Course Description Form

1. Course Name:
Mathematic –2
2. Course Code:
MATH133
3. Semester / Year:
second course 2023–2024
4. Description Preparation Date:
1/2/2024
5. Available Attendance Forms:
presence
6. Number of Credit Hours (Total) / Number of Units (Total)
45 hours /3 units
7. Course administrator's name (mention all, if more than one name)
Name: Shamil Mohammed Saleh Hassan Email: eng.sh.hassn@uomosul.edu.iq
8. Course Objectives

Course Objectives	• The student uses understanding and of the basic concepts of engineering mathematics • So that the student can develop his mental abilities when solving exercises and making connections with information to reach a solution and benefit from it in other transactions. .

9. Teaching and Learning Strategies	
Strategy	- Interactive lecture - Brainstorming - Dialogue and discussion - Assigning tasks

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3Theoretical	a1: Knowing the idea of then in target and the non-specific	Introduction to Definite and indefinite integration	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Quiz discussion
2	3Theoretical	a2: Identify the basic rules of integration	Integration properties	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Quiz discussion
3	3Theoretical	a3: Know the rules for solving the integration of exponential and logarithmic functions	Integration of exponential and logarithmic functions	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Quiz discussion
4	3Theoretical	a4:Know the rules for solving the integral of homogeneous functions	Integration of trigonometric functions	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Quiz discussion
5	3Theoretical	a5: Know the laws of solving the inverse integral trigonometric functions	Integration of inverse trigonometric function	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Quiz discussion
6	3Theoretical	a6:Solve additional problems for types of integrals	Solve problems	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Quiz discussion
7	3Theoretical	a7:Knowledge of the integration rule by algebraic substitution and types of functions	Integration methods (integration by algebraic substitution	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Quiz discussion
8	3Theoretical	a8:Knowledge of the law of integral by parts and	Integration by parts	Interactive lecture, brainstorming, dialogue and	Quiz discussion

		its application to different types of functions		discussion, self-learning	
9	3Theoretical	a9:Knowing how to convert a function to partial fractions and how to integrate with partial fractions	Integration with partial fractions	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Quiz discussion
10	3Theoretical	c1:Integration with partial fractions	Integration with partial fractions	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Quiz discussion
11	3Theoretical	a10:know how to find the area under the curve by the approximate method	calculate area using the approximate method	Interactive lecture, brainstorming, dialogue and discussion, self-learning	quiz discussion
12	3Theoretical	c2: know how to calculate the area under the curve for various functions	calculate the area under the curve by integration	Interactive lecture, brainstorming, dialogue and discussion, self-learning	quiz discussion
13	3Theoretical	a11:know how to find the area between the curves	calculate the area between two curves	Interactive lecture, brainstorming, dialogue and discussion, self-learning	quiz discussion
14	3Theoretical	c3:knowing how to find the volume off a rotating body using a pointer and a disc using both coordinates	calculating the volume of a rotating body	Interactive lecture, brainstorming, dialogue and discussion, self-learning	quiz discussion
15	3Theoretical	a12: knowing the method of numerical integration	integration by approximate method (numerical	Interactive lecture, brainstorming,	quiz discussion

		and comparing it to the usual method and for various functions	integration)	lectures and discussion, self-learning	

11. Course Evaluation

5% short test
5% short test
15% for the first semester exam
15% second semester exam
Total 40%
Final exam 60%
Final grade 100%

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	. Mathematics for the first grades , administration and economics 1980, Dr. Ali Asra Ali/Assistant Professor of Mathematics, University of Mosul And Dr. Ali Al-Hasswan/Assistant Professor of Mathematics /Al-Mustansir iya University
Main references (sources)	Engineering Mathematics, fourth edition, John Bird
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

مدرس المادة:

م. لمياء محمد صالح حسن

رئيس اللجنة العلمية

أ.د أركان محمد امين صديق

رئيس القسم

أ.م. نوفل عيسى محيميد