

Faculty of Computers and Information Technology

Computer Programming-2

Information :

Course Code : CS213

Level : Undergraduate

Course Hours : 3.00- Hours

Department : Faculty of Computers and Information Technology

Instructor Information :

Title	Name	Office hours
Lecturer	MAHMOUD SAMI ABDELAZIZ OTHMAN	4
Lecturer	Mohamed Ahmed Hussein Ali	3
Assistant Lecturer	Hadeer Khalid Tawfik El Zayat	6
Assistant Lecturer	Hadeer Khalid Tawfik El Zayat	6
Teaching Assistant	YASMIN AMR AHMED ANWAR ALI BADR	4

Area Of Study :

Explain the different object oriented programming concepts.
Analyze a given requirement to match the object oriented programming concepts.
Compare and select methodologies from range of techniques, theories and methods to develop an object oriented programming.

Description :

Object-oriented programming: data abstraction, encapsulation, classes, objects, templates, operator overloading, function overloading, inheritance, polymorphism, exception handling, and streams.

Course outcomes :

a. Knowledge and Understanding: :

1 -	Analyze the object oriented programming logic, techniques and use in practical applications.
2 -	Use the concepts of inheritance, polymorphism, the Abstract classes, Interfaces and object oriented programming model.
3 -	Combine and evaluate different structured programming tools.
4 -	Apply the basic concepts and theories of algorithms using pseudo-code.

b. Intellectual Skills: :

1 -	Compare and differentiate between algorithms, methods and techniques used in object oriented programming.
2 -	Evaluate and justify different solutions using well-defined object oriented programming criteria's.
3 -	Select appropriate methodologies and techniques for a given problem solution and setting out their limitations, restrictions and errors using object oriented programming.
4 -	Illustrate a set of methods for a given problem associated with their results

c. Professional and Practical Skills: :

1 -	Use human computer interaction principles in the construction and evaluation of user interfaces for object-oriented programming language applications.
2 -	Apply and design methodologies of object oriented programming different supporting tools.
3 -	Analyze, design, implement and test object oriented programming techniques to solve various problems.

d. General and Transferable Skills: :

1 -	Utilize effectively general computing facilities
2 -	Exploit a range of learning resources.

ABET Course outcomes :

1 -	Demonstrate adequate understanding of different object-oriented programming concepts.
2 -	Analyze, compare, and select appropriate object-oriented programming techniques for solving complex computing problems.
3 -	Demonstrate basic proficiency of developing object-oriented solutions for complex computing problems.
4 -	Test, evaluate, and debug object-oriented programs to identify syntax and run-time errors.

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Introduction to Computer Programming	4	2	2
Fundamentals of a JAVA Program- Data Types and Operators	4	2	2
Control Structures - Creating Conditional Statements	4	2	2
Creating Iteration Statements	4	2	2
Methods	4	2	2
Arrays	4	2	2
The conceptual basis of Object Orientated Programming	4	2	2
Primitive data types and data types as objects. Data Abstraction and encapsulation	4	2	2
Mid Term Exam	2		
Classes and object as abstract data types	4	2	2
An object-oriented programming language syntax, creating objects from class definitions - Inheritance	4	2	2
OOP: Polymorphism, Abstract class, Interface.	4	2	2
Project presentation	4	2	2
Final Exam	2		

Teaching And Learning Methodologies :

Interactive Lectures including discussion
Practical Lab Sessions
Self-Study (Project / Reading Materials / Online Material / Presentations)
Case Studies

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Assignments	5.00	4	
Final Exam	40.00	14	
Midterm Exam (s)	20.00	9	
Others (Participations)	5.00		
Presentations	5.00	12	
Quizzes	10.00	5	
Team Work Projects	10.00	12	

Course Notes :

Course Notes are available with all the slides used in lectures in electronic form on Learning Management System (Moodle)