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	Amr Mansour Mohsen Afifi	5
Assistant Lecturer	Mahinda Mahmoud Samy Ahmed Zaki Zidan	1
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Teaching Assistant	Juliana Nader Guirguis Nan	
Teaching Assistant	Sohaila AbdElazim Khalifa Gabr	
Teaching Assistant	Hadeer Khaled Adel Abdelaziz	
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Teaching Assistant	Nada Emad Abdelsalam Hussien	
Teaching Assistant	Donia Waleed Gamal Seddek Elsayed Hagag	
Teaching Assistant	Hanan Hossam Eldeen Mohamed Abdelaziz	
Teaching Assistant	Warda Mustafa Saied Mahmoud	
Teaching Assistant	Yomna Alaa Elsayed Aly Darwish	
Teaching Assistant	Alaa Medhat Ali Mohamed	

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 -	Apply the basic concepts and theories of algorithms using pseudo-code.
2 -	Combine and evaluate different structured programming tools.
3 -	Use the concepts of inheritance, polymorphism, the Abstract classes, Interfaces and object oriented programming model.

4 -	Analyze the object oriented programming logic, techniques and use in practical applications.
b.Intellectual Skills: :	
1 -	Illustrate a set of methods for a given problem associated with their results
2 -	Select appropriate methodologies and techniques for a given problem solution and setting out their limitations, restrictions and errors using object oriented programming.
3 -	Evaluate and justify different solutions using well-defined object oriented programming criteria's.
4 -	Compare and differentiate between algorithms, methods and techniques used in object oriented programming.
c.Professional and Practical Skills: :	
1 -	Analyze, design, implement and test object oriented programming techniques to solve various problems.
2 -	Apply and design methodologies of object oriented programming different supporting tools.
3 -	Use human computer interaction principles in the construction and evaluation of user interfaces for object-oriented programming language applications.
d.General and Transferable Skills: :	
1 -	Exploit a range of learning resources.
2 -	Utilize effectively general computing facilities

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)