Faculty of Computers and Information Technology

Computer Programming-1

Information :

Course Code :	CS112	**Level :**	Undergraduate	**Course Hours :**	3.00- Hours

Department : Faculty of Computers and Information Technology

Instructor Information :

Title	Name	Office hours
Lecturer	HEBA MOHSEN MOHAMED MOSAAD HUSSIEN	4
Assistant Lecturer	Amr Mansour Mohsen Afifi	4
Teaching Assistant	Mariam Ali Ibrahim Elsayed	3
Teaching Assistant	Mona Mohamed Mohamed Ali Almakhton	

Area Of Study :

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

Description :

Structured program development: problem solving decision structure, repetition structures. Top-down and stepwise refinement. Subprograms: Procedures and functions. Structured data types: arrays, structures and classes. Recursion.

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 control structures, functions, arrays and pointers of structured programming.
4 -	Analyze the structured techniques and use in practical applications of structured programming.
b.Intellectual Skills: :	
1 -	Illustrate a set of methods for a given problem associated with their results for structured programming
2 -	Select appropriate methodologies and techniques for a given problem solution and setting out their limitations, restrictions and errors for structured programming
3 -	Evaluate and justify different solutions using well-defined structured programming criteria
4 -	Compare and differentiate between algorithms, methods and techniques used in structured programming
c.Professional and Practical Skills: :	
1 -	Analyze, Design, Implement and test structured techniques to solve various problems using structured programming

2 -	Apply, design methodologies, C languages and different supporting tools for structured programming
3 -	Use human computer interaction principles in the construction and evaluation of user interfaces for structured 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 -	Apply the algorithmic method to design solutions for computational problems.
2 -	Apply software engineering principles and top-down design approach to develop structured modular programs.
3 -	Test and analyze algorithmic solutions for computational problems.
4 -	Demonstrate adequate proficiency of developing a high-level program on the computer.
5 -	Demonstrate adequate proficiency of using a structured programming language.
6 -	Use a structured programming language to develop structured programs.
7 -	Use techniques of control structures, functions, arrays, and pointers of structured programming.
8 -	Test and debug structured 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 C Program- Data Types and Operators	4	2	2
Control Structures - Creating Conditional Statements	4	2	2
Creating Iteration Statements	4	2	2
Functions	4	2	2
Arrays	4	2	2
Strings	4	2	2
Pointers	4	2	2
Mid Term Exam	2		
Structures and Unions	4	2	2
Bitwise Operations	4	2	2
Input and Output	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
Midterm Exam (s)	20.00	9	Knowledge and Understanding,Practical / Professional Skills, Intellectual Skills

Books :

Book	Author	Publisher
C++ for DummiesÈ, 6th Edition EKB (Ebook)	Stephen R. Davis	Wiley

Course Notes :

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