1. Course Name:
Computer Programming and Applications (C++ programming)
2. Course Code:
MIE31205
3. Semester / Year: 2025- 2026
Semester / Year:
4. Description Preparation Date:
14/12/2025
5. Available Attendance Forms:
Weekly (Theory: 1 hours, Practically: 2 hours)
6. Number of Credit Hours (Total) / Number of Units (Total)
Theory: 15 Hours Practically: 30 hours Total: 45 hours Total Units: 3
7. Course administrator's name (mention all, if more than one name)
Name: Dr. Noor Kadhim Meftin Email: noor.kadhim@muc.edu.iq
8. Course Objectives

Course Objectives	1. Understanding the fundamental concepts of C++ programming language environment. 2. The students will understand and learn how to use C++ as an effective programming language. 3. The students will be able to solve different mathematical and engineering problems as well as design projects using code. 4. Students will acquire the knowledge of basic C++ syntax such as: variables, input, output, vectors, matrices, functions. 5. The students will gain the necessary skills to design and implement appropri algorithms that solve problems dealing with different mathematical and engineer applications.
9. Teaching and Learning Strategies	
Strategy	The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students.
1. Course Structure	

Course Description Form

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	**Th.:1 Pr.: 2**	Introduction	Introducing history and philosophy of C and C++	Lect. & Lab.	Exam
2	Th.:1 Pr.: 2	How to create a C++ program	How to create a C++ program	Lect. & Lab.	Quiz
3,4	Th.:1 Pr.: 2	Rules for naming C++ variabl	Rules for naming C++ variables	Lect. & Lab.	Homework
5	Th.:1 Pr.: 2	How to mix string and numeric input	How to mix string and numeric input	Lect. & Lab.	Quiz
6	Th.:1 Pr.: 2	**Mid-term Exam**		Lect. & Lab.	
7	Th.:1 Pr.: 2	The for loop, Expressions and statements	The for loop, Expression and statements	Lect. & Lab.	Exam
8	Th.:1 Pr.: 2	While loop, do "while" loop	While loop, do "while" loop	Lect. & Lab.	Quiz
9	Th.:1 Pr.: 2	The end-of-file condition	The end-of-file condition	Lect. & Lab.	Homework
10	Th.:1 Pr.: 2	The end-of-file condition	The end-of-file condition	Lect. & Lab.	Exam
11	Th.:1 Pr.: 2	"Switch" statement	"Switch" statement	Lect. & Lab.	Quiz
12	Th.:1 Pr.: 2	C++ view of input and output	C++ view of input and output	Lect. & Lab.	Homework
13,14	Th.:1 Pr.: 2	the "io-stream" family of clas redirection	the "io-stream" family o classes redirection	Lect. & Lab.	Exam
15	Th.:1 Pr.: 2	Command-line processing	Command-line processin	Lect. & Lab.	Homework

2. Course Evaluation

The grade distribution is as follows:
Assessment: Formative 40 marks, Monthly exam 10 marks
Final exam: Theory 40 marks, Practical 10 marks

3. Learning and Teaching Resources

Required textbooks (curricular books, if any)	P.B. Mahapatra "C++".
Main references (sources)	
Recommended books and references (scientific journals, reports…)	A Complete Guide to Programming in C++ Ulla Kirch-P Peter Prinz.

Electronic References, Websites	tps://www.coursera.org/browse/physical-science-and-engineering/electrical-engineeringhttp://www.lmpt.ur tours.fr/~volkov/C++.pdf

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