

Faculty of Engineering & Technology

Computer Programming

Information :

Course Code : CMP 132

Level : Undergraduate

Course Hours : 2.00- Hours

Department : Faculty of Engineering & Technology

Instructor Information :

Title	Name	Office hours
Lecturer	Samah Ahmed Zaki Hassan	22
Assistant Lecturer	Mahinda Mahmoud Samy Ahmed Zaki Zidan	
Teaching Assistant	Mariam Ali Ibrahim Elsayed	
Teaching Assistant	Mona Mohamed Mohamed Ali Almakhton	

Area Of Study :

- Build students knowledge regarding identifying the steps involved in creating programs.
- Understand the essential of the concepts of Programming Techniques.
- Understand the nature and function of a high-level language constructs and syntax.
- Code a complete C++ program using different elements of the C++ language.

Description :

Fundamental programming constructs: Syntax and semantics of a higher-level language; variables, data types, arrays expressions, assignment statements Simple I/O Conditional and iterative control structures Functions and parameter passing Function Basics . Recursion.

Course outcomes :

a. Knowledge and Understanding: :

1 -	Outline basic knowledge of a core of program analysis.
2 -	Recognize the fundamental programming techniques and concepts including control constructs, looping techniques, and functions as components.
3 -	Identify steps of implementation and evaluation of computer programs.
4 -	Write programs of real-world applications using C++.

b. Intellectual Skills: :

1 -	Discover different ways to solve engineering problems.
2 -	Compare solutions to code an appropriate one.
3 -	Interpret written programs to show outputs.

c. Professional and Practical Skills: :

1 -	Collect problem specifications to write the program code.
2 -	Recommend a suitable way to write a C++ computer program.

d.General and Transferable Skills: :

1 -	Working within multidisciplinary team.
2 -	Work in stressful environment.

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
History and importance of computer programming.	4	1	1
Overview, Basic programming in C++, essential concepts, programming style.	8	2	2
Elements of programming (code, data types, Variables, assignment statements)	4	1	1
Assignment statements, logical and arithmetic operations, and input/output examples.	4	1	1
Logical expressions and control constructs: if-else, nested if.	4	1	1
Logical expressions and control constructs: switch	4	1	1
Looping techniques: For loop	4	1	1
Looping techniques: while, do ÷ ÷ while.	4	1	1
Looping techniques: nested loop.	4	1	1
Arrays	8	2	2
Building functions, including parameter, scope, and return values	8	2	2
Recursive Functions	4	1	1

Teaching And Learning Methodologies :

Interactive Lecture
Discussion
Problem-based Learning
Report
Experiential Learning

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Assignment	5.00		
Final Exam	40.00		
Lab Exper.	10.00		
Mid- Exam 1I	15.00		
Mid- Exam I	15.00		
Oral Exam	5.00		
Quizzes	10.00		

Course Notes :

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

Recommended books :

Deitel P. & Deitel H. (2010) C++ How to Program, 7th Ed., Pearson Prentice Hall, New Jersey.