



Ministry of Higher Education and
Scientific Research – Iraq
AL-Naji University
College Engineering Department
of Computer Engineering



MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Object-oriented Programming		Module Delivery	
Module Type	CORE		Class lecture + Lab	
Module Code	COE 204			
ECTS Credits	6			
SWL (hr/sem)	150			
Module Level	2	Semester of Delivery	3	
Administering Department	Computer	College	Engineering	
Module Leader	Abdul Latif Ali Hussein		e-mail	abdullateef.ali@alnaji-uni.edu.iq
Module Leader's Acad. Title	Asst. Prof.	Module Leader's Qualification	Msc.	
Module Tutor		e-mail		
Peer Reviewer Name		e-mail		
Review Committee Approval	30/5/2024	Version Number	1.0	

Relation With Other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	COE108	Semester	1.2
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	• Learning how to write OOP programs. • Gaining knowledge of OOP concepts like: class, inheritance, and data encapsulation. • Learning how to use OOP to solve real-life and scientific problems.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	By the end of this module, students will be able to: 1. Understand and Use Classes ◦ Describe the concept of classes and objects ◦ Learn to implement classes, constructors, and method overloading. 2. Understand and Use Data Encapsulation ◦ Describe the concept of data encapsulation ◦ Learn to use access modifiers, getters and setters, and static keyword. 3. Understand and Use Class Inheritance ◦ Describe class inheritance ◦ Use superclasses, subclasses, method overriding, and final keyword. 4. Understand and Use Abstract Classes ◦ Describe abstract classes and abstract methods. ◦ Use abstract class in real-world problems. 5. Understand and Use Interfaces ◦ Describe interfaces. ◦ Describe the difference between interfaces and abstract classes. ◦ Use interface in real-world problems. 6. Understand and Use Multithreading ◦ Learn to use Thread class and Runnable interface ◦ Use multithreading in real-world problems.
Indicative Contents المحتويات الإرشادية	• Classes and Objects • Data Encapsulation • Class Inheritance • Abstract Classes • Interfaces • Multithreading
Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1) Lectures. 2) Homework and Assignments. 3) Tests and Exams. 4) In-Class Questions and Discussions. 5) In- and Out-Class oral conversations.

Student Workload (SWL)

الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	79	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعياً	5.3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	71	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعياً	4.7
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation

تقييم المادة الدراسية

		Time/ Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	3	10% (10)	4, 8, 12	LO #1-3, LO #4-5, LO #6
	Assignments	2	5% (5)	8, 14	LO #1-3, LO #4-5
	Lab.	5	20% (20)	1-15	LO #1-6
Summative assessment	Project	1	5% (5)	12	LO # 1-6
	Mid Exam	1	10% (10)	15	LO # 1-4
	Final Exam	4 hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المناهج الأسبوعي النظري

Week	Material Covered
Week 1	Introduction to OOP and Java Basics
Week 2	Control Structures
Week 3	Classes and Objects
Week 4	Encapsulation and Data Hiding
Week 5	Class Inheritance
Week 6	Polymorphism
Week 7	Abstract Classes
Week 8	Interfaces

Week 9	Exception Handling
Week 10	Collections Framework 1
Week 11	Collections Framework 2
Week 12	File Handling
Week 13	Inner Classes and Nested Classes
Week 14	Multithreading
Week 15	Advanced OOP Concepts
Week 16	Final Exam

Delivery Plan (Weekly Lab. Syllabus)	
المنهاج الاسبوعي للمختبر	
Week	Material Covered
Week 1	Introduction to Java Development Environment (IDE setup, writing first Java program, basic input/output)
Week 2	Practice with Control Structures (if-else, loops, switch-case)
Week 3	Creating Classes and Objects (writing simple classes, constructors, and object creation)
Week 4	Encapsulation and Data Hiding (working with access modifiers, getters/setters)
Week 5	Implementing Class Inheritance (creating superclass-subclass relationships)
Week 6	Demonstrating Polymorphism (method overriding, dynamic method dispatch)
Week 7	Using Abstract Classes (creating abstract classes and methods)
Week 8	Working with Interfaces (defining and implementing interfaces)
Week 9	Exception Handling (writing try-catch blocks, custom exceptions)
Week 10	Collections Framework 1 (introduction to Lists, Sets, and Maps)
Week 11	Collections Framework 2 (practice with iterating, sorting, and advanced collection usage)
Week 12	File Handling (reading from and writing to files using Java I/O)

Week 13	Inner and Nested Classes (creating and using inner, local, and anonymous classes)
Week 14	Multithreading (creating threads using Runnable and Thread classes, synchronization)
Week 15	Advanced OOP Concepts (practical projects incorporating design patterns and advanced Java features like generics, enums)
Week 16	Final Exam

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	"Java How to Program" by Paul Deitel & Harvey Deitel	
Recommended Texts	Introduction to Java Programming and Data Structures" by Y. Daniel Liang	No
Websites	https://www.w3schools.com/java/	

APPENDIX:

GRADING SCHEME				
مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A – Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C – Good	جيد	70 - 79	Sound work with notable errors
	D – Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E – Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note:				
NB Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				