Module (Course Syllabus) Catalogue

2022-2023

College/ Institute	Erbil Technical Engineering College	
Department	Technical Information System Engineering	
Module Name	Advance Object Oriented Programming	
Module Code	AOP401	
Degree	Technical Diploma ☐	Bachler ■
Semester	Second	
ECTS (Credits)	6	
Module type	Prerequisite ☐ Core ■ Assist. ☐	
Weekly hours	4	Total Workload=(188) hrs
Weekly hours (Theory)	(2) hr Class	(54) Total hrs Workload
Weekly hours (Practical)	(2) hr Class	(108) Total hrs Workload
Number of Weeks	12	
Lecturer (Theory)	Dana Farhad Abdulqadir	
E-Mail	dana.farhad@epu.edu.iq	
Lecturer (Practical)	Barzan Shekh Youns	
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Websites	https://moodle.epu.edu.iq/course/view.php?id=562	

Course Book

Course Description	The course is generally aimed at making the student familiar with the general concepts common to Object Oriented Programming paradigms and presents the fundamental notions and techniques used in Object oriented programming. It starts with universal basics, relaying on object concepts and gradually extends to advanced issues.
Course objectives	This course introduces fundamental concepts in Object Oriented Programming and reviews important concepts in Programming Language; it also attempts to develop good programming skills and habits, the course has a heavy programming component, to be completed using Java Programming Language.
Student's obligation	Student's obligation in the Computer application course is: • Attendance in the all lectures. • One or more quizzes in each course. • Exam in Mid Term and end of Course.
Required Learning Materials	• Using data show, white board and PowerPoint, Testing in department's Laboratory. • Publish all lectures and notes in google classroom and Moodle account.

		Task	Weight (Marks)	No.	Relevant Learning Outcome
Evaluation		Paper Review			
	Assignments	Homework	%5	1	solve problems of oop
		Class Activity	%2	1	Be active during class
		Report	%5	1	Prepare report about OOP concepts.
		Project	%8	1	Create small project using OOP concept.
		Lab Report & Activity	%10	3	Solve oop using tools and code

	Quiz	%5	2	
	Midterm Exam	%10	1	
	Lab Midterm Exam	%15	1	
	Final Exam	%20	1	
	Lab Final Exam	%20	1	
	Total	%100		

Specific learning outcome:	On successful completion of this module, students should be able to gain knowledge of Object-Oriented programming concepts and the following: • Understand Object-Oriented Programming concepts and techniques. • Understand the fundamentals of programming in java. • Be able to design and implement Object-Oriented software to solve moderately complex problems. • Be able to write good program documentation.
Course References:	• Paul Deitel , Harvey Deitel - Java How To Program, 10th Edition (Early Objects). • C. Thomas Wu, An Introduction to Object-Oriented Programming with Java, Fifth Edition

Course Topics (Theory) and (Practical)	Week	Learning Outcome
Exception handling	1	What exceptions are and how they are handled
Inheritance	2,3,4	The related between super and sub class, override of methods.
Polymorphism	5,6	Relationships Among Objects in an Inheritance Hierarchy and Calling Superclass Methods from Subclass Objects.
Abstract class	7	Abstract Classes and Methods, Inheriting Interface and Implementation
Midterm Exam	8	
GUI components part1 with Project	9,10	Overview of Swing Components, JLabel, TextFields,JButton,

		JCheckBox and JRadioButton
GUI components part2 with Project	11	Creating a Customized Subclass of JPanel and JPanel Subclass that Handles Its Own Events
Java and Spring boot API	12,13,14	How to create REST APIs with java and spring boot.
Final Exam	15	

Questions Example Design

Q1. output:

Q / what is the output of the following code?

```
Class Adder
{
Static int add (int a, int b) {return a+b};
static double add (double a, double b) {return a+b};
}
Class TestOverloading2 {
Public static void main (String [] args)
{
System.out.println(Adder.add(11,11));
System.out.println(Adder.add(12.3,12.6));
}}
```

Solution:

22
24.9

External Evaluator

I confirm that the syllabus given the attached course book is sufficient and covers the required areas needed for the students.

Signature
Assist Lecturer Mohammad Qasim
   15-1-2022