Kingdom of Saudi Arabia
Ministry of Higher Education
College of Computer & Information Sciences
Majmaah University

College of Computer and Information Sciences

كلية علوم الحاسب والمعلومات

جامعة المجمعة
Majmaah University

Course Profile

Course Name:-	Computer Programming for civil engineering
Course Code:-	CEN209
Academic Year:-	1434-35
Semester:-	Second semester

Course Overview

Introduction, Computers systems, problem solving techniques, flowcharts and algorithms, Introduction to programming languages, C/C++, Source programming, compilation and debugging. C/C++ programming basics, basic program construction, pre-processor directives, header and library functions ,keywords, INPUT-OUTPUT statements, character set, constants, variables, declarations, operations and expressions, control statements – While, Do-While, for loops, If, If-else, Switch, Break, go to statements. Functions, Arrays and pointers, Object Oriented Programming (OOP) concepts. Practical applications: programming for mathematical models of civil engineering problems.

Course Details

Level:-	6
Credit:-	3
Pre-Requisites:-	NIL
Co- Requisites:-	NIL

Learning Outcomes of Course

After successful completion of this course, student will be able to-

1.To develop the creative thinking in problem solving.
2.To develop the algorithm and to write flowchart of an engineering problem.
3.To learn the programming language and skills for developing the programs for specific problems.
4.To understand the fundamentals of computer code and develop the new

ones.

5. To enhance the understanding of application software.

Course Assessment

Name of Assessment Task	Weight of Assessment	Week Due
1. Midterm Exam-1	15%	Week 6 / 7
2. Midterm Exam-2	15%	Week 12
3. Quizzes	10%	Week 4,7,10
4. Lab Assessment	20%	Week 5,14
5. Final Exam	40%	Week 16

Assessment Task and Learning Outcomes Alignment

Assessment Task Name	Course Learning Outcomes					
	1	2	3	4	5	
1. Midterm Exam-1	√	√				
2. Midterm Exam-2			√	√		
3. Quizzes	√	√		√		
4. Lab Assessment	√	√	√	√	√	
5. Final Exam	√	√	√	√	√	

Teaching Contact Details

Name of Course Coordinator:-	Abdul Khadar Jilani
Email of Course Coordinator:-	a.jilani@mu.edu.sa
Lab/Tutorial Instructor:-	Ahsan Ahmed
Email of Lab/Tutorial Instructor:-	a.ahmed@mu.edu.sa
Office Hours:-	MON, TUE 9-10, Thu 9 - 11
Office Number:-	CCIS Building 024-1-19-3
Office Phone Number:-	2534

Details of Required Text Book

Book Name	Authors Name	Publisher	Year	Edition
1. C++ Premier	StanelyB.Lippman , Barbara E.Moo	Addison Wesley	**2012**	**5th**

Details of Required Reference Books

Book Name	Authors Name	Publisher	Year	Edition
1. Programming in ANSI C	**E Balaguru samy**	**Tata McGraw**	**2010**	**5th**
2. Object Oriented Programming with C++	**E Balagurusamy**	**Tata McGraw**	**2008**	**4th**
3.				

IT Resources

The following IT Resources will require to access-
- MU University Student Email
- Internet
- Course Website

Course Schedule

Course Topics	Book's Chapter	Event Name	Week Due
Introduction to Computer systems , Algorithms and Flowchart techniques to solve problems	Chapter 1		Week-1,2
Introduction to C + + Language- Compared C + + Language with Other Languages-Basic Structure of the Program Written in C++ Language	**Chapter 1,2**	Assignment1	Week-3
Variables- Identifiers- Data Types-Input Output Statements. Remark Statements- Assignment Operator-Arithmetic Operation- Increment & Decrement Operators	**Chapter 2,3**	Quiz 1	Week-4,5
Practical Programs For Variables Definition and Arithmetic Operators	**Chapter 2,3**	Quiz 2 , Assignment	Week-6

		2	
Relational & Logical Operation-Conditional Statements (if, switch).	**Chapter 3,4,5**	Midterm 1	Week-7
Loops Statements(For -While -Do While) , Nested Loops	**Chapter 5**	Assignment 3	Week-8 , 9
Practical Programs For implementing loops and nested loops	**Chapter 5**	Quiz 3	Week-10
One-Dimensional, two dimensional arrays.	**Chapter 3**		Week-11,12
Functions and recursive functions, Introduction to Object oriented concepts	Chapter 6	Week 13 Midterm2 Week 14 Lab final exam	Week-13,14
			Exam Week

Referencing Style

The **American Psychological Association (APA**) referencing style must be use for all submissions of this course.

Course Assessment Task

Assessment Name:-	Midterm Exam-1
Description of Task Assessment:-	Midterm 1 is written examination schedule of this examination will be announced through college examination control committee .
Task Assessment Due Week/Date:-	**Week 7**
Return Week/Date to Students:-	**Week 8 Thursday**
Weight of Task Assessment:-	**15%**
List of Learning Outcomes Assessed:-	1.To develop the creative thinking in problem solving. 2.To develop the algorithm and to write flowchart of an engineering problem

Assessment Name:-	Final Exam
Weight of Task Assessment:-	**40%**
Duration:-	**180 Min**
Warning:-	
List of Learning Outcomes Assessed:-	1.To develop the creative thinking in problem solving.
	2.To develop the algorithm and to write flowchart of an engineering problem.
	3.To learn the programming language and skills for developing the programs for specific problems.
	4.To understand the fundamentals of computer code and develop the new ones.

	5. To enhance the understanding of application software.