Course Description Form

1. Course Name:
Mathematics III
2. Course Code:
ENG032
3. Semester / Year:
FIRST /2025
4. Description Preparation Date:
22/9/2025
5. Available Attendance Forms:
6. Number of Credit Hours (Total) / Number of Units (Total)
60 hr /4 units
7. Course administrator's name (mention all, if more than one name)
NAME : ZAHRAA KHALIL HUSSEIN zahra.khalil@uowa.edu.iq
8. Course Objectives

Course Objectives		• Introduce students to the practical principles of mathematics in civil engineering. • Familiarize students with the fundamentals used in numerical analysis. • Also, introduce them to the basics relied upon in numerical analysis. • Identify multiple integrals and partial derivatives. • Recognize differential equations and methods for solving them.
9. Teaching and Learning Strategies		
Strategy		• Provide a comprehensive introduction to the topic and relate it to previous subjects. • Deliver theoretical lectures. • Ensure that the student is the focal point of information dissemination through brainstorming sessions. • Provide and explain sufficient examples. • Adopt written solutions instead of oral ones due to their importance in understanding mathematical materials.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-5	20	Multiple Integrals, Double Integral, Area, Volume application of doubl and triple integratio	Multiple Integrals	Theoretical instruction + Practical application + Presentation of films + Cooperative learning	• Short quizzes • Semester exams • Homework assignments • Reports
6-10	20	Differential Equatio 1st order Diff. Eq., 2nd order Diff. Eq., Complex Number.	Partial derivatives		
11-15	20	Infinite Sequences a Series, Sequences, Convergence, Geometric series, nth partial s tests of convergenc	Infinite series		

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if ar	James Stewart - Calculus 7E THOMAS CALCULUS
Main references (sources)	James Stewart - Calculus 7E THOMAS CALCULUS
Electronic References, Websites	MIT OCW - Mathematics Coursera - Mathematics Brilliant.org - Mathematics

جامعة وارث الأنبياء
مكتب العميد
كلية الهندسة

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