Course Description Form

1. Course Name:	
Computer programming III	
2. Course Code:	
CE216	
3. Semester / Year:	
First semester/ 2024−2025	
4. Description Preparation Date:	
23−9−2024	
5. Available Attendance Forms:	
Lecture are in person at the university only	
6. Number of Credit Hours (Total) / Number of Units (Total)	
Number of study hours 4 / Number of units 2	
7. Course administrator's name (mention all, if more than one name)	
Name: Israa Mahdi Kadhim Email: israa.mahdi@uowa.edu.iq	
8. Course Objectives	

Course Objectives	
	• **Introducing students to the use of programm in the FORTRAN language in enginee applications.** • **Identify the symbols and variables of FORTRAN language.** • **Solving different equations by designing spe programs in the FORTRAN language.** • **Input and output different values u programming.** • **Implementation of various functions u programming.** • **How to insert matrices of all kinds and mathematical operations.**

- **Solving mathematical equations using FORTRAN language.**
- **Giving students practical experience for above topics through practical**
- **application by executing programs on computer.**

9. Teaching and Learning Strategies

Strategy	The main strategy that will be adopted in delivering this module is encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will achieved through classes, interactive tutorials and by considering ty of simple experiments involving some sampling activities that interesting to the students.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name		Learning method	Evaluation method
16	4	A- Cognitive objectives -1Self-learning method -2The student's ability to learn programming languages -3Using programming language in scientific subjects -4Urging students to rely on themselves in solving various mathematical problems using the calculator and engineering programs	1 2 3 4 5 6 7	Introduction Fortran & Types of Variables Input statements Output statements Format statements Arithmetic an logic operator Data statemer Control statements	1- Lectures 2- Homewor 3- Exams 4-Questions and discussions class	1- Exams and te 2-Student participation during lectures 3-Student responses to questionnaire about curriculum and faculty member 4-Extracurricula activities

			8	Do Loop statements		
			9	Nested Do Loops		
			10	Arrays		
			11	Matrices		
			12	Internal functions		
			13	External functions		
			14	Subroutines		
			15	Graphics		

11. Course Evaluation

1- Exams and tests

2- Student participation during lectures

3- Student responses to a questionnaire about the curriculum and the faculty member

4- Extracurricular activities

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Computer programming in FORTRAN and 95", by V. Rajaraman.
Main references (sources)	
Recommended books and references (scientific journals, reports…)	• Introduction to Fortran 90 Engineers and Scientists by Larry Nyhoff, Sanford Leestma. • FORTRAN 90 for Scientists a Engineers by Brian D. Hahn
Electronic References, Websites	