Identification

1. Credit hours:3
2. Course type **a.** University ☐ College ☐ Department ☑ Others ☐ **b.** Required ☐ Elective ☐
3. Level/year at which this course is offered: **3nd level**
4. Pre-requisites for this course (if any)**:** **Computer Programming (ICS 122)**
5. Co-requisites for this course (if any)**: Nil**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	48	80%
2	**Blended**	6	10%
3	**E-learning**	6	10%
4	**Correspondence**		
5	**Other**		

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	**Lecture**	30
2	**Laboratory/Studio**	30
3	**Tutorial**	
4	**Others** (specify)	
	Total	60
Other Learning Hours*		
1	**Study**	
2	**Assignments**	
3	**Library**	
4	**Projects/Research Essays/Theses**	
5	**Others** (specify)	
	Total	

* 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 presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

This course will introduce the concepts of object oriented programming in Java language based on User data–type, data hiding/encapsulation and abstraction using classes and objects. Design objected-oriented models as lists, files, searching and sorting to model a real-world system, and subsequently analyze its behavior. Using basic Java programming constructs for handling the inheritance, polymorphism and generic programming using template and operator overloading. Handling of the Exceptions, Input / Output streams and multithreading programs.

2. Course Main Objective

1. Be familiar with the fundamental principles of Object-oriented programming concepts, Objects, classes, State, behavior, Methods, fields, constructors, Variables, parameters, Scope, lifetime
2. Be able to use forms, controls, Abstraction, modularization, encapsulation , Method overloading , Data types.
3. Have the ability to experiment with and use Conditional statements, logical expressions Loops , Collection processing
4. Be able to design, develop and test fully functioning and well-behaved UML class diagrams
5. Be able to describe, discuss and apply the main theories, models and methodologies of Documentation and Debugging
6. Have the ability to design and implement by the Use of an IDE and Using of library class

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge:**	
1.1		
1.2		
1.3		
1...		
2	**Skills :**	
2.1	Using JAVA data types, class libraries and control constructs	.b1
2.2	Implement JAVA classes, objects, and class relationships	.b2
2.3	Develop and write programs applying Object Oriented principles using JAVA.	.b2
2...	.Create member functions using JAVA syntax and exception handling.	.b2
	Building Simple JAVA programs by using, classes, objects with state and behavior, encapsulation, visibility, collection classes	.b2
	Writing JAVA applications using the drag-and-drop facilities.	,b2
3	**Competence:**	
3.1	deploying problem-solving strategies (excluding recursion), and fundamental design concepts.	.c3
3.2		
3.3		

CLOs		Aligned PLOs
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to Object-oriented programming concepts	3
2	The Fundamental Concepts of JAVA Programming	3
3	The Main Objects, classes , State, behavior , Methods, fields, constructors , Variables, parameters , Scope and lifetime	6
4	Abstraction, modularization, encapsulation and Method overloading	6
5	Data types	3
6	Conditional statements, logical expressions , Loops and Collection processing	6
7	Using library classes and UML class diagrams	6
8	Overloading and Inheritance feature of objects	6
9	Documentation and Debugging and Use of an IDE	6
Total		45

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	Using JAVA data types, class libraries and control constructs	Lectures. Lab Case studies. Individual presentations.	Written Exam Homework assignments Lab assignments Class Activities Quizzes
1.2	Writing JAVA applications using the drag-and-drop facilities.		
…	deploying problem-solving strategies (excluding recursion), and fundamental design concepts.		
2.0	**Skills**		
2.1	Implement JAVA classes, objects, and class relationships	Lectures. Lab Case studies. Individual presentations. Brainstorming.	Written Exam Homework assignments Lab assignments Class Activities Quizzes
2.2	Develop and write programs applying Object Oriented principles using JAVA.		
2.3	.Create member functions using JAVA syntax and exception handling.		
3.0	**Competence**		
3.1	Building Simple JAVA programs by using, classes, objects with state and behavior, encapsulation, visibility, collection classes	Lectures. Lab Case studies.	Written Exam Homework assignments

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
		group discussions. Brainstorming. Individual Presentations.	Lab assignments Class Activities Quizzes
3.2	Writing JAVA applications using the drag-and-drop facilities.		
…	deploying problem-solving strategies (excluding recursion), and fundamental design concepts.		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	First written mid-term exam	6	15%
2	Second written mid-term exam	12	15%
3	Presentation, class activities, and group discussion	Every week	10%
4	Homework assignments	After Every chapter	10%
5	Implementation of presented programs	Every two weeks	10%
6	Final written exam	16	40%
7			
8			

***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 :
Office hours - Office call – Email - Mobile:

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	David Barnes,Object-Oriented Programming with Java: An Introduction 1st Edition, Prentice Hall, January 28, 2000
Essential References Materials	**Poo**, Danny C.C., **Kiong**, Derek B.K, Object-Oriented Programming and Java, Springer, 2008
Electronic Materials	Determines as the course is going on
Other Learning Materials	Video and presentation

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classroom and Lab, as those that are available at college of science at AzZulfi.
Technology Resources (AV, data show, Smart Board, software, etc.)	Smart Board - data show
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	A/N

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
course evaluation	Student-faculty management meeting	Questionnaires
Evaluation of Teaching	Program/Department Instructor	Discussion within the staff members teaching the course Departmental internal review of the course.

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	
Reference No.	
Date	