

**Ministry of Higher Education and Scientific Research
Scientific Supervision and Scientific Evaluation Apparatus
Directorate of Quality Assurance and Academic Accreditation
Accreditation Department**



Academic Program and Course Description Guide

2025-2026

Introduction:

The educational program is a well-planned set of courses that include procedures and experiences arranged in the form of an academic syllabus. Its main goal is to improve and build graduates' skills so they are ready for the job market. The program is reviewed and evaluated every year through internal or external audit procedures and programs like the External Examiner Program.

The academic program description is a short summary of the main features of the program and its courses. It shows what skills students are working to develop based on the program's goals. This description is very important because it is the main part of getting the program accredited, and it is written by the teaching staff together under the supervision of scientific committees in the scientific departments.

This guide, in its second version, includes a description of the academic program after updating the subjects and paragraphs of the previous guide in light of the updates and developments of the educational system in Iraq, which included the description of the academic program in its traditional form (annual, quarterly), as well as the adoption of the academic program description circulated according to the letter of the Department of Studies T 3/2906 on 3/5/2023 regarding the programs that adopt the Bologna Process as the basis for their work.

In this regard, we can only emphasize the importance of writing an academic programs and course description to ensure the proper functioning of the educational process.

Concepts and terminology:

Academic Program Description: The academic program description provides a brief summary of its vision, mission and objectives, including an accurate description of the targeted learning outcomes according to specific learning strategies.

Course Description: Provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the students to achieve, proving whether they have made the most of the available learning opportunities. It is derived from the program description.

Program Vision: An ambitious picture for the future of the academic program to be sophisticated, inspiring, stimulating, realistic and applicable.

Program Mission: Briefly outlines the objectives and activities necessary to achieve them and defines the program's development paths and directions.

Program Objectives: They are statements that describe what the academic program intends to achieve within a specific period of time and are measurable and observable.

Curriculum Structure: All courses / subjects included in the academic program according to the approved learning system (quarterly, annual, Bologna Process) whether it is a requirement (ministry, university, college and scientific department) with the number of credit hours.

Learning Outcomes: A compatible set of knowledge, skills and values acquired by students after the successful completion of the academic program and must determine the learning outcomes of each course in a way that achieves the objectives of the program.

Teaching and learning strategies: They are the strategies used by the faculty members to develop students' teaching and learning, and they are plans that are followed to reach the learning goals. They describe all classroom and extra-curricular activities to achieve the learning outcomes of the program.

Academic Program Description Form

University Name: Misan University

Faculty/Institute: College of Education

Scientific Department: Mathematics

Academic or Professional Program Name: Bachelor of Mathematics Education

Final Certificate Name: Bachelor of Mathematics

Academic System: Annual

Description Preparation Date: 2025

File Completion Date: 2025

Signature:

Head of Department Name:

Date:

Signature:

Scientific Associate Name:

Date:

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signature:

Approval of the Dean

1. Program Vision

Achieving distinguished outcomes in the educational and research fields to keep pace with scientific development and enrich society cognitively.

2. Program Mission

Preparing educational scientific cadres capable of competing in the labor market and possessing research and scientific skills in the field of mathematical sciences.

3. Program Objectives

- 1) Preparing educational scientific cadres who possess educational skills to teach mathematics.
- 2) Meeting the labor market's need for teachers in mathematics.
- 3) Keeping up with scientific progress in the field of mathematics and its applications.
- 4) Providing students with the necessary skills to deal with any scientific problem in a logical manner and solve it in a scientific manner.

4. Program Accreditation

Does the program have program accreditation? And from which agency?

5. Other external influences

Is there a sponsor for the program?

Ministry of Higher Education and Scientific Research/University of Misan.

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	9	15	9.2%	Basic
College Requirements	9	36	22.08%	Basic
Department Requirements	19	112	68.71%	Basic
Summer Training	Nothing			
Other				

* This can include notes whether the course is basic or optional.

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours		Units
			theoretical	practical	
first stage	101	Calculus	3	2	8
first stage	102	Foundations of Mathematics	2	2	6
first stage	103	linear Algebra	2	2	6
first stage	104	General Physics	2	–	4
first stage	105	Fundamentals of Education	1	–	2
first stage	106	Developmental and Educational Psychology	2	–	4
first stage	107	Computer 1	–	2	2
first stage	108	Arabic Language	1	–	2
first stage	109	English Language	1	–	2
first stage	110	Democracy and Human Rights	1	–	2
Total course = 10			15	8	38
second stage	211	Advanced Calculus	3	2	8
second stage	212	Ordinary Differential Equations	2	2	6
second stage	213	Systems Axioms and Geometry	3	–	6
second stage	214	Group Theory	3	–	6
second stage	215	Leadership and Educational Administration	2	–	4
second stage	216	Curriculums and school Books	1	2	4
second stage	217	Teaching Thinking	1	–	–
second stage	218	Computer II	–	2	2
second stage	219	Arabic Language	1	–	2
second stage	220	English Language	1	–	2
second stage	221	Baath Party Crimes	1	–	2
Total Course = 11			18	8	42
third stage	322	Mathematical Analysis	2	2	6
third stage	323	Probability and Statistics	2	2	6
third stage	324	Ring Theory	2	2	6
third stage	325	Numerical Analysis	2	2	6
third stage	326	Partial Differential Equations	2	2	6
third stage	328	Counseling and Psychological Health	2	–	4
third stage	327	Curriculum and Teaching Methods	2	–	4
Total Course = 7			15	10	38

Fourth stage	430	General Topology	2	2	6
Fourth stage	431	Complex Analysis	2	2	6
Fourth stage	432	Mathematical Statistics	2	2	6
Fourth stage	433	Optionally (1)/ Applied Mathematics	2	2	6
Fourth stage	434	Optionally (2)/Functional Analysis	2	2	6
Fourth stage	435	Research Project	–	2	2
Fourth stage	436	Measurement and Evaluation	2	–	4
Fourth stage	437	Practical Education	1	2	4
Total Course = 8			14	14	40

8. Expected learning outcomes of the program

Knowledge	
Learning Outcomes 1	Learning Outcomes Statement 1
Skills	
Learning Outcomes 2	Learning Outcomes Statement 2
Learning Outcomes 3	Learning Outcomes Statement 3
Ethics	
Learning Outcomes 4	Learning Outcomes Statement 4
Learning Outcomes 5	Learning Outcomes Statement 5

9. Teaching and Learning Strategies

Teaching and learning strategies and methods adopted in the implementation of the program in general.

10. Evaluation methods

Implemented at all stages of the program in general.

11. Faculty

Academic Rank	Specialization		Number of the teaching staff	
	General	Special	Staff	Lecturer
Prof. Dr. Rana Subaih Abboud	Mathematics	Applied statistics	permanent	
Prof. Ayat Muhammad Jabr	Mathematics Teaching Methods	Mathematics Teaching Methods	permanent	
Asst. Prof. Dr. Mustafa Ali Hussein	Mathematics	Applied Mathematics	permanent	
Asst. Prof. Dr. Muhammad Jabbar Hawas	Mathematics	Applied Mathematics	permanent	

Asst. Prof. Dr. Alaa Najm Abdullah	Mathematics	Computational Mathematics	permanent	
Asst. Prof. Dr. Sara Abdul Hussein Bandar	Statistics	Applied Statistics	permanent	
Asst. Prof. Dr. Asma Jassim Harfash	Mathematics	Applied Mathematics	permanent	
Asst. Prof. Dr. Akeel Abdul Wahid Qasim	Mathematics	Applied Mathematics / Numerical Analysis	permanent	
Dr. Hiba Rabie Ba'noun	Mathematics	Algebra	permanent	
Dr. Murtada Ali Shabib	Mathematics	Algebra	permanent	
Dr. Ali Sami Rashid	Mathematics	Applied Mathematics	permanent	
Dr. Sami Hattab Jassim	Mathematics	Mathematical Analysis	permanent	
Dr. Hadeel Ghazi Abdul Ali	Mathematics	Mathematical Analysis	permanent	
Dr. Adnan Khalaf Farhoud	Mathematics	Numerical Analysis	permanent	
Lecturer Taghreed Abdul Karim Hatem	Mathematics	Applied Mathematics	permanent	
Lecturer Ahmed Karim Mutasher	Mathematics	Applied Mathematics	permanent	
Asst. Lect. Abdul Karim Ali Hussein	Mathematics	Algebra	permanent	
Asst. Lect. Ali Natiq	Mathematics	Applied Mathematics	permanent	
Asst. Lect. Ali Matar	Management and Economics	Accounting	permanent	

Professional Development

Mentoring new faculty members

Briefly describes the process used to mentor new, visiting, full-time, and part-time faculty at the institution and department level.

Professional development of faculty members

Briefly describe the academic and professional development plan and arrangements for faculty such as teaching and learning strategies, assessment of learning outcomes, professional development, etc.

12. Acceptance Criterion

(Setting regulations related to enrollment in the college or institute, whether central admission or others)

13. The most important sources of information about the program

State briefly the sources of information about the program.

14. Program Development Plan

Please tick the boxes corresponding to the individual program learning outcomes under evaluation

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
First	MATH 101	Calculus	obligatory				√				√				√
First	MATH 102	Foundations of Mathematics	obligatory				√				√				√
First	MATH 103	linear Algebra	obligatory				√				√				√
First	MATH 104	General Physics	obligatory	√				√				√	√		
First	MATH 105	Fundamentals of Education	obligatory	√				√				√	√		
First	MATH 106	Developmental and Educational Psychology	obligatory	√				√				√	√		
First	MATH 107	Computer 1	obligatory	√				√				√	√		
First	MATH 108	Arabic Language	obligatory	√				√				√	√		
First	MATH 109	English Language	obligatory	√				√				√	√		
First	MATH 110	Democracy and Human Rights	obligatory				√				√				√
Second	MATH 211	Advanced Calculus	obligatory				√				√				√
Second	MATH 212	Ordinary Differential Equations	obligatory				√				√				√
Second	MATH 213	Systems Axioms and Geometry	obligatory				√				√				√
Second	MATH 214	Group Theory	obligatory				√				√				√
Second	MATH 215	Leadership and Educational Administration	obligatory	√				√				√	√	√	
Second	MATH 216	Curriculums and school Books	obligatory	√				√				√	√	√	
Second	MATH 217	Teaching Thinking	obligatory	√				√				√	√	√	
Second	MATH 218	Computer II	obligatory	√				√				√	√	√	
Second	MATH 219	Arabic Language	obligatory	√				√				√	√	√	
Second	MATH 220	English Language	obligatory	√				√				√	√	√	
Second	MATH 221	Baath Party Crimes	obligatory	√				√				√	√	√	

Third	MATH 222	Mathematical Analysis	obligatory				√				√				√
Third	MATH 223	Probability and Statistics	obligatory				√				√				√
Third	MATH 224	Ring Theory	obligatory				√				√				√
Third	MATH 225	Numerical Analysis	obligatory				√				√				√
Third	MATH 226	Partial Differential Equations	obligatory				√				√				√
Third	MATH 227	Counseling and Psychological Health	obligatory	√				√				√	√	√	√
Third	MATH 228	Curriculum and Teaching Methods	obligatory	√				√				√	√	√	√
Third	MATH 229	English Language	obligatory	√				√				√	√	√	√
Fourth	MATH 430	General Topology	obligatory	√				√				√	√		
Fourth	MATH 431	Complex Analysis	obligatory	√				√				√	√		
Fourth	MATH 432	Mathematical Statistics	obligatory	√				√				√	√		
Fourth	MATH 433	Applied Mathematics	obligatory	√				√				√	√		
Fourth	MATH 434	Functional Analysis	obligatory	√				√				√	√		
Fourth	MATH 435	Research Project	obligatory	√				√				√	√	√	√
Fourth	MATH 436	Measurement and Evaluation	obligatory	√				√				√	√	√	√
Fourth	MATH 437	Practical Education	obligatory	√				√				√	√	√	√
Fourth	MATH 438	English Language	obligatory	√				√				√	√	√	√

Study Materials for **The 1st Stage**

Course Description Form Calculus

1.	Course Name:	Calculus			
2.	Course Code	Math 101			
3.	Semester / Year:	Annual			
4.	Description Preparation Date:	2025-2026			
5.	Available Attendance Forms:	Lectures are delivered to students in person according to the schedule announced in the department			
6.	Number of Credit Hours (Total)	150 hours, (5 hours per week *30 per year)			
7.	Number of Units (Total)	240 units (8 unite *30 weeks)			
8.	Course administrator's name (mention all, if more than one name)	Name: Assis. Prof. D. Ala'a Najim Abdullah E-mail: mr.ala_najim@uomisan.edu.iq			
9.	Course Objectives				
Course Objectives		* Students' understanding of the three conic sections (equivalent, plus, and minus), how to draw them, identify everything they contain (vertices, foci, and axes), and show all changes to them in the event of changing the center, dragging, or rotating each of them. * An expanded and complementary study of the first stage regarding vectors and parametric equations. * Expanding students' understanding regarding the subject of the function with one variable, its purpose and continuity, finding the derivative using the geometric method, and studying the applications of the derivative. * Study and understand integrals, methods of solving them, and applications of integration. * Introducing students to the concept of some functions, such as trigonometric functions and their inverses, as well as exponential and logarithmic functions.			
10. Teaching and Learning Strategies					
Strategy	* In-person lectures in classrooms. * Discussion method, surprise exams, and methods of refining skills. * Asking intellectual questions or holding a competition between students, stimulating creative thinking and answering clearly and quickly to the problems presented.				
11. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
5 weeks	25 hours	The student will be able to understand the given material,	conic sections (their equations/drawing)	In person lectures	Semester and daily in-person exams.
6 weeks	20 hours	The student will be able to understand the given material	understand the subject of the function its purpose, and continuity	In person lectures	Semester and daily in-person exams.
8 weeks	30 hours	The student will be able to understand the given material	Derivatives, their applications, and the use of Rolle's theorem and the mean value	In person lectures	Semester and daily in-person exams.
12. 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					
13. Learning and Teaching Resources					
Required textbooks (curricular books, if any)					
Main references (sources)					

Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form Fundamental of mathematics

1. Course Name:	Fundamental of Mathematics				
2. Course Code	Math 102				
3. Semester / Year:	Annual				
4. Description Preparation Date:	2025-2026				
5. Available Attendance Forms:	Lectures are delivered to students in person according to the schedule announced in the department				
6. Number of Credit Hours (Total)	*120 hours, (4 hours per week *30 per week)				
7. Number of Units (Total)	180 units (6 units*30 weeks)				
8. Course administrator's name	Name: lecture Abdul Karim Ali Hussein Email: abdulkareem.ali@uomisan.edu.iq				
9. Course Objectives					
Course Objectives	□ The student acquires the concept of expressions, mathematical logic, and ways to deal with them algebraically. □ Explaining the concept of sets, relationships, functions, the links between them, and the theories related to them.				
1. Teaching and Learning Strategies					
Strategy	* In-person lectures in classrooms. * Discussion method, surprise exams, and methods of refining skills. * Asking intellectual questions or holding a competition between students, stimulating creative thinking and answering clearly and quickly to the problems presented.				
2. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-4	16 hours	The set of natural, integer, rational, irrational, real, and complex numbers. divisibility. Belonging, subgset, sets equality.	Sets of numbers	In person lectures	Semester and daily in-person exams.
5-6	16 hours	Statements, types of statements, logical connectives, logical laws and properties of logical connectives. Absolutely correct statements, contradiction.	Mathematical logic	In person lectures	Semester and daily in-person exams.

		Open sentences, quantifies (partial quantifies + full quantifies)			
١١-٨	١٦hours	Logical Conclusion, mathematical proof, proof methods: direct proof, indirect proof (positive opposite + contradiction.)	Mathematical proof	In person lectures	Semester and daily in-person exams.
١٥-١٢	١٦hours	Operations on sets (union, intersection, difference, symmetric difference),	Set theory	In person lectures	Semester and daily in-person exams.
٢٠-١٦	٢٠hours	Family of sets, family of indexed sets, operations on family of sets. Power set, partition, cover set, finite cover set	Family of groups	In person lectures	Semester and daily in-person exams.
٢٥-٢١	٢٠hours	Ordered pairs, examples of equality of ordered pairs, Cartesian product between two sets, operations on Cartesian product, generalization of Cartesian product.	Cartesian product	In person lectures	Semester and daily in-person exams.
٣٠-٢٦	٢٠hours	The concept of relation, examples, operations on the relation, types of relation	Relation	In person lectures	Semester and daily in-person exams.
		Equivalence classes, quotient set, parity classes in $\mathbb{Z}$, set of integers from the norm n .	division set	In person lectures	Semester and daily in-person exams.
		Partial ordering relation, comparability, total ordering relation, partially ordered sets, totally ordered sets .	Ordered sets	In person lectures	Semester and daily in-person exams.
		Function, examples of important functions, types of functions, composes of functions, inverse of the function.	function	In person lectures	Semester and daily in-person exams.
		The concept of group, examples of groups, some characteristics of groups, subgroups.	group	In person lectures	Semester and daily in-person exams.

3. Course Evaluation

* Divide the class into several groups, give each group various exercises, and make the process of evaluating answers mutual between the students.

* Close follow-up to solve chapter questions and pay attention to the process of writing simple reports about any valuable information or an outstanding mathematician.

4. Learning and Teaching Resources

Required textbooks (curricular books, if any) توماس كالكولس المقرر / ٢٠١١

Main references (sources) توماس كالكولس الاصدار ٢٠١٤

Recommended books and references (scientific journals, reports...)	-Linear Algebra , Kenneth Hoffman Ray Kanze. - Linear Algebra, Seymour Lipschutz and Marc Lipson. -Topics in Algebra, Wileg, I.N.Hersten.
Electronic References, Websites	الفيزياء.كوم https://www.pinterest.com/pin/640918590689696481/ مكتبة الفريد في الرياضيات

Course Description Form Linear algebra

1. Course Name:	Linear algebra				
2. Course Code	Math 103				
3. Semester / Year:	Annual				
4. Description Preparation Date:	2025-2026				
5. Available Attendance Forms:	Lectures are delivered to students in person according to the schedule announced in the department				
6. Number of Credit Hours (Total)	*120 hours, (4 hours per week *30 per week)				
7. Number of Units (Total)	180 units (6 units * 30 weeks)				
8. Course administrator's name (mention all, if more than one name)	Name: lecture Murtada Ali Email: : murtadha.alallaq@gmail.com				
9. Course Objectives					
Course Objectives	* Acquire mathematical knowledge of the prescribed subjects and understand sufficient meanings behind each concept * Developing understanding to enable the student to recognize the concepts of linear algebra and how to apply them in solving mathematical problems				
10. Teaching and Learning Strategies					
Strategy	* In-person lectures in classrooms. * Discussion method, surprise exams, and methods of refining skills. * Asking intellectual questions or holding a competition between students, stimulating creative thinking and answering clearly and quickly to the problems presented.				
11. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-4	16 hours	Types of matrices and operations on	matrices	In person lectures	Semester and daily in-person exams.
٧-٥	١٦ hours	Find the determinants of matrices and some of their properties	Matrix determinants	In person lectures	Semester and daily in-person exams.
١١-٨	١٦ hours	Finding the inverse of matrices and some of their properties	Inverse of matrices	In person lectures	Semester and daily in-person exams.

١٥-١٢	١٦ hours	Methods for solving systems of linear equations.	Systems of linear equations	In person lectures	Semester and daily in-person exams.
٢٠-١٦	٢٠ hours	Vectors and some operations on them - vector space and subspaces - linear combination - linear independence	vector space	In person lectures	Semester and daily in-person exams.
٢٥-٢١	٢٠ hours	Linear transformations with some examples and properties - The kernel and form of the linear transformation	Linear transformations	In person lectures	Semester and daily in-person exams.
٣٠-٢٦	٢٠ hours	Eigenvalues and eigenvectors - Eigenvalues and eigenvectors of a linear operator - Internal product of vector space	Eigenvalues and eigenvectors	In person lectures	Semester and daily in-person exams.

12. Course Evaluation

- * Divide the class into several groups, give each group various exercises, and make the process of evaluating answers mutual between the students.
- * Close follow-up to solve chapter questions and pay attention to the process of writing simple reports about any valuable information or an outstanding mathematician.

13. Learning and Teaching Resources

Required textbooks (curricular books, if any)	توماس كالكولس المقرر / ٢٠١١
Main references (sources)	توماس كالكولس الاصدار ٢٠١٤
Recommended books and references (scientific journals, reports...)	1- Linear Algebra, Kenneth Hoffman Ray Kanze. 2- 2- Linear Algebra, Syymour Lipschutz and Marc Lipson. Topics in Algebra, Wileg, I.N.Hersten.
Electronic References, Websites	الفيزياء كوم https://www.pinterest.com/pin/640918590689696481/ مكتبة الفريد في الرياضيات

Course Description Form **General Physics**

1. Course Name:	General Physics
2. Course Code	Math 104
3. Semester / Year:	Annual
4. Description Preparation Date:	2025-2026
5. Available Attendance Forms:	Lectures are delivered to students in person according to the schedule announced in the department

6. Number of Credit Hours (Total)		*60 hours, (2 hours per week *30 week)			
7. Number of Units (Total)		120 units (4 units * 30 weeks)			
8. Course administrator's name (mention all, if more than one name)		Name: lecture Buraq Talib Shalash Email: : buraq@uomisan.edu.iq			
1. Course Objectives					
Course Objectives		Explain the basics of mechanical physics and the properties of matter to the student. □ Enabling the student to solve various physics problems. □ Enable them to master the use of the laws of motion in a straight line and the falling of free bodies, and to find the laws of displacement and velocity in a logical and correct manner. □ Derive and find scientific interpretations of physics equations from Newton's laws. □ Distinguish between types of friction and the factors affecting them. □ Correctly apply the laws of work, energy, and torque. □ Define elasticity, stress, and ductility and find a mathematical relationship between them.			
2. Teaching and Learning Strategies					
Strategy		* In-person lectures in classrooms. * Discussion method, surprise exams, and methods of refining skills. * Asking intellectual questions or holding a competition between students, stimulating creative thinking and answering clearly and quickly to the problems presented.			
3. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-4	16 hours	Desired Learning Outcomes	Vector and Non-Vector Quantities	In person lectures	Semester and daily in-person exams.
٧-٥	١٦hours	Acquire knowledge and distinguish between physical quantities	Motion and its Laws / Newton's First and Third Laws	In person lectures	Semester and daily in-person exams.
١١-٨	١٦hours	Understand Newton's Laws	Newton's Second Law	In person lectures	Semester and daily in-person exams.
١٥-١٢	١٦hours	Be able to apply Newton's Second Law	Frictional Forces in Physics / Types	In person lectures	Semester and daily in-person exams.
٢٠-١٦	٢٠hours	Define frictional force and distinguish between its types	Collision, Impulse, and Momentum	In person lectures	Semester and daily in-person exams.
٢٣-٢١	٢٠hours	Study the concepts of impulse and momentum and distinguish between them	Work and Energy	In person lectures	Semester and daily in-person exams.
٢٦-٢٤	٢٠hours	Study the concepts of work and energy and the relationship between them	Torques	In person lectures	Semester and daily in-person exams.

26-30	٢٠ hours	Study the concept of moments Study the concept of elasticity	Vector and Non-Vector Quantities Elasticity	In person lectures	Semester and daily in-person exams.
4. Course Evaluation					
* Divide the class into several groups, give each group various exercises, and make the process of evaluating answers mutual between the students. * Close follow-up to solve chapter questions and pay attention to the process of writing simple reports about any valuable information or an outstanding mathematician.					
5. Learning and Teaching Resources					
Required textbooks (curricular books, if any)			الفيزياء العامة المقرر / ٢٠١١		
Main references (sources)			توماس كالكولس الاصدار ٢٠١٤		
Recommended books and references (scientific journals, reports...)			3- General physics 4- 2- Linear Algebra, Syymour Lipschutz and Marc Lipson.		
Electronic References, Websites			الفيزياء.كوم https://www.pinterest.com/pin/640918590689696481/ مكتبة الفريد في الرياضيات		

Course Description Form **Computer I**

1. Course Name:	Computer I
2. Course Code	Math 107
3. Semester / Year:	Annual
4. Description Preparation Date:	2025-2026
5. Available Attendance Forms:	Lectures are delivered to students in person according to the schedule announced in the department
6. Number of Credit Hours (Total)	60 hours, (2 hours per week *30 per week)
7. Number of Units (Total)	60 units (2 units * 30 weeks)
8. Course administrator's name (mention all, if more than one name)	Name: lecturer Saif Talib Abas e-mail : saiftalib@uomisan.edu.iq
1. Course Objectives	
Course Objectives	A- Training students on Windows ١٠ B - To qualify and train students on the Word program to write research and scientific papers in the future. T - Students can arrange PowerPoint slides and present their research or reports in them in the future. C- Learn to create electronic spreadsheets through Excel. D- Study the types of networks and how to use the Internet in the future

2. Teaching and Learning Strategies	
Strategy	A– Cognitive objectives 1) Knowing the concept of electronic computer, its types and classifications 2) The student’s knowledge of the Windows 10 operating system 3) The student’s knowledge and application of the Word program 4) The student’s knowledge and application of the PowerPoint program. 5) The student’s knowledge and application of the Excel program. 6) Introducing the student to networks, their types and benefits. B – The skills objectives of the course 1) Teaching students how to use a computer. 2) Teach students how to use the Windows 10 operating system. 3) Providing students with how to use Microsoft Office programs. 4) Students acquire the skill of activating and using email. .10 Teaching and learning methods ☐ In–person lectures ☐ Discussion style. ☐ ☐ Supportive and explanatory videos for in–person lectures. 11 Evaluation methods ☐ Daily Quiz and monthly attendance tests ☐ Assigning the student to academic tasks for which he will be rewarded ☐ Assigning the student to prepare reports on computer application topics ☐ The method of discussion and dialogue between the student and the teacher ☐ Observation method – 12 General objectives: 1) The student should show interest in the explanation the teacher provides of the subject. 2) The student must have sufficient conviction about the importance of the material he is receiving. 3) That the student will be able to use and organize the data he received after explaining the material in the future 4) The student should be able to discuss and suggest some other possible solutions to the problem. – 12 General objectives: 1) The student should show interest in the explanation the teacher provides of the subject. 2) The student must have sufficient conviction about the importance of the material he is receiving. 3) That the student will be able to use and organize the data he received after explaining the material in the future 4) The student should be able to discuss and suggest some other possible solutions to the problem.
3. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
4	8 hours	The student learns about Topics described in the unit name	Learn the operating system Windows ١٠	In person lectures	Semester and daily in-person exams.
10	10 hours	the student gets to know	Learning Word	In person lectures	Semester and daily in-person exams.
7	14 hours	the student gets to know Topics described in the unit name	Learning PowerPoint,	In person lectures	Semester and daily in-person exams.
7	14 hours	the student gets to know Topics described in the unit name	Learning Excel,	In person lectures	Semester and daily in-person exams.
2	٤ hours	The student gets to know	Online learning	In person lectures	Semester and daily in-person exams.

4. Course Evaluation

* Divide the class into several groups, give each group various exercises, and make the process of evaluating answers mutual between the students.

5. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	دروس في مبادئ الحاسب الآلي تأليف د. أحمد عبد السلام البراوي 2010. أعداد الدكتور خالد 2013 تعلم مايكروسفت وورد وبوربوينت واكسل 2314 فرهود كتاب ويندوز لرئيس المهندسين : محمد مالك محمد كتاب اكسل لرئيس المهندسين : محمد مالك محمد كتاب وورد لرئيس المهندسين : محمد مالك محمد
Recommended books and references (scientific journals, reports...)	لشيرين المصري كتاب مايكرو سوفت 2013 كتاب مايكرو سوفت وورد لشيرين المصري 2313 اكسل
Electronic References, Websites	https://books-library.net/free-167753289-download
12. Course development plan	
We suggest adding the following topics: -A brief overview of Windows ١١	

Course Description **Developmental and Educational Psychology**

1. Course Name:	Developmental and Educational Psychology
2. Course Code	Math 106

3. Semester / Year:	Annual
4. Description Preparation Date:	2025-2026
5. Available Attendance Forms:	Lectures are delivered to students in person according to the schedule announced in the department
6. Number of Credit Hours (Total)	*60 hours, (2 hours per week *30 week)
7. Number of Units (Total)	120 units (4 units * 30 weeks)
8. Course administrator's name	Name: Assit. lecture Fadia Abboud Ramadan Email: : fadi.abboud@uomisan.edu.iq
Course Objectives	

Course Objectives	* Acquire mathematical knowledge of the prescribed subjects and understand sufficient meanings behind each concept * Developing understanding to enable the student to recognize the concepts of linear algebra and how to apply them in solving mathematical problems □ Acquire the behavioral knowledge of educational psychology necessary to teach and understand the meanings underlying each psychological behavioral concept. □ Develop an understanding of the nature of educational psychology as an integrated system of basic concepts, which will provide an important foundation for understanding other psychological disciplines. □ Apply the steps to solve psychological problems by analyzing the problem, developing a solution plan, and implementing it.
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6. Teaching and Learning Strategies

Strategy	* In-person lectures in classrooms. * Discussion method, surprise exams, and methods of refining skills. * Asking intellectual questions or holding a competition between students, stimulating creative thinking and answering clearly and quickly to the problems presented.
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7. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
4 -1	16 hours	The student learns about the topics described in the unit title.	Historical Development of Psychology - Branches of Psychology	In person lectures	Semester and daily in-person exams.
8 -5	16 hours		Characteristics of Psychology	In person lectures	Semester and daily in-person exams.
14 -13	16 hours		Educational Goals	In person lectures	Semester and daily in-person exams.
12 -15	16 hours		Factors Influencing the Effectiveness of the Educational Process (Teaching and Education)	In person lectures	Semester and daily in-person exams.
22 -18	20 hours		Attention and Perception	In person lectures	Semester and daily in-person exams.
22 -20	20 hours		Motivation and Learning	In person lectures	Semester and daily in-person exams.

30 -22	٢٠ hours		Memory and Forgetting	In person lectures	Semester and daily in-person exams.
8. Course Evaluation					
* Divide the class into several groups, give each group various exercises, and make the process of evaluating answers mutual between the students. * Close follow-up to solve chapter questions and pay attention to the process of writing simple reports about any valuable information or an outstanding mathematician.					
9. Learning and Teaching Resources					
Required textbooks (curricular books, if any)			Educational Psychology by Professor Dr. Jaafar Abdul Kadhim Abdul Modern Psychology by Professor Dr. Laith Ayyash		
Main references (sources)			Educational Psychology by Professor Dr. Jaafar Abdul Kadhim Abdul Modern Psychology by Professor Dr. Laith Ayyash		
Recommended books and references (scientific journals, reports...)					
Electronic References, Websites			https://www.youtube.com/channel/UC6WU7ZNuJxi8nN6LePpjg .		

Course Description English Language

1. Course Name:	English language
2. Course Code	Math 109
3. Semester / Year:	Annual
4. Description Preparation Date:	2025-2026
5. Available Attendance Forms:	Lectures are delivered to students in person according to the schedule announced in the department
6. Number of Credit Hours (Total)	30 hours, (1 hours per week *30 week)
7. Number of Units (Total)	60 units (2 units * 30 weeks)
8. Course administrator's name	Name: Inst Muhammed Amer Jassim Email:

The course aims to teach and train students to learn educational vocabulary in the English language, conversation, listening, pronunciation, and English grammar.

Teaching and Learning Strategies

Cognitive objectives :

- 1) Learning educational, scientific, and social vocabular.
- 2) Understanding how to construct sentences in English.
- 3) Listening and pronunciation in English.
- 4) Learning how to connect sentences using conjunctions and punctuation.
- 5) How to formulate and answer questions.
- 6) Changing verbs from one tense to another.

B - Course Skill Objectives :

- 1) Skill in writing English according to its letters
- 2) Skill in listening to the phonemes of words
- 3) Skill in pronouncing words according to the sounds produced in English.
- 4) Skill in conversation between student and classmate, student and teacher, and student and others.

Teaching and learning methods

- a) In-person lectures, discussion style.
- b) Supporting video lectures on the instructor's YouTube channel (Google Classroom).

Evaluation methods

- 1) Daily and monthly in-person quizzes.
- 2) Assigning students academic tasks for which they will be rewarded.
- 3) Assigning students to write reports on topics related to the curriculum.

General objectives :

1) The student will demonstrate interest in the instructor's explanation of the course material. 2) The student will have sufficient conviction about the importance of the material they are learning. 3) The student will be able to organize the information they have to form a conversational topic. 4) The student will be able to discuss and speak with their classmates in English with confidence and fluency.					
Teaching and learning methods					
1) Teaching using educational and illustrative tools and discussion. 2) Teaching using competitions, which stimulate enthusiasm among students. 3) Learning by making the student the teacher to enhance their self-confidence. 4) Learning through brainstorming among students.					
Evaluation methods					
1) Discussion and dialogue method between student and instructor. 2) Observation method. 3) In-person exams.					
Targeted skills: 1) Employing acquired knowledge in real-life contexts. 2) Personal development through the integration of traditional and e-learning. 3) Building a competent teacher who can speak English and use it to enhance the subject matter and transfer their expertise to students in the future. 4) Preparing students academically and educationally based on solid scientific foundations.					
Course Structure					
Evaluation method	Required Learning Outcomes	Unit or subject name	Learning method	Hours	Week
Oral Examination	Conversation	Greetings - Verbs	Students learn to perform verbs accurately.	4	2 + 1
Oral Examination	Dialogue and Discussion	Country Names - Landmarks	Students learn the names of countries and their landmarks.	4	4 + 3
Written and Dialogue	Conversation	Things Around You	Actions - Negation and Affirmation.	4	6 + 5
Oral and Written Examination	Conversation	Family and Friends	Pronouns and their meanings.	4	8 + 7
Oral and Written Examination	Conversation	Lifestyle	Food, drinks, sports.	4	11 + 9

Oral and Written Examination	Dialogue and Discussion	Daily Life	Time, place, and numbers.	4	12 + 11
Oral and Written Examination	Connecting the Picture with the Word	Favorites	Question words, adjectives.	4	14 + 13
Oral and Written Examination	Conversation	Living and Living Places	Room, furniture, places.	4	16 + 15
Oral and Written Examination	Conversation	Past Tense Times	Years, months, days.	4	18 + 17
Oral and Written Examination	Conversation	Free Time/Holidays	Sports, shopping.	4	21 + 19
Oral and Written Examination	Dialogue and Discussion	Work Opportunities	Negation and affirmation.	4	22+ 21
Oral and Written Examination	Discussion	Please and Thank You	Preferring one verb over another.	4	24 + 23
Oral and Written Examination	Conversation	Here and Now	Linking color to clothing.	4	26 + 25
Oral and Written Examination	Dialogue and Discussion	Time to Go	Future, grammar vocabulary.	4	28 + 27
Oral Examination	Conversation	Units and Their Discussion	Overall knowledge of the subject matter.	4	31 + 29

Supporting resources

New Headway Plus / Beginner Student's Book New Headway Plus / Beginner Workbook With Key	- Required Textbooks
a) Dictionaries 1) Oxford English Dictionary The Urban Dictionary 2) https://www.oxfordlearnersdictionaries.com/ 3) https://dictionary.cambridge.org/dictionary/english/treasure	- Main References
short stories Definitions and concept Definitions and concept (Autism) Motor skills The theory of multiple intelligences	Resources) A (Recommended books and references (scientific journals, reports, articles)
Websites dedicated to teaching and developing students' English language skills, which are addressed during lectures. a) https://www.theguardian.com/books/2016/dec/14/top-10-dictionaries b) https://www.dictionary.com/browse/treasure c) https://www.ixl.com/math d) https://www.oxfordlearnersdictionaries.com/definition/english/treasure_1	(Electronic references)

12. Curriculum Development Plan

- 1) Adding grammar and reading books specifically for teaching English.
- 2) Enrolling students in audio labs and encouraging them to pronounce all vocabulary words correctly.

- 3) Introducing some mathematical vocabulary and translating and writing research articles in the field of mathematics into English as extracurricular activities.
- 4) Adding oral dialogues among students through topics presented by the teacher and dividing students into groups to engage in dialogues to strengthen and enhance students' vocabulary.

Course Description Form **Arabic Language**

1. Course Name:	Arabic Language				
2. Course Code	Math 108				
3. Semester / Year:	Annual				
4. Description Preparation Date:	2025-2026				
5. Available Attendance Forms:	Lectures are delivered to students in person according to the schedule announced in the department				
6. Number of Credit Hours (Total)	*30 hours, (1 hour per week *30 week)				
7. Number of Units (Total)	60 units (2 units * 30 weeks)				
8. Course administrator's name (mention all, if more than one name)	Name: assit. lecture Taqi Saad Jassim Email: : tynttynt60@gmail.com				
9. Course Objectives					
Course Objectives	– Preparing students to use the Arabic language correctly, enabling them to become fluent speakers. – Preparing them to stand before students and speak to them, avoiding as many linguistic errors as possible that hinder their teaching work in secondary schools. – Expanding their knowledge of a certain amount of Arabic vocabulary, including grammar, linguistics, and spelling. – Studying Qur'anic, poetic, and prose texts also familiarizes them with solid linguistic styles.				
10. Teaching and Learning Strategies					
Strategy	* In-person lectures in classrooms. * Discussion method, surprise exams, and methods of refining skills. * Asking intellectual questions or holding a competition between students, stimulating creative thinking and answering clearly and quickly to the problems presented.				
11. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
4-3-2-1	8	The student understands what he received in the lecture	Nominal Sentence: Subject and Predicate	In person lectures	Semester and daily in-person exams.
8-7-6-5	8	The student understands what he received in the lecture	Nullatives of Subject: Kāna and its Sisters: In and its Sisters: La, the Negative of the Genus	In person lectures	Semester and daily in-person exams.

-11-9 12-11	8	The student understands what he received in the lecture	Selections from Qur'anic Texts	In person lectures	Semester and daily in-person exams.
-14-13 16-15	8	The student understands what he received in the lecture	A Qur'anic text from Surat al-Kahf and a study of a story included in the text. Surat al-Kahf and a study of two stories included in the text.	In person lectures	Semester and daily in-person exams.
-18-17 21-19	8	The student understands what he received in the lecture	Selections from Poetic Texts: Al-Qushayri's 'Aynīyah and Al-Mutanabbi's Nūnīyah	In person lectures	Semester and daily in-person exams.
22-21	4	The student understands what he received in the lecture	Selections from Arabic Prose: The Text "Al-Murdā'ī" by Taha Hussein	In person lectures	Semester and daily in-person exams.
-24-23 26-25	8	The student understands what he received in the lecture	Verbal Sentence: Past Tense Verb, Present Tense Verb, Imperative Verb	In person lectures	Semester and daily in-person exams.
30-27	8	The student understands what he received in the lecture	Subject and Object	In person lectures	Semester and daily in-person exams.

12. Course Evaluation

- * Divide the class into several groups, give each group various exercises, and make the process of evaluating answers mutual between the students.
- * Close follow-up to solve chapter questions and pay attention to the process of writing simple reports about any valuable information or an outstanding mathematician.

13. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures in Arabic
Main references (sources)	Texts from the Holy Quran
Recommended books and references (scientific journals, reports...)	5- Poetic texts from poets' collections
Electronic References, Websites	https://www.noor-book.com/tag/

Course Description Form **Human Rights and Democracy**

1. Course Name:	Human Rights and Democracy
2. Course Code	Math 110
3. Semester / Year:	Annual
4. Description Preparation Date:	2025-2026
5. Available Attendance Forms:	Lectures are delivered to students in person according to the schedule announced in the department
6. Number of Credit Hours (Total)	*30 hours, (1 hour per week *30 week)
7. Number of Units (Total)	60 units (2 units * 30 weeks)
8. Course administrator's name (mention all, if more than one name)	Name: assit. lecture Murtadha Jafar
9. Course Objectives	

Course Objectives					
10. Teaching and Learning Strategies					
Strategy	The student will learn about the principles of human rights, democracy, and public freedoms.				
	The student will learn about the articles of the Universal Declaration of Human Rights issued by the United Nations in 1842.				
	The student will learn about Iraqi constitutions and the human rights they include for the Iraqi people.				
	The student will learn about constitutional, judicial, and political guarantees.				
	The student will learn about the nature of democracy and its types, as well as the nature, types, and controls of public freedoms.				
	The student will learn about democratic practices, including elections and nominations, and the rights and duties associated with them.				
Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1	Developing cognitive understanding	Human Rights in Ancient Civilizations	In person lectures	Semester and daily in-person exams.
2	1	Developing cognitive understanding	Human Rights in Religions and Divine Laws	In person lectures	Semester and daily in-person exams.
3	1	Developing cognitive understanding	Human Rights in Islam (Imam Ali's (PBUH) Covenant to his Governor of Egypt, Malik al-Ashtar)	In person lectures	Semester and daily in-person exams.
4	1	Developing cognitive understanding	Human Rights in the Middle Ages	In person lectures	Semester and daily in-person exams.
5	1	Developing cognitive understanding	Human Rights in Modern Times	In person lectures	Semester and daily in-person exams.
6	1	Developing cognitive understanding	Human Rights in Thought, Revolutions, and Modern Legislation	In person lectures	Semester and daily in-person exams.
7	1	Developing cognitive understanding	Political Ideas and Theories	In person lectures	Semester and daily in-person exams.
8	1	Developing cognitive understanding	Revolutions and Legislation	In person lectures	Semester and daily in-person exams.
9	1	Developing cognitive understanding	Contemporary Recognition of Human Rights	In person lectures	Semester and daily in-person exams.
11	1	Developing cognitive understanding	International and Regional Recognition	In person lectures	Semester and daily in-person exams.
11	1	Developing cognitive understanding	NGOs and Human Rights	In person lectures	Semester and daily in-person exams.
12	1	Developing cognitive understanding	Human Rights in International Conventions	In person lectures	Semester and daily in-person exams.

13	1	Developing cognitive understanding	The Universal Declaration of Human Rights	In person lectures	Semester and daily in-person exams.
14	1	Developing cognitive understanding	The Two International Covenants on Human Rights	In person lectures	Semester and daily in-person exams.
15	1	Developing cognitive understanding	Regional and National Conventions	In person lectures	Semester and daily in-person exams.
16	1	Developing cognitive understanding	First Semester Exam	In person lectures	Semester and daily in-person exams.
17	1	Developing cognitive understanding	Individual and Collective Human Rights	In person lectures	Semester and daily in-person exams.
18	1	Developing cognitive understanding	Generations of Human Rights	In person lectures	Semester and daily in-person exams.
19	1	Developing cognitive understanding	The Generation of Civil and Political Rights and the Generation of Economic, Social, and Cultural Rights	In person lectures	Semester and daily in-person exams.
21	1	Developing cognitive understanding	The Generation of Universal Rights (The Right to Development, the Right to a Clean Environment, the Right to Peace)	In person lectures	Semester and daily in-person exams.
21	1	Developing cognitive understanding	Dangers Facing the New Generation of Human Rights (Terrorism, Administrative Corruption, Human Trafficking, Intellectual Property)	In person lectures	Semester and daily in-person exams.
22	1	Developing cognitive understanding	Constitutional, Judicial, and Political Rights Guarantees	In person lectures	Semester and daily in-person exams.
23	1	Developing cognitive understanding	Human Rights and Democracy	In person lectures	Semester and daily in-person exams.
24	1	Developing cognitive understanding	The Concept of Democracy and Freedom	In person lectures	Semester and daily in-person exams.
25	1	Developing cognitive understanding	History, Characteristics, and Advantages of Democracy	In person lectures	Semester and daily in-person exams.
26	1	Developing cognitive understanding	Types Democracy - Direct Democracy	In person lectures	Semester and daily in-person exams.
27	1	Developing cognitive understanding	Semi-Direct Democracy	In person lectures	Semester and daily in-person exams.
28	1	Developing cognitive understanding	Representative Democracy	In person lectures	Semester and daily in-person exams.
29	1	Developing cognitive understanding	Elections - Voter Requirements	In person lectures	Semester and daily in-person exams.

30	1	Developing cognitive understanding	Electoral System and Parliamentary Powers	In person lectures	Semester and daily in-person exams.
11. Course Evaluation					
* Divide the class into several groups, give each group various exercises, and make the process of evaluating answers mutual between the students. * Close follow-up to solve chapter questions and pay attention to the process of writing simple reports about any valuable information or an outstanding mathematician.					
12. Learning and Teaching Resources					
Required textbooks (curricular books, if any)			لا يوجد كتاب منهجي		
Main references (sources)			كتاب د. رياض عزيز هادي، حقوق الانسان، كلية العلوم 5002، السياسية، جامعة بغداد،		
Recommended books and references (scientific journals, reports...)			محاضرات مكتوبة من عمل مدرس المادة بالاستناد الى بعض المصادر ذات الصلة، حقوق الانسان مفاهيم اساسية، حقوق الانسان في التراث الديني الغربي والاسلام		
Electronic References, Websites			https://t.me/political92 https://books-library.net https://www.neelwafurat.com		

Course Description Form Foundations of Education

1. Course Name:	Foundations of Education
2. Course Code	Math 105
3. Semester / Year:	Annual
4. Description Preparation Date:	2025-2026
5. Available Attendance Forms:	Lectures are delivered to students in person according to the schedule announced in the department
6. Number of Credit Hours (Total)	*30 hours, (1 hour per week *30 week)
7. Number of Units (Total)	60 units (2 units * 30 weeks)
8. Course administrator's name (mention all, if more than one name)	Name: assit. lecture Duaa Abdel Hassan Email: :
9. Course Objectives	
Course Objectives	
10. Teaching and Learning Strategies	
Strategy	* In-person lectures in classrooms. * Discussion method, surprise exams, and methods of refining skills. * Asking intellectual questions or holding a competition between students, stimulating creative thinking and answering clearly and quickly to the problems presented.
11. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1+2+3+4	2*4=8	Gaining knowledge in understanding the civilizational basis of the concept of education	The Concept of Education, Ancient and Modern - The Origin and Development of the Concept of Education Throughout History - The Philosophical Basis of Education	In person lectures	Semester and daily in-person exams.
5+6+7+8	2*4=8		- Education and Ancient Civilizations	In person lectures	Semester and daily in-person exams.
+11+01+9 12	2*4=8		- Education in Mesopotamian Civilization	In person lectures	Semester and daily in-person exams.
13+14+15 +16	2*4=8		- Education in Chinese Civilization	In person lectures	Semester and daily in-person exams.
17+18+19 +20	2*4=8		- Greek Education	In person lectures	Semester and daily in-person exams.
21+22+23 +24	2*4=8		Imam Al-Ghazali - Philosophers and Thinkers of Western Educational Thought - Jean-Jacques Rousseau	In person lectures	Semester and daily in-person exams.
25+26+27 +28	2*4=8		Pestalozzi	In person lectures	Semester and daily in-person exams.
29 +30	2*2=4		Macarenko	In person lectures	Semester and daily in-person exams.

12. Course Evaluation

* Divide the class into several groups, give each group various exercises, and make the process of evaluating answers mutual between the students.

* Close follow-up to solve chapter questions and pay attention to the process of writing simple reports about any valuable information or an outstanding mathematician.

13. Learning and Teaching Resources

Required textbooks (curricular books, if any)	There is no prescribed book.
Main references (sources)	- كتاب مبادئ التربية تأليف الدكتور احمد حقي الحلي وآخرون مطبعة جامعة بغداد 1825 - كتاب الفكر التربوي الاسلامي في التعلم والتعليم والارشاد الدكتور ليث كريم حمد جامعة ديالى 2338 - وتم الاعتماد على المصادر الحديثة ومنها - اصول التربية للدكتور وائل عبد الرحمن التل 2332 - فلسفات التربية التقليدية والحديثة والمعاصرة للدكتور محمد محمود الخوالدة 2310 - فلسفة التربية بالتحليل المنطقي ريتشارد ستانلي وآخرون ترجمة الدكتور عبد العزيز البسام 2331

	- غريب، عبد الكريم (2332) (المنهل التربوي) معجم موسوعي في المصطلحات والمفاهيم البيداغوجية والديداكتيكية والسيكولوجية (الجزء الأول. ط1، الدار البيضاء، المغرب، - برتراند، ي. (y. Bertrand) (2332) (النظريات التربوية المعاصرة. ، (ترجمة بو علاق محمد). الرباط، المغرب: مكتبة دار 1 ط الأمان. (نظرية المعرفة في التربية 2338 الكيلاني، ماجد عرسان) الإسلامية.
Recommended books and references (scientific journals, reports...)	1882 د. ماهر الجعفري، أسس التربية، دار عمار، عمان، د. ابراهيم عثمان، التربية، دار كاظمة، الكويت،
Electronic References, Websites	
Curriculum Development Plan Adding Topics: 1. Modern Educational Systems in Iraq 2. Contributions of Iraqi Civilization to Mathematical Discoveries and Theories	

Study Materials for the 2nd Stage

Course Description Form **Advanced Calculus**

1. Course Name:	Advanced Calculus				
2. Course Code	Math211				
3. Semester / Year:	Annual				
4. Description Preparation Date:	2025-2026				
5. Available Attendance Forms:	Lectures are delivered to students in person according to the schedule announced in the department				
6. Number of Credit Hours (Total) / Number of Units (Total)	*150 hours, (5 hours per week *30 per week)				
7. Course administrator's name (mention all, if more than one name)	Name: Assis. prof. Dr. Akeel Abdul Wahid Qasim Email: akeelmath@uomisan.edu.iq				
8. Course Objectives					
Course Objectives	* Students' understanding of the three conic sections (equivalent, plus, and minus), how to draw them, identify everything they contain (vertices, foci, and axes), and show all changes to them in the event of changing the center, dragging, or rotating each of them. * An expanded and complementary study of the first stage regarding vectors and parametric equations. * Expanding students' understanding regarding the subject of the function with one variable, its purpose and continuity, finding the derivative using the geometric method, and studying the applications of the derivative. * Study and understand integrals, methods of solving them, and applications of integration. * Introducing students to the concept of some functions, such as trigonometric functions and their inverses, as well as exponential and logarithmic functions.				
9. Teaching and Learning Strategies					
Strategy	* In-person lectures in classrooms. * Discussion method, surprise exams, and methods of refining skills. * Asking intellectual questions or holding a competition between students, stimulating creative thinking and answering clearly and quickly to the problems presented.				
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
5 weeks	25 hours	The student will be able to understand the given material,	conic sections (their equations/drawing)	In person lectures	Semester and daily in-person exams.
6 weeks	20 hours	The student will be able to understand the given material	understand the subject of the function its purpose, and continuity	In person lectures	Semester and daily in-person exams.
8 weeks	30 hours	The student will be able to understand the given material	Derivatives, their applications, and the use of Rolle's theorem and the mean value	In person lectures	Semester and daily in-person exams.
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 any)	
Main references (sources)	

Course Description Form **Ordinary Differential Equations ODE**

1. Course Name:	Ordinary Differential Equations
2. Course Code	Math212
3. Semester / Year:	annual
4. Description Preparation Date:	2025-2026
5. Available Attendance Forms:	Lectures are delivered to students in person according to the schedule announced in the department
6. Number of Credit Hours (Total) / Number of Units (Total)	*120 hours, (4 hours per week *30 per week) * 180 units, (6 units per week * 30 weeks)
7. Course administrator's name (mention all, if more than one name)	Name: Mohammed Jabbar Hawas Allami Email: drmjh53@uomisan.edu.iq
8. Course Objectives	
Course Objectives	• Defining the concept of differential equations, knowing the order of a differential equation and the degree of a differential equation, how to find a differential equation from the general solution and distinguish between the general, special and individual solution. The existence and unity of the solution for first-order linear differential equations. Initial and boundary value problems. Systems of differential equations • Solving types of first-order and first-order differential equations, equations separated by variables, homogeneous equations, differential equations with linear coefficients, complete equations, integration factor, non-exact equations, Bernoulli's equation, solving differential equations using an appropriate transformation • Applications of differential equations in engineering, physics and biology such as population growth and decay and cooling and heating problems. • Solving first-order and higher-order differential equations, equations solved in the derivative variable, equations solved in the dependent variable, the Clairaut equation and the Lagrange's equation, as well as equations solved in the independent variable • Solving higher-order differential equations, the Wronskian determinant, defining the differential operator D, how to write a differential equation in terms of the operator D, finding its general and specific solution for higher-order equations, and finding the general solution for higher-order differential equations. Analyze homogeneous differential equations with constant and higher order coefficients. Solving inhomogeneous and higher-order differential equations using undetermined method • s and and inverse D operator. • Introducing the student to the Laplace transform and the Laplace transform of functions and derivatives, defining the inverse of the transformation, and how to solve differential equations using it. • Solve the differential equation using power series
9. Teaching and Learning Strategies	
Strategy	1) That the student remembers the information and laws given in the course. 2) That the student understands the course topics and the mathematical problems related to them

	. 3) The student should be able to apply what he has learned to solve mathematical problems . 4) That the student is able to analyze the text of the question and arrange the information to benefit from it in the solution and obtain correct results. 5) The student composes problems related to the course topics and then arrives at their correct solution. 6) The student should have ideas about the course material and know how to devise appropriate laws to solve it.
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10. Course Structure

Week	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
4 weeks	Defining the concept of differential equations, knowing the order of a differential equation and the degree of a differential equation, how to find a differential equation from the general solution and distinguish between the general, special and individual solution. The existence and unity of the solution for first-order linear differential equations Solving types of first-order and first-order differential equations, equations separated by variables, homogeneous equations, differential equations with linear coefficients, complete equations, integration factor, incomplete equations, Bernoulli's equation, solving differential equations using an appropriate transformation	The first chapter: Basic concepts in ordinary differential equations. It includes definitions and examples of ordinary and partial differential equations. Degree and rank of the differential equation. Linear and nonlinear differential equations. Homogeneous differential equations. Initial and boundary value problems. Systems of differential equations. Solutions of differential equations: general, specific and individual solutions. Formation of differential equations from the general solution	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
8 weeks	Solving types of first-order and first-order differential equations, equations separated by variables, homogeneous equations, differential equations with linear coefficients, complete equations, integration factor, incomplete equations, Bernoulli's equation, solving differential equations using an appropriate transformation	The existence and unity of the solution for first-order linear differential equations Solutions of differential equations.	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
3 weeks	Learn to solve first-order and higher-order differential equations, equations solved in the derivative variable, equations solved in the dependent variable, the Clairaut equation and the lagrangeange equation, as well as equations solved in the independent variable..	The second Chapter: Solving types of first-order and first-order differential equations, equations separated by variables, homogeneous equations, differential equations with linear coefficients, complete equations, integration factor, incomplete equations, Bernoulli's equation, solving differential equations using an appropriate transformation	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
3 weeks	Learn to solve higher-order differential equations, the Runeskin determinant, the definition of the differential operator D, how to write a differential equation in terms of the operator D, and find its general and specific solution for higher-order equations and find the general solution for higher-order differential equations. Analyze homogeneous differential equations with constant and higher order coefficients. Solving inhomogeneous and higher-order differential equations using the method of non-specific coefficients and the method of changing the mean	The third chapter. Applications of differential equations in engineering, physics and biology such as population growth and decay and cooling problems	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
7 weeks	general solution for higher-order differential equations. Analyze homogeneous	The fourth chapter.	Lecture and discussions	Discuss daily exam, and

	differential equations with constant and higher order coefficients. Solving inhomogeneous and higher-order differential equations using the method of non-specific coefficients and the method of changing the mean	Solving first-order and higher-order differential equations, equations solved in the derivative variable, equations solved in the dependent variable, the Clairaut equation and the Lagrange equation, as well as equations solved in the independent variable		attendance exams Monthly
3 weeks	Introducing the student to the Laplace transform and the Laplace transform of functions and derivatives, defining the inverse of the transformation, and how to solve differential equations using it. Learn to use power series to solve differential equations	The fifth chapter. Solving higher-order differential equations, the Wronskian determinant, defining the differential operator D, how to write a differential equation in terms of the operator D, finding its general and specific solution for higher-order equations, and finding the general solution for higher-order differential equations. Analyze	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
2 weeks	Solve the differential equation using power series	The sixth chapter homogeneous differential equations with constant and higher order coefficients. Solution of inhomogeneous and higher order differential equations using the method of undetermined coefficients The sixth chapter Introducing the student to the Laplace transform and the Laplace transform of functions and derivatives, defining the inverse of the transformation, and how to solve differential equations using it.	Lecture and discussions	Discuss daily exam, and attendance exams Monthly

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 any)	Methods for solving ordinary differential equations, written by Dr. Khaled Al-Samarrai and Dr. Yahya Saeed
Main references (sources)	Earl Rainville and Phillip E. Bedient Bedient, Elementary Differential Equations , Macmillan Canada
Recommended books and references (scientific journals, reports...)	Differential equations written by Dr. Hassan Mustafa Al-Awadi Dr. Abdel Wahab Abbas Dr. Sanaa Ali Zarea
Electronic References, Websites	

Course Description Form **Axiomatic Systems and geometry**

1. Course Name:	Axiomatic Systems and geometry
2. Course Code	Math213
3. Semester / Year:	annual
4. Description Preparation Date:	2025-2026
5. Available Attendance Forms:	Lectures are delivered to students in person according to the schedule announced in the department
6. Number of Credit Hours (Total) / Number of Units (Total)	90 hours, 3 hours per week *30 weeks 6 units
7. Course administrator's name (mention all, if more than one name)	Name: Ayat Muhammad Jabr

8. Course Objectives

Course Objectives	- Explaining to the student the basics of geometry, geometrical systems and axioms. - Enabling the student to prove theorems in a logical and sound manner, starting from the data and what is required to be proven, the drawing, and then the proof. - The student learns direct and indirect methods of proof.
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9. Teaching and Learning Strategies

Strategy	1) That the student remembers the information and laws given in the course. 2) That the student understands the course topics and the mathematical problems related to them 3) The student should be able to apply what he has learned to solve mathematical problems 4) That the student is able to analyze the text of the question and arrange the information to benefit from it in the solution and obtain correct results. 5) The student composes problems related to the course topics and then arrives at their correct solution. 6) The student should have ideas about the course material and know how to devise appropriate laws to solve it.
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10. Course Structure

Week	Unit or subject name	Required Learning Outcomes	Learning method	Evaluation method
4 weeks	Axiomatic systems, properties of the axiomatic system	Enables the student to understand the basics of the axiomatic system	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
7 weeks	Evaluation of Euclidean geometry	The student was able to understand Hilbert's system	Lecture and discussions	Discuss daily exam, and attendance exams Monthly

5 weeks	Equivalence and comparison	The student was able to create a straight line and compare the straight lines, as well as create an angle and compare the angles	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
4 weeks	Preliminary geometry	In this chapter, Euclid's theorems are re-proven	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
5 weeks	Non-Euclidean geometry (Hyperbolic Geometry and elliptical geometry)	In this topic, non-Euclidean geometry and its types are explained to the student	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
4 weeks	Projective Geometry	The student is able to understand the meaning of perspective and projectivity	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
1 weeks	Transformation geometry	The student is able to understand reflection on a line, axial symmetry, and rotation	Lecture and discussions	Discuss daily exam, and attendance exams Monthly

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 any)	هندسة التحويلات والهندسة التآلفية تأليف : ماكس جيجز ترجمة : د. محمد عادل سودان، د. محمد سعيد البرني، د. موفق دعبول
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form **Advanced computer science**

1. Course Name:	Advanced computer science
2. Course Code	Math218
3. Semester / Year:	annual
4. Description Preparation Date:	2025-2026
5. Available Attendance Forms:	Lectures are delivered to students in person according to the schedule announced in the department

6. Number of Credit Hours (Total) / Number of Units (Total)		60 hours, 2 hours per week * 30 weeks One unit		
7. Course administrator's name (mention all, if more than one name)		Name: Saif Talib Email:		
8. Course Objectives				
Course Objectives		• The student learns how to use the Matlab program in order to be able to solve equations and mathematical problems in a way that qualifies him for a higher level in the future. • The student learns how to represent a matrix in Matlab • The student learns how to draw a function in Matlab • The student will learn some programming basics in Matlab		
9. Teaching and Learning Strategies				
Strategy		1) That the student remembers the information and laws given in the course. 2) That the student understands the course topics and the mathematical problems related to them 3) The student should be able to apply what he has learned to solve mathematical problems 4) That the student is able to analyze the text of the question and arrange the information to benefit from it in the solution and obtain correct results. 5) The student composes problems related to the course topics and then arrives at their correct solution. 6) The student should have ideas about the course material and know how to devise appropriate laws to solve it.		
10. Course Structure				
Week	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
7 weeks	The student learns operations on matrices	Matrices and operations	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
4 weeks	The student learned MATLAB instructions	Instructions and variables in MATLAB	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
4 weeks	The student learned how to open a window in the computer	Entrance in the M.file window	Lecture and discussions	Discuss daily exam, and attendance exams Monthly

10 weeks	The student learned how to graph a function	Drawing functions and adding properties to the drawings	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
5 weeks	The student learned some computer instructions	If & For & While & Else & Switch	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
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 any)		Essential Matlab for Scientists and Engineers		
Main references (sources)		كتاب تعليم البرمجة بلغة ماتلاب بالأمثلة العملية الشاملة تأليف م. احمد محمد الفلاح		
Recommended books and references (scientific journals, reports...)		Essential Matlab for Scientists and Engineers By Brain D. Hahn		
Electronic References, Websites				

Course Description Form **Group Theory**

1. Course Name:	Group Theory
2. Course Code	Math214
3. Semester / Year:	annual
4. Description Preparation Date:	2025-2026
5. Available Attendance Forms:	Lectures are delivered to students in person according to the schedule announced in the department
6. Number of Credit Hours (Total) / Number of Units (Total)	90 hours, (3 hours per week *30 per week) 6 units
7. Course administrator's name (mention all, if more than one name)	Name: Ali Sami Rashid Email: alisamirashid@uomisan.edu.iq
8. Course Objectives	
Course Objectives	• Developing abstract thinking at the level of knowledge, understanding, comparison and evaluation among students. • Connecting the concepts of set theory with higher mathematics and the concepts of modern abstract algebra.

	• Preparing the student's thought to deal with the complex structure of algebraic systems, which the student studies in ring theory. • Knowing and consolidating the philosophical reasons for the laws and relationships that the student studied in the secondary stages. • Developing students' skills in mathematical proof through important theorems in group theory. • Presenting some necessary concepts in number theory that the student needs in group theory.
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9. Teaching and Learning Strategies

Strategy	1) That the student remembers the information and laws given in the course. 2) That the student understands the course topics and the mathematical problems related to them 3) The student should be able to apply what he has learned to solve mathematical problems 4) That the student is able to analyze the text of the question and arrange the information to benefit from it in the solution and obtain correct results. 5) The student composes problems related to the course topics and then arrives at their correct solution. 6) The student should have ideas about the course material and know how to devise appropriate laws to solve it.
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10. Course Structure

Week	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
5 weeks	A review of set theory, binary operations, mathematical system, semigroup, neutral semigroup, commutative semigroup, group, commutative group, examples of commutative and non-commutative numerical groups, examples of matrix groups, theorems about group properties.	group	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
3 weeks	order of group, finite and infinite groups, order of element, idempotent element, nilpotent element, Boolean group, cyclic group.	order of group	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
4 weeks	Division algorithm, division relation by Z , equivalence of integers, congruent class module n , set of integers module, group of integers module n . One-to-one correspondence functions, permutations, symmetry groups, square symmetry groups.	Important Groups	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
4 weeks	One-to-one correspondence functions, permutations, symmetry groups, square symmetry groups. Subgroup, cyclic subgroup, direct product of subgroups, cosets, order and index of subgroups, Lagrange's theorem, simple group, normal subgroup, Quotient set, Quotient group, subgroup of the quotient group.	Subgroup & Quotient group	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
5 weeks	Groups Homomorphism, the kernel of Homomorphism, types of Homomorphism, basic theorems of Homomorphism.	Groups Homomorphism	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
3 weeks	Chains, some types of Chains, Maximal normal subgroups, Jordan-Holder theorem.	Chains	Lecture and discussions	Discuss daily exam, and attendance

				exams Monthly
3 weeks	Prime groups, Sylow's theorems, examples and theorems.	Prime groups	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
	Finite nilpotent groups, solvable groups.	solvable groups		Discuss daily exam, and attendance exams Monthly

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 any)	Introduction to Modern Abstract Algebra , By David M. Burton, 1967
Main references (sources)	Abstract and linear Algebra , By David M. Burton, 1972
Recommended books and references (scientific journals, reports...)	Abstract Algebra, Schaum's Outline 2nd edition. by Lloyd Jaisingh & Frank Ayres
Electronic References, Websites	

Course Description Form **Growth psychology**

1. Course Name:	Growth psychology
2. Course Code	Math216
3. Semester / Year:	annual
4. Description Preparation Date:	2023-2024
5. Available Attendance Forms:	Lectures are delivered to students in person according to the schedule announced in the department
6. Number of Credit Hours (Total) / Number of Units (Total)	60 hours, 2 hours per week * 30 weeks 4 units
7. Course administrator's name (mention all, if more than one name)	Name: Email:
8. Course Objectives	
Course Objectives	The course aims to make the mathematics student able to:

	1– Knows the psychology of growth and its relationship with other sciences and learns about the laws of growth in daily and future life 2– Identify the genetic and environmental factors affecting growth and some diseases 3– He gets to know the methods and types of scientific research and applies what he knows in research and studies 4– Recognizes the importance of childhood and adolescence and their stages in the physical, mental, emotional, social and moral fields. 5– It shows the role of social institutions in the socialization of the child, and the relationship between the adolescent and community institutions 6– It shows the importance of work, choosing it, and acquiring inclinations and trends 7– It identifies some of the problems of adolescence and methods of treating them, and proposes new methods to address problems
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9. Teaching and Learning Strategies

Strategy	1) That the student remembers the information and laws given in the course. 2) That the student understands the course topics and the mathematical problems related to them 3) The student should be able to apply what he has learned to solve mathematical problems 4) That the student is able to analyze the text of the question and arrange the information to benefit from it in the solution and obtain correct results. 5) The student composes problems related to the course topics and then arrives at their correct solution. 6) The student should have ideas about the course material and know how to devise appropriate laws to solve it.
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10. Course Structure

Week	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
4 weeks	Enables the student to learn about Growth psychology	Developmental psychology and the factors affecting it	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
4 weeks	Enables the student to understand scientific research methods	Scientific research methods in developmental psychology	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
3 weeks	Understanding the stages of childhood	Childhood and its fields	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
3 weeks	Identify existing social institutions	Social institutions	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
4 weeks	Understanding adolescence	Adolescence	Lecture and discussions	Discuss daily exam, and attendance exams Monthly

3 weeks	Enables the student to understand the adolescent's relationship with society	Adolescent and society	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
2 weeks	Enables the student to understand the professions to which the teenager is inclined	Adolescent and career	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
4 weeks	Identifying the thinking and tendencies of teenage students	Adolescents' attitudes and tendencies		
3 weeks	Student understanding of adolescent problems	Some teenage problems		

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 any)	Developmental psychology book, human psychology book, introduction to psychology book, childhood and adolescence book, language psychology book, socialization book
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form **English**

1. Course Name:	English			
2. Course Code	Math220			
3. Semester / Year:	annual			
4. Description Preparation Date:	2025-2026			
5. Available Attendance Forms:	Lectures are delivered to students in person according to the schedule announced in the department			
6. Number of Credit Hours (Total) / Number of Units (Total)	60 hours, 2 hours per week * 30 weeks 2 units			
7. Course administrator's name (mention all, if more than one name)	Name: Inst Muhammed Amer Jassim Email:			
8. Course Objectives				
Course Objectives	•			
9. Teaching and Learning Strategies				
Strategy	- The course aims to teach and train students to learn educational vocabulary in the English language, conversation, listening, pronunciation of phonemes, and the rules of the English language. - Graduating a student who is able to use the basics of the English language in presenting mathematics topics			
10. Course Structure				
Week	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
3 weeks	Past and future tense and question formulation	Acquaintance	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
3 weeks	Present simple and continuous	The way we live	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
2 weeks	Past simple and continuous	Everything went wrong	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
2 weeks	Expressing quantities	Let's go shopping	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
2 weeks	Action patterns	what do you want to do	Lecture and discussions	Discuss daily exam, and attendance

				exams Monthly
2 weeks	Degrees of comparison	Tell me what you would like	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
2 weeks	present perfect	the fame	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
2 weeks	Introduction to auxiliary verbs	Do and don't		
2 weeks	Time conditions	Visit places		
2 weeks	Infinitive	Scared to death		
2 weeks	Passive voice	Things that changed the world		
2 weeks	Formulation of the if conditional	Dreams and reality		
2 weeks	Present perfect continuous	Make a living		
2 weeks	Past Perfect	Family relations		
2 weeks		Review		

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 any)	• New Headway Plus / Pre-Intermediate Student's Book • New Headway Plus / Pre-Intermediate Workbook With Key
Main references (sources)	• New Headway Plus / Pre-Intermediate Workbook With Key
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form **Educational administration and secondary education**

1. Course Name:	Educational administration and secondary education
2. Course Code	Math216
3. Semester / Year:	annual
4. Description Preparation Date:	2025-2026
5. Available Attendance Forms:	Lectures are delivered to students in person according to the schedule announced in the department

6. Number of Credit Hours (Total) / Number of Units (Total)		60 hours, 2 hours per week * 30 weeks 4 units		
7. Course administrator's name (mention all, if more than one name)		Name: Hadeer Abdul Hussien Email:		
8. Course Objectives				
Course Objectives		•		
9. Teaching and Learning Strategies				
Strategy		1- Preparing a future teacher capable of teaching and communicating with students in person and electronically 2- Preparing a teacher who has the ability to deal with classroom problems and find solutions to them 3- Emphasis on studying administrative concepts that are related to administrative and educational work. 4- Introducing the student to the importance of administration in the field of education.		
10. Course Structure				
Week	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
4 weeks	Management - its concept - its origins - its historical development	Management	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
8 weeks	Levels of administration in education	Levels of administration in education	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
3 weeks	Centralized and decentralized administration - their types	Centralized and decentralized administration	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
3 weeks	Administration - educational - educational - school	Administration - educational - educational - school	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
7 weeks	Classroom management - its concept and everything related to the subject	Classroom management - its concept	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
3 weeks	Functions, methods and patterns in management	Functions, methods and patterns in management	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
2 weeks	Explanatory chapter on	Explanatory chapter on	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
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 any)	University-prescribed vocabulary Book of Administration, Supervision, and Secondary Education - Alaa Hakim Al-Nasser 2312 Administration and Secondary Education Book - Sami Abdel Fattah Raouf (2323) School applications Online research and resources
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form **The crimes of the Baath regime in Iraq**

1. Course Name: Crimes of the Ba'ath Regime in Iraq 2. Course Code: Math 221 3. Study System: Annual 4. Date of This Description: 2025 - 2026 5. Available Attendance Formats: Lectures are delivered in person to students according to the schedule announced by the department. 6. Total Study Hours: 2 theoretical hours/week × 30 weeks = 60 hours 7. Total Units: 4 units/week × 30 weeks = 120 units 8. Course Instructor: Dr. Ikram Faris Ghanem
This course on the Crimes of the Ba'ath Regime covers the types of crimes committed within the state, distinguishes them from crimes against humanity, and introduces the laws of the International Criminal Court regarding crimes against humanity and the laws of the Supreme Iraqi Criminal Tribunal (2005). It also addresses the major crimes committed by the Ba'ath regime in Iraq.
9. Course Objectives - To define what a crime is and its different types. - To enable the learner to explain and clarify the crimes committed by the Ba'ath regime in Iraq. - To familiarize students with the international and local laws that criminalize the actions undertaken by the Ba'ath regime in Iraq. - To make the student aware of the scale of crimes committed by the Ba'ath regime by highlighting those crimes. - To familiarize the learner with the mass graves left by the defunct Ba'ath regime, identifying their locations and the timing of their creation.
1. Required Program Outcomes and Teaching, Learning, and Assessment Methods A. Learning Outcomes A1: Recognize the crimes committed by the Ba'ath regime that fall under international jurisdiction.

- **A2:** Introduce students to the most prominent violations of Iraqi laws.
- **A3:** Clarify the severity of crimes against the environment, such as burning orchards and draining the marshes.

B. Teaching and Learning Methods

- **B1:** Written lectures.
- **B2:** Question and answer during lectures.
- **B3:** Preparing reports.
- **B4:** Lecture delivery method.
- **B5:** Classroom discussion (group dialogue method, seminar style, discussion panel/workshop).

C. Assessment Methods

- Conducting quick quizzes and exams.
- Student feedback.
- Organizing in-class activities.
- Midterm written and oral exams.
- Question and answer and participation.

Teaching and Learning Methods

- Fostering academic research-oriented thinking.
- Dialogue and discussion strategy.
- Using the internet for learning and knowledge exchange.
- Preparing research papers.

Assessment Methods

- Observing facial expressions (for engagement/understanding).
- Student feedback.
- Oral examination.
- Written examination.
- Assigning students to prepare reports and research papers.
- Posing and discussing questions during lectures.

Teaching and Learning Strategies

- Interactive Lecture.
- Brainstorming.
- Dialogue and Discussion.
- Self-Learning.

D. General and Transferable Skills (Other skills related to employability and personal development).

- **D1:** Verbal Communication: The student's ability to express ideas clearly and confidently in speech.
- **D2:** Analysis and Verification.
- **D3:** Training in research and historical writing.
- **D4:** Dialogue and Discussion.

• 10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or Topic Name	Teaching Method	Assessment Method
1	2 hours	For the student to learn about Ba'ath crimes according to Iraqi Criminal Court law.	Ba'ath Crimes According to the Iraqi Criminal Court Law.	Lecture Delivery	Q&A
2	2 hours	To differentiate between the concept of crimes and their categories.	Concept of Crimes and Their Categories.	Lecture Delivery	Q&A
3	2 hours	To clarify terminology and language for the student.	Definition of Crime: Linguistically and Terminologically.	Lecture Delivery	Q&A
4	2 hours	To learn about categories of crimes.	Categories of Crimes.	Lecture Delivery	Q&A
5	2 hours	To learn about types of international crimes.	Types of International Crimes.	Lecture Delivery	Q&A

Week	Hours	Required Learning Outcomes	Unit or Topic Name	Teaching Method	Assessment Method
6	2 hours	To learn about rulings issued by the Criminal Court.	Rulings Issued by the Criminal Court.	Lecture Delivery	Q&A
7	2 hours	To learn about psychological and social crimes and key violations by the Ba'ath Party.	Psychological and Social Crimes and Key Violations by the Ba'ath Party.	Lecture Delivery	Q&A
8	2 hours	To learn about psychological crimes.	Psychological Crimes.	Lecture Delivery	Q&A
9	2 hours	To learn about the mechanisms of psychological crimes.	Mechanisms of Psychological Crimes.	Lecture Delivery	Q&A
10	2 hours	To learn about the effects of psychological crimes.	Effects of Psychological Crimes.	Lecture Delivery	Oral Exam

Week	Hours	Required Learning Outcomes	Unit or Topic Name	Teaching Method	Assessment Method
11	2 hours	To learn about social crimes.	Social Crimes.	Lecture Delivery	Q&A
12	2 hours	To clarify the concept of militarization of society.	Militarization of Society.	Lecture Delivery	Q&A
13	2 hours	To learn about the Ba'ath's stance on religion.	Ba'ath's Stance on Religion.	Lecture Delivery	Q&A
14	2 hours	To learn about violations of Iraqi laws.	Violations of Iraqi Laws.	Lecture Delivery	Q&A
15	2 hours	Monthly Exam.	Monthly Exam.	Monthly Exam	Monthly Exam
16	2 hours	To learn about some decisions regarding political violations.	Some Decisions Regarding Political Violations.	Lecture Delivery	Q&A
17	2 hours	To learn about locations of	Locations of Prisons and	Lecture Delivery	Q&A

Week	Hours	Required Learning Outcomes	Unit or Topic Name	Teaching Method	Assessment Method
		prisons and detention centers.	Detention Centers.		
18	2 hours	To learn about environmental crimes of the Ba'ath regime.	Environmental Crimes of the Ba'ath Regime.	Lecture Delivery	Q&A
19	2 hours	To learn about war pollution.	War Pollution.	Lecture Delivery	Q&A
20	2 hours	To learn about the destruction of cities and villages.	Destruction of Cities and Villages.	Lecture Delivery	Q&A
21	2 hours	To learn about the draining of the marshes.	Draining of the Marshes.	Lecture Delivery	Q&A
22	2 hours	To learn about the bulldozing of orchards.	Bulldozing of Orchards.	Lecture Delivery	Q&A
23	2 hours	To learn about mass graves.	Mass Graves.	Lecture Delivery	Q&A

Week	Hours	Required Learning Outcomes	Unit or Topic Name	Teaching Method	Assessment Method
24	2 hours	To learn about the events of extermination graves.	Events of Extermination Graves.	Lecture Delivery	Q&A
25	2 hours	To learn about the symbolic classification of extermination graves.	Symbolic Classification of Extermination Graves.	Lecture Delivery	Oral Exam
26	2 hours	To view documents on crimes of extermination.	Presentation of Documents on Crimes of Extermination.	Lecture Delivery	Presentation Only
27	2 hours	To view rulings of the Criminal Court.	Presentation of Criminal Court Rulings.	Video Presentation	Presentation Only
28	2 hours	To learn about charges against Saddam and his aides.	Charges Against Saddam and His Aides.	Video Presentation	Presentation Only
29	2 hours	Watching and presenting visual	Presentation of Visual	Video Presentation	Presentation Only

Week	Hours	Required Learning Outcomes	Unit or Topic Name	Teaching Method	Assessment Method
		documents of crimes.	Documents of Crimes.		
30	2 hours	Monthly Exam.	Monthly Exam.	Monthly Exam	Monthly Exam

- **11. Course Assessment**

Grades out of 100 are distributed based on student tasks such as daily preparation, daily quizzes, oral and monthly exams.

- **12. Teaching and Learning Resources**

Required Textbooks (if any prescribed)	Crimes of the Ba'ath Regime in Iraq
Primary References (Sources)	Archive of the Political Prisoners Foundation
Recommended Common Books and References	Scientific Journals, Reports
Electronic References, Internet Sites	[To be specified]

Course Description Form: **Teaching Thinking**

1. Course Name	Teaching Thinking
2. Course Code	Math217
3. Study System	Annual
4. Date of This Description	2025 - 2026
5. Available Attendance Formats	Lectures are delivered in person to students according to the schedule announced by the department.
6. Total Study Hours	1 theoretical hour/week $\times$ 30 weeks = 30 hours
7. Total Units	To be completed/Fulfilled
8. Course Instructor	Name: M.A. Shahad Abbas Ariabi Email: shahad.abbas@uomisan.edu.iq

9. Course Objectives

The course aims to introduce students to:

1. The historical development of thinking skills education, its concept, importance, methods, and skills.
2. Approaches to teaching thinking.
3. Factors for the success of the thinking process and its obstacles.
4. Patterns and types of thinking.
5. Programs for developing thinking and creativity.
6. Methods and strategies that contribute to the development of thinking.
7. Practical application of mind maps, brainstorming, problem-solving, and others in the thinking process.

10. Teaching and Learning Strategies

- Cooperative Learning Strategy
- Problem-Solving Strategy
- Brainstorming Strategy

11. Course Structure

Week	Hours	Required Learning Outcomes	Unit or Topic Name	Teaching Method	Assessment Method
1	1	For the student to learn about the historical development of teaching thinking.	The Historical Development of Teaching Thinking.	Presentation, Lecture, and	Student assessment through daily quizzes and

Week	Hours	Required Learning Outcomes	Unit or Topic Name	Teaching Method	Assessment Method
				Discussion.	written exams.
2	1	For the student to define thinking and its function.	Definition of Thinking and Its Function.	Presentation, Lecture, and Discussion.	Student assessment through daily quizzes and written exams.
3	1	For the student to learn about the characteristics of the thinking process and its types.	Characteristics of the Thinking Process and Its Types.	Presentation, Lecture, and Discussion.	Student assessment through daily quizzes and written exams.
4	1	For the student to learn about the importance of teaching thinking.	The Importance of Teaching Thinking.	Presentation, Lecture, and Discussion.	Student assessment through daily quizzes and written exams.
5	1	For the student to learn about approaches to teaching thinking.	Approaches to Teaching Thinking / Skills for Teaching Thinking.	Presentation, Lecture, and Discussion.	Student assessment through daily quizzes and written exams.
6	1	For the student to learn about thinking skills.	Thinking Skills.	Presentation, Lecture, and Discussion.	Student assessment through daily quizzes and written exams.

Week	Hours	Required Learning Outcomes	Unit or Topic Name	Teaching Method	Assessment Method
7	1	For the student to learn about thinking processes and factors for successful thinking education.	Thinking Processes / Factors for Successful Thinking Education.	Presentation, Lecture, and Discussion.	Student assessment through daily quizzes and written exams.
8	1	For the student to learn about obstacles to teaching thinking and methods/styles for developing thinking.	Obstacles to Teaching Thinking / Methods and Styles for Developing Thinking.	Presentation, Lecture, and Discussion.	Student assessment through daily quizzes and written exams.
9	1	For the student to learn about approaches and strategies for teaching thinking.	Approaches and Strategies for Teaching Thinking.	Presentation, Lecture, and Discussion.	Student assessment through daily quizzes and written exams.
10	1	For the student to learn about critical thinking.	Critical Thinking.	Presentation, Lecture, and Discussion.	Student assessment through daily quizzes and written exams.
11	1	For the student to learn about creative thinking.	Creative Thinking.	Presentation, Lecture, and Discussion.	Student assessment through daily quizzes and written exams.
12	1	For the student to define problem-solving.	Problem-Solving.	Presentation, Lecture, and	Student assessment through daily quizzes and

Week	Hours	Required Learning Outcomes	Unit or Topic Name	Teaching Method	Assessment Method
				Discussion.	written exams.
13	1	For the student to understand probing/inquisitive thinking.	Probing/Inquisitive Thinking.	Presentation, Lecture, and Discussion.	Student assessment through daily quizzes and written exams.
14	1	For the student to define metacognitive thinking.	Metacognitive Thinking.	Presentation, Lecture, and Discussion.	Student assessment through daily quizzes and written exams.
15	1		Monthly Exam		
16	1	For the student to define productive thinking.	Productive Thinking.	Presentation, Lecture, and Discussion.	Student assessment through daily quizzes and written exams.
17	1	For the student to learn about thinking skills programs.	Thinking Skills Programs.	Presentation, Lecture, and Discussion.	Student assessment through daily quizzes and written exams.
18	1	For the student to define the CoRT program.	The CoRT Program.	Presentation, Lecture, and Discussion.	Student assessment through daily quizzes and written exams.

Week	Hours	Required Learning Outcomes	Unit or Topic Name	Teaching Method	Assessment Method
19	1	For the student to define the Six Thinking Hats program.	The Six Thinking Hats Program.	Presentation, Lecture, and Discussion.	Student assessment through daily quizzes and written exams.
20	1	For the student to learn about the TRIZ program.	The TRIZ Program.	Presentation, Lecture, and Discussion.	Student assessment through daily quizzes and written exams.
21	1		Monthly Exam		
22	1	For the student to learn about ways and methods for developing thinking.	Ways and Methods for Developing Thinking.	Presentation, Lecture, and Discussion.	Student assessment through daily quizzes and written exams.
23	1	For the student to understand the style of thinking activities and thinking gardens.	The Style of Thinking Activities and Thinking Gardens.	Presentation, Lecture, and Discussion.	Student assessment through daily quizzes and written exams.
24	1	For the student to understand the thinking cycle style.	The Thinking Cycle Style.	Presentation, Lecture, and Discussion.	Student assessment through daily quizzes and written exams.

Week	Hours	Required Learning Outcomes	Unit or Topic Name	Teaching Method	Assessment Method
25	1	For the student to learn about practical applications.	Practical Applications.	Presentation, Lecture, and Discussion.	Student assessment through daily quizzes and written exams.
26	1	For the student to understand brainstorming.	Brainstorming.	Presentation, Lecture, and Discussion.	Student assessment through daily quizzes and written exams.
27	1	For the student to master practical application.	Practical Application.	Presentation, Lecture, and Discussion.	Student assessment through daily quizzes and written exams.
28	1	For the student to learn about forced relationships/bisociation.	Forced Relationships/Bisociation.	Presentation, Lecture, and Discussion.	Student assessment through daily quizzes and written exams.
29	1	For the student to master practical application.	Practical Application.	Presentation, Lecture, and Discussion.	Student assessment through daily quizzes and written exams.
30	1	For the student to learn about mind maps.	Mind Maps.	Presentation, Lecture, and	Student assessment through daily quizzes and

Week	Hours	Required Learning Outcomes	Unit or Topic Name	Teaching Method	Assessment Method
				Discussion.	written exams.

12. Course Assessment

Grades out of 100 are distributed based on student tasks such as daily preparation, daily quizzes, oral and monthly written exams, reports, etc.

13. Teaching and Learning Resources

Required Textbooks (if any prescribed)	
Primary References (Sources)	• Abu Jado, Saleh, and Nawfal, Muhammad Bakr. <i>Teaching Thinking: Theory and Practice</i>. Dar Al-Maseera, Amman, 2007. • Jarrwan, Fathi Abdel Rahman. <i>Teaching Thinking: Concepts and Applications</i>. 11th ed., Dar Al-Fikr, Beirut, 2020. • Abdul Aziz, Saad. <i>Teaching Thinking and Its Skills: Practical Exercises and Applications</i>. Dar Al-Thaqafa, Amman, 2007. • Zayer, Saad Ali, and Amin, Israa Fadhil. <i>Serious Creativity and Creative Writing - A Theoretical and Applied Perspective</i>. Dar Al-Manhajiya, Amman, 2019. • Zayer, Saad Ali, et al. <i>Thinking and Its Teaching Skills</i>. Dar Safa', Amman, 2023.
Recommended Supporting Books and References (Scientific journals, reports...)	Scientific articles in printed periodicals available in the Library of the College of Education / University of Maysan or published on the Internet.
Electronic References, Internet Sites	

Course Description Form: Arabic Language

1.	Course Name	Arabic Language
2.	Course Code	Math219
3.	Study System	Annual
4.	Date of This Description	2025 - 2026

5.	Available Attendance Formats	Lectures are delivered in person to students according to the schedule announced by the department.
6.	Total Study Hours	1 theoretical hour/week × 30 weeks = 30 hours
7.	Total Units	2 units/week × 30 weeks = 60 units
8.	Course Instructor	Batool Muneem Fadhil

9. Course Objectives

- To develop student awareness of the importance of the Arabic language.
- To introduce students to the concept of language and its impact on administrative and daily interactions.
- To introduce students to the stages of language development.
- To introduce students to the schools of Arabic poetry.
- To introduce students to grammar and spelling rules.
- To qualify specialists in the fields of the Arabic language by understanding the intellectual and cultural roots that contributed to the production of this language, which expresses our contemporary reality and openness towards others.

10. Required Course Outcomes and Teaching, Learning, and Assessment Methods

A. Cognitive Objectives:

- A1. Student knowledge and understanding of the Arabic language.
- A2. Student knowledge and understanding of literary schools and modern poetic schools.
- A3. Student knowledge and understanding of the sources of literature and language.
- A4. Student knowledge and understanding of the cultural waves that spread in the Arab world.
- A5. Student knowledge and understanding of modern critical approaches that have influenced artistic creativity.

B. Skill Objectives:

- B1. To develop students' skills in linguistic terminology.
- B2. To develop students' use of contemporary language, its evolution, and its keeping pace with the modern world.
- B3. To develop students' skills in analyzing literary texts.

Teaching and Learning Methods:

Interactive lectures between students and the professor, both in-person and electronically, by distributing the complete printed material divided into weekly lectures from the beginning of the academic year. Topics are discussed between students and the professor. Students are also assigned to prepare reports on language and literature, and are divided into groups for the purpose of preparing and presenting research.

Assessment Methods:

- Through daily attendance.
- Through discussions among students to gauge their understanding of the lecture material.
- Through daily and monthly oral and written exams.
- Consistent use of objective tests as they enhance student skills.

C. Affective and Value Objectives:

1. To enable the student to keep pace with cultural development in the modern era.

2. To overcome difficulties that hinder the student's understanding of Arabic by linking it to lived reality.
3. To foster a spirit of participation among students and broaden cultural horizons.
4. To strengthen bonds of affection between the professor and student so that the lesson material is psychologically acceptable to the student.
5. To encourage the student to read grammar and spelling rules.

Teaching and Learning Methods:

- a. Highlighting important sources on the topic of Arabic language, literature, and spelling.
- b. Intensifying theoretical lectures and discussing various linguistic models to reach a true understanding of the language and its essence.
- c. Adopting shared assignments among students to foster a spirit of cooperation.
- d. Emphasizing extracurricular activities that reflect the positive relationship between professor and student, which will positively reflect on the study material.
- e. Adopting cultural models that express the spirit of creativity and the era.

Assessment Methods:

- a. Daily and monthly written exams and homework assignments.
- b. Commitment to daily attendance and participation during lectures.
- c. Oral exams and student performance in classroom discussions.
- d. Consistent use of objective tests as they enhance student self-confidence.

D. General and Transferable Skills (Other skills related to employability and personal development):

1. To enable students to develop themselves in order to serve society after graduation.
2. To develop teaching skills to enable them to teach professionally.
3. To develop the student's culture and critical analysis skills to enable them to work after graduation.
4. To develop skills in deduction, analysis, and comparison of critical and cultural issues.
5. To instill a spirit of literary courage and break the barrier of fear and shyness when facing others.

Teaching and Learning Methods:

- a. Guiding students to rely on summaries of language, literature, and spelling and understand their divisions.
- b. Enabling students to deliver applied lectures in the subject to develop teaching skills and literary courage.
- c. Following the lecture method and reading to reinforce language evaluation and grammatical correction skills.
- d. Adopting the classroom report method based on the course topics to prepare them for the research stage in the future.
- e. Encouraging students to attend scientific forums such as conferences, seminars, and scientific discussions.
- f. Inviting experienced professors and specialists to learn from their experiences.

Assessment Methods:

- a. Daily and monthly written exams and homework assignments.
- b. Commitment to daily attendance and participation during lectures.
- c. Oral exams and student performance in classroom discussions.
- d. Consistent use of objective tests as they enhance student skills.
- e. Honoring outstanding students and those who participate in scientific forums.

11. Course Syllabus Content

Week	Hours	Required Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1	1	Various objectives: cognitive, skill-based, and affective.	Subject and Predicate (المبتدأ والخبر)	Lecture & Discussion	Oral Exam & Assignment
2	1	-	Types of Predicate (أنواع الخبر)	Lecture & Discussion	Oral Exam & Assignment
3	1	=	Preposing the Predicate over the Subject (تقديم الخبر على المبتدأ)	Lecture & Discussion	Oral Exam & Assignment
4	1	=	Exercises on Subject and Predicate	Lecture & Discussion	Oral Exam & Assignment
5	1	=	Kana and its Sisters (كان وأخواتها)	Lecture & Discussion	Oral Exam & Assignment
6	1	=	Exercises on Kana and its Sisters	Lecture & Discussion	Oral Exam & Assignment
7	1	=	Particles that function like Laysa (الحروف العاملة عمل ليس)	Lecture & Discussion	Oral Exam & Assignment
8	1	=	Exercises on Particles that function like Laysa	Lecture & Discussion	Oral Exam & Assignment
9	1	=	Verbs of Approximation (أفعال المقاربة)	Lecture & Discussion	Oral Exam & Assignment

Week	Hours	Required Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
10	1	=	Exercises on Verbs of Approximation	Lecture & Discussion	Oral Exam & Assignment
11	1	=	Inna and its Sisters (إن وأخواتها)	Lecture & Discussion	Oral Exam & Assignment
12	1	=	Cases where Inna is Mansoob (مواضع كسر إن)	Lecture & Discussion	Oral Exam & Assignment
13	1	=	Exercises on Inna and its Sisters	Lecture & Discussion	Oral Exam & Assignment
14	1	=	Life of the Poet Badr Shakir al-Sayyab	Lecture & Discussion	Oral Exam & Assignment
15	1	=	Poem: "Safar Ayyub" (Job's Journey)	Lecture & Discussion	Oral Exam & Assignment
16	1	=	Analysis of "Safar Ayyub"	Lecture & Discussion	Oral Exam & Assignment
17	1	=	Difference between Taa' (ت) and Haa' (هـ)	Lecture & Discussion	Oral Exam & Assignment
18	1	=	Exercises on Taa' and Haa'	Lecture & Discussion	Oral Exam & Assignment
19	1	=	Difference between Dhad (ض) and Zha (ظ)	Lecture & Discussion	Oral Exam & Assignment
20	1	=	Exercises on Dhad and Zha	Lecture & Discussion	Oral Exam & Assignment
21	1	=	Augmented Letters and their	Lecture & Discussion	Oral Exam & Assignment

Week	Hours	Required Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
			Omission (حروف الزيادة وحذفها)		
22	1	=	Omission of Hamza (حذف الهمزة)	Lecture & Discussion	Oral Exam & Assignment
23	1	=	Exercises on Omission of Hamza	Lecture & Discussion	Oral Exam & Assignment
24	1	=	Soft Alif (الألف اللينة)	Lecture & Discussion	Oral Exam & Assignment
25	1	=	Exercises on Soft Alif	Lecture & Discussion	Oral Exam & Assignment
26	1	=	Life of the Poet Salah Abdul Saboor	Lecture & Discussion	Oral Exam & Assignment
27	1	=	Poem: "Wa Ata Na'i Abi" (And My Father's Obituary Came) by Salah Abdul Saboor	Lecture & Discussion	Oral Exam & Assignment
28	1	=	Analysis of "Wa Ata Na'i Abi"	Lecture & Discussion	Oral Exam & Assignment
29	1	=	Agent Substitute (نائب الفاعل)	Lecture & Discussion	Oral Exam & Assignment
30	1	=	Exercises on Agent Substitute	Lecture & Discussion	Oral Exam & Assignment

12. Teaching and Learning Resources

- Required Textbooks:** *Arabic Language for Students of all Institutes and Colleges (Non-Specialists) According to the Prescribed Curriculum* by Dr. Kareem Allakam Al-Ka'bi.

- **Primary References (Sources):** *Arabic Language for Students of all Institutes and Colleges...* (as above). *Our Modern Poetry, Where To?* by Ghali Shukri; *Searching for Roots* by Khaled Saeed; *Narcissus Mirrors* by Hatem Al-Sakkar; *The Interactive Poem* by Dr. Mushtaq Abbas; *The Angel's Monastery* by Mohsen Atimish; *The Fixed and the Changing* by Adonis; *Free Verse in Iraq* by Fateh Allaq.
- **Recommended Books and References (Scientific Journals, Reports, etc.):** Arab and international journals such as the Iraqi Heritage Magazine, the Omani Nizwa Magazine, and Egyptian magazines like *Fusool*.
- **Electronic References, Internet Sites:** Video lectures on the course instructor's YouTube channel and text lectures on the Moodle platform linked to the channel, and sites specializing in Arabic language studies such as the website of Dr. Muhammad Saeed Al-Ghamdi.

Course Development Plan

1. Increase the number of theoretical hours and units for the course.
2. Open up to textual approaches for studying Arabic language, its literature, grammar, and spelling.
3. Lay foundations for the Arabic language in the second stage so that the student does not become disconnected from their language.

Course Description Form **Educational Leadership and Administration**

<u>1.</u>	Course Name	Educational Leadership and Administration
<u>2.</u>	Course Code	Math215
<u>3.</u>	Study System	Annual
<u>4.</u>	Date of This Description	2025 - 2026
<u>5.</u>	Available Attendance Formats	Lectures are delivered in person to students according to the schedule announced by the department.
<u>6.</u>	Total Study Hours	2 theoretical hours/week × 30 weeks = 60 hours
<u>7.</u>	Total Units	4 units/week × 30 weeks = 120 units
<u>8.</u>	Course Instructor	Name: M.A. Fadia Abboud Ramadan Email: fadi.abboud@uomisan.edu.iq

9. Course Objectives

1. To prepare a future teacher proficient in teaching and communicating with students, both in-person and electronically.

2. To prepare a teacher capable of dealing with classroom problems and finding solutions for them.
3. To emphasize the study of administrative concepts related to administrative and educational work.
4. To introduce the student to the importance of administration in the field of education.
5. To enable the student to manage the classroom correctly through modern teaching methods and techniques.
9. Learning Outcomes and Teaching, Learning, and Assessment Methods
A. Cognitive Objectives
1. To enable the student to gain an understanding of educational administration.
2. To enable the student to become a successful educational administrator.
3. To prepare and qualify them for work in educational institutions.
4. For the student to know the theories and trends in administration and supervision.
B. Course-Specific Skill Objectives
1. Teaching skill.
2. Administrative and educational work skill.
3. Educational supervision skill.
4. For the student to possess planning and preparation skills for activities.
Teaching and Learning Methods
1. Discussion and dialogue method.
2. Daily and monthly exams.
3. Theoretical lectures.
Assessment Methods Reports, Tests, Graduation Projects, Questions and Inquiries, etc. (electronically or in-person).
C. Affective Objectives
1. Discussion.
2. Dialogue method between student and professor.
3. Monthly reports.
4. Open-ended questions.
5. Helping students acquire the attitudes and values related to the ethics of administrative work.
Teaching and Learning Methods Grades, Tests, Reports, etc.
Assessment Methods Monthly, midterm, and final exams; Research.

D. General and Transferable Skills (Other skills related to employability and personal development)

1. The student should be able to employ the knowledge they have received.
2. The student should be able to benefit from the knowledge.
3. The student should acquire teaching and classroom management skills.

11. Course Syllabus Content

Week	Hours	Required Learning Outcomes	Unit / Course or Topic Name	Teaching Method	Assessment Method
1-2-3-4	8	For the student to understand what was presented in the lecture.	Administration: Concept, Origin, Historical Development.	Theoretical Lecture	Daily and Monthly Tests
5-6-7-8	8	For the student to understand what they learned in the lecture.	Levels of Administration in Education.	Theoretical Lecture	Daily and Monthly Tests
9-10-11-12	8	To learn the vocabulary for the specialization.	Centralization and Decentralization in Administration - Types.	Theoretical Lecture	Weekly Exams
13-14-15-16	8	To begin comprehending the specialization of educational administration.	Administration: Educational, Instructional, School-based.	Theoretical Lecture	Exams
17-18-19-20-21	8	Grasping the work of classroom management.	Classroom Management – Concept and Everything Related to the Topic.	Theoretical Lecture	Theoretical Applications and Experiments
22-23-24	8	Knowledge of the functions of	Functions, Methods, and	Theoretical Lecture	Tests

Week	Hours	Required Learning Outcomes	Unit / Course or Topic Name	Teaching Method	Assessment Method
		the educational administrator.	Styles in Administration.		
25-30	12	Introducing educational supervision and working in it.	A Detailed Clarifying Chapter on Educational Supervision.	Theoretical Lecture	Tests

Supplementary Sources

- The prescribed syllabus from the university.
- Book: *Administration, Supervision, and Secondary Education* – Alaa Hakim Al-Nasser (2013).
- Book: *Administration and Secondary Education* – Sami Abdul Fattah Raouf (2014).
- School Applications.
- Research and sources via the Internet.

Required Textbooks

Primary References (Sources)

Recommended Books and References (Scientific Journals, Reports, Articles)

Electronic References, Internet Sites

12. Course Development Plan

1. Propose adding the concept of environmental management and sustainable development and its impact on society.
2. Utilize modern sources from the information network (Internet) and update the course to align with blended learning.
3. Expand the explanation of administration - its concept, origin, historical development - and educational supervision in all its details through sources dedicated to the mentioned topics.

Description of the third-stage courses

Course Description Form Mathematical Analysis

1.	Course Name:	Mathematical analysis
2.	Course code	Math322
3.	Semester / Year:	annual
4.	Description Preparation Date:	2025-2026
5.	Available Attendance Forms:	Lectures are delivered to students in person according to the schedule announced in the department
6.	Number of Credit Hours - Number of Units (Total)	- 120 hours (4 hours per week (2 practical and 2 theoretical) * 30 weeks - 180 units (6 units per week) * 30 weeks
7.	Course administrator's name (mention all, if more than one name)	Name: Dr. Hadeel Ghazi Abd Ali Email: hadeel_ghazi@uomisan.edu.iq
8.	Course Objectives	

Course Objectives

- * An expanded and complementary study of the first stage regarding the foundations of mathematics.
- * Study and understand the metric space and everything related to it (sequences, infinite series, continuity, regular continuity and compact spaces).
- * Solve problems and prove theories related to metric space.
- * Study the derivative and learn about its properties and applications (Rolle's theorem, chain rule, maximum and minimum value, average value and their results).
- * Expanding students' awareness regarding the issue of the Riemann integral, the necessary and sufficient condition for the Riemann integral, the fundamental theorem in calculus, and its relationship to the concept of continuity, the derivative, and sequences.
- * Students' understanding of measurement theory, its properties, and special concepts.
- * Linking mathematical analysis with the concept of topology.

9. Teaching and Learning Strategies

Strategy	* In-person lectures in classrooms. * Discussion method, surprise exams, and methods of refining skills. * Asking intellectual questions or holding a competition between students, stimulating creative thinking and answering clearly and quickly to the problems presented.
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10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
2 Weeks	8 Hours	The student is able to understand the given material	Real Numbers	Lecture and Discussion	Quarterly and daily attendance exams
4 Weeks	16 Hours	The student is able to understand the given material	Metric Spaces	Lecture and Discussion	Quarterly and daily attendance exams
3 Weeks	12 Hours	The student is able to understand the given material	Sequences in Metric Spaces	Lecture and Discussion	Quarterly and daily attendance exams.
3 Weeks	12 Hours	The student is able to understand the given material	Infinite Real Series	Lecture and Discussion	Quarterly and daily attendance exams.

3 Weeks	12 Hours	The student is able to understand the given material	Continuity in Metric spaces	Lecture and Discussion	Quarterly and daily attendance exams
3 Weeks	12 Hours	The student is able to understand the given material	Derivative	Lecture and Discussion	Quarterly and daily attendance exams
4 Weeks	16 Hours	The student is able to understand the given material.	Riemann's integral	Lecture and Discussion	Quarterly and daily attendance exams
4 Weeks	16 Hours	The student is able to understand the given material	Measure Theory Lebesgue integral	Lecture and Discussion	Quarterly and daily attendance exams
11. Course Evaluation					
* Semi-daily and monthly tests and surprise exams. * Divide the class into several groups, give each group various exercises, and make the process of evaluating answers mutual between the students. * Close follow-up to solve chapter questions and pay attention to the process of writing simple reports about any valuable information or an outstanding mathematician.					
12. Learning and Teaching Resources					
Required textbooks (curricular books, if any)			قدمة في التحليل الرياضي /الأستاذ الدكتور عادل غسان نعيم ١٩٨١		
Main references (sources)			ة في التحليل الرياضي /الأستاذ الدكتور عادل غسان نعيم ١٩٨١		
Recommended books and references (scientific journals, reports...)			*Principles of Mathematical Analysis by Walter Rudin /1953 *Mathematical Analysis by Tom Apostol /1957		
Electronic References, Websites			https://ar.khanacademy.org أكاديمية خان		

Course Description Form **Probability and statistics**

1. Course Name:	Probability and statistics
2. Course code	Math323
3. Semester / Year:	annual
4. Description Preparation Date:	2025-2026
5. Available Attendance Forms:	Lectures are delivered to students in person according to the schedule announced in the department
6. Number of Credit Hours (Total) / Number of Units (Total)	- 120 hours (4 hours per week (2 practical and 2 theoretical) * 30 weeks - 180 units (6 units per week) * 30 weeks
7. Course administrator's name (mention all, if more than one name)	Name: Assis. prof.D Sarah Abdel Hussein Bandar Email: sara.ab@uomisan.edu.iq

8. Co					
9. Course Objectives					
Course Objectives	The course aims to provide the student with basic information on each of the following topics: ❖ Descriptive statistics: definitions, statistical symbols, random variables, population, sample data, plotting data, measures of central tendency (arithmetic mean, median, mode), measures of dispersion, correlation and regression. ❖ Introduction to probability: definitions, experiments, events, counting methods, permutations and combinations, theories of probability, laws of probability (the law of addition of probabilities, the law of conditional probability, the law of multiplying probabilities), independent events, conditional events, Bayes' theorem, examples, external questions. ❖ Random variables and probability distributions: definitions, continuous and discrete random variables, continuous and discrete probability distributions, examples theories, external questions ❖ Mathematical expectation and variance: Definitions, theories, examples, moments, function generating the moments, external questions				
10. Teaching and Learning Strategies					
Strategy	1- In-person lectures in the classroom 2- The method of discussion and dialogue between the student and the teacher 3- Daily and monthly attendance tests 4- Preparing the student scientifically and educationally according to solid scientific foundations 5- Education by making the student a teacher to enhance his self-confidence 6- Assigning the student to make reports on topics related to the curriculum vocabulary 7- Distributing students into a work team to solve assignments during the lecture in order to stimulate the spirit of ability and cooperation with each other				
11. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-5	20	The student learns what was presented in the lecture	Descriptive statistics	Presentation lecture and discussion	Attendance exams (daily and monthly)
6-10	20	The student learns what was presented in the lecture	Correlation and regression (least squares method, matrices, and Cramer's determinants method)	Presentation lecture and discussion	Attendance exams (daily and monthly)
11-15	20	The student learns what was presented in the lecture	Introduction to probability Random variables	Presentation lecture and discussion	Attendance exams (daily and monthly)
16-20	20	The student learns what was presented in the lecture	Probability distributions Discrete and continuous	Presentation lecture and discussion	Attendance exams (daily and monthly)
21-25	20	The student learns what was presented in the lecture	Mathematical expectation and variance	Presentation lecture and discussion	Attendance exams (daily and monthly)
26-30	20	The student learns what was presented in the lecture	Some special probability distributions	Presentation lecture and discussion	Attendance exams (daily and monthly)
12. Course Evaluation					
1- Semi-daily and monthly tests and surprise exams. 2- Divide the class into several groups, give each group various exercises, and make the process of evaluating answers mutual between the students.					

3- Close follow-up on solving chapter questions and paying attention to the process of writing simple reports on any valuable information or an outstanding mathematician.

13. Learning and Teaching Resources

Required textbooks (curricular books, if any)	1- Introduction to Statistics / Author: Dr. Humbled Mahmoud Al-Rawi 2- Probability Theory, written by: Dr. Walid Al-Nouri
Main references (sources)	1-Probability and Statistics By Morris H. De Groot 2-Introduction to Mathematical Statistics By Hogg and Craig
Recommended books and references (scientific journals, reports...)	1- Theories and problems in probability (Schaum's Abstracts Series) Written by Dr. Seymour Lipschitz Translated by Dr. Sameh Dawoud/Ain Shams University An 2- Introduction to probability theory and mathematical statistics ; by Rohtag
Electronic References, Websites	1) https://youtu.be/7mnbfzmtelI 2) https://www.alfreed-ph.com/2018/09/9-pdf.html 3) https://www.youtube.com/watch?v=Q0zDzxKfWFY https://www.youtube.com/watch?v=jDycslub4ZE https://www.youtube.com/watch?v=qs_79VE5-Hs

Course Description Form Ring Theory

1. Course Name:	Ring Theory
2. Course code	Math 324
3. Semester / Year:	annual
4. Description Preparation Date:	2025-2026
5. Available Attendance Forms:	Lectures are delivered to students in person according to the schedule announced in the department
6. Number of Credit Hours - Number of Units (Total)	- 120 hours (4 hours per week (2 practical and 2 theoretical) * 30 weeks - 180 units (6 units per week) * 30 weeks
7. Course administrator's name (mention all, if more than one name)	Name Dr. Hiba Rabeea Baanoon Email: hibabaanoon@uomisan.edu.iq
8. Course Objectives	

1-Theoretical Understanding:

- Understand basic definitions, such as: rings, fields, ideals, homomorphisms, and isomorphisms.
- Master the properties of arithmetic operations in rings.
- Identify different types of rings, such as: commutative rings, and integral domain.
- Study the properties of ideals.
- Understand the fundamental isomorphism theorem for rings.

2- Practical Skills:

- Solve problems related to ring operations.
- Prove properties of rings using principles of mathematical logic.
- Develop logical and analytical thinking skills.

3-Personal Skills:

- Enhance problem-solving and critical thinking skills.
- Improve communication and mathematical expression skills.
- Develop teamwork and collaboration skills.
- Increase self-confidence and self-learning ability.
- Stimulate innovation and creativity in solving mathematical problems.

4- Interdisciplinary Connections:

- Relate ring theory to other areas of mathematics, such as: linear algebra, and topology.
- Demonstrate the importance of ring theory in solving real-world problems.

5- Educational Objectives:

- Cultivate a love for mathematics and self-learning.
- Encourage students to think creatively.
- Prepare students for further study of advanced mathematics topics.
- Qualify students for work in research and teaching.

13. Teaching and Learning Strategies

1-Active Learning:

- **Project-based learning:** Assigning students research projects related to ring theory, such as: analyzing the properties of a specific ring, or proving a mathematical theorem.
- **Class discussions:** Encouraging students to participate in discussions about the concepts and principles of ring theory.
- **Inquiry:** Posing open-ended questions to students to stimulate their critical thinking and analysis of concepts.

2-Use of Technology:

- Distance learning: Providing access to distance learning through online educational platforms.

3-Connecting Theory to Practice:

- **Providing real-world examples:** Linking theoretical concepts to their applications in other fields such as: physics, engineering, and computer science.
- **Inviting guest speakers:** Inviting experts in the field of ring theory to give lectures and workshops for students.

4-Assessment of Learning:

- **Continuous assessment:** Using tools such as short quizzes, homework assignments, and participation in discussions to assess student progress.
- **Final assessment:** Using comprehensive exams to assess student learning of the entire year's content.

14. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
3 Weeks	12 Hours	Understanding Rings and Fields: Properties and Operations	Definition and Properties of Rings	Lecture and Discussion	Exams: Daily: Short quizzes to assess understanding of concepts. Monthly: Comprehensive exams to assess learning progress.
2 Weeks	8 Hours	Understanding Subrings of Rings: Definitions, Examples, and Properties.	Subrings	Lecture and Discussion	Exams: Daily: Short quizzes to assess understanding of concepts. Monthly: Comprehensive exams to assess learning progress.
5 Weeks	20 Hours	Understanding Ideals: Properties, Significance, and	Ideals and Quotient Rings	Lecture and Discussion	Exams: Daily: Short quizzes to assess

		Construction of Quotient Rings.			understanding of concepts. Monthly: Comprehensive exams to assess learning progress.
2 Weeks	8 Hours	Understanding the Meaning and Significance of ring homomorphism.	Rings homomorphisms	Lecture and Discussion	Exams: Daily: Short quizzes to assess understanding of concepts. Monthly: Comprehensive exams to assess learning progress.
6 Weeks	24 Hours	Studying Special Types of Ideals: Properties, Relations, and Examples	Special ideals	Lecture and Discussion	Exams: Daily: Short quizzes to assess understanding of concepts. Monthly: Comprehensive exams to assess learning progress.
2 Weeks	8 Hours	Understanding Polynomial Rings: Properties and Examples	Polynomials' rings	Lecture and Discussion	Exams: Daily: Short quizzes to assess understanding of concepts. Monthly: Comprehensive

					exams to assess learning progress.
2 Weeks	8 Hours	Understanding the Meaning of Modules with its Properties and Examples.	Modules Theory	Lecture and Discussion	Exams: Daily: Short quizzes to assess understanding of concepts. Monthly: Comprehensive exams to assess learning progress.
2 Weeks	8 Hours	Understanding the Meaning of Submodules with its Properties and Examples.	Modules Theory	Lecture and Discussion	Exams: Daily: Short quizzes to assess understanding of concepts. Monthly: Comprehensive exams to assess learning progress.
2 Weeks	8 Hours	Understanding the Meaning of modules homomorphisms with its Properties and Examples.	Modules Theory	Lecture and Discussion	Exams: Daily: Short quizzes to assess understanding of concepts. Monthly: Comprehensive exams to assess learning progress.

2 Weeks	8 Hours	Learning About Special Types of Modules with Examples	Modules Theory	Lecture and Discussion	Exams: Daily: Short quizzes to assess understanding of concepts. Monthly: Comprehensive exams to assess learning progress.
2 Weeks	8 Hours	Learning About Special Types of Submodules with Examples	Modules Theory	Lecture and Discussion	Exams: Daily: Short quizzes to assess understanding of concepts. Monthly: Comprehensive exams to assess learning progress.
15. Course Evaluation					
1- 50 Grade: • Reports: 10 points • Daily Quizzes and Preparation: 5 points • Monthly Exams: 35 points 2- Final Exam: 50 points					
16. Learning and Teaching Resources					
Required textbooks (curricular books, if any)			Abstract and linear Algebra, By David M. Burton, 1972		

Main references (sources)	Abstract and linear Algebra, By David M. Burton, 1972
Recommended books and references (scientific journals, reports...)	▪ Foundations of Module and Ring Theory, by Robert Wisbauer, 2018. ▪ Modules and Rings by F.kasch, 1982
Electronic References, Websites	https://ar.khanacademy.org Khan Academy

Course Description Form Numerical Analysis

1. Course Name:	Numerical Analysis
2. Course code	Math 325
3. Semester / Year:	annual
4. Description Preparation Date:	2025-2026
5. Available Attendance Forms:	Lectures are delivered to students in person according to the schedule announced in the department
6. Number of Credit Hours - Number of Units (Total)	- 120 hours (4 hours per week (2 practical and 2 theoretical) * 30 weeks - 180 units (6 units per week) * 30 weeks
7. Course administrator's name (mention all, if more than one name)	Name: Dr. Asma Jassim Harfash Email: assmaj1974@uomisan.edu.iq

8. Course Objectives

Course Objectives	• • Learn the basics of numerical analysis and error analysis • • Study methods for solving nonlinear equations in one variable and methods for solving a system of nonlinear equations as well as a system of linear equations. • • Study of interpolation • • Study of numerical calculus • • Study numerical solutions of ordinary differential equations • • Study methods for solving initial value problems
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9. Teaching and Learning Strategies

Strategy	1) That the student remembers the information and laws given in the course. 2) That the student understands the course topics and the mathematical problems related to them 3) The student should be able to apply what he has learned to solve mathematical problems 4) That the student is able to analyze the text of the question and arrange the information to benefit from it in the solution and obtain correct results. 5) The student composes problems related to the course topics and then arrives at their correct solution. 6) The student should have ideas about the course material and know how to devise appropriate laws to solve it.
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10. Course Structure

Week	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
4 weeks	That the student understands the importance of numerical analysis and realizes its methods for solving some non-linear practical problems for which analytical solutions may not be available or for which it is difficult to find analytical solutions.	Theoretical: analysis of errors / sources of errors / errors in mathematical operations. Types of practical errors: Program relative error and absolute error.	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
4 weeks	Studying the concepts of convergence, stability and types of continuity	Theoretical: The concept of convergence and the concept of stability	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
4 weeks	Study some types of numerical methods for solving	Theoretical: numerical solutions for nonlinear equations / determining the	Lecture and discussions	Discuss daily exam, and attendance exams Monthly

		locations of the roots / the method of bisection intervals / the secant method / the iterative method for the solid point / convergence of iterative methods / the Newton-Raphson method / finding the roots of polynomials / methods for solving a system of non-linear equations using the Newton-Raphson method and the solid point method / Bairstow's method / Study and analyze the types of errors related to these methods and discuss their convergence rates. Practical: Interval bisection method program, secant method program, Newton-Raphson method program, solid point iterative method program, program for solving a system of nonlinear equations.		
5 weeks	Nonlinear equations and systems.	Theoretical: Numerical solutions for linear systems (regular matrices - inverses - rank of the matrix) / Gauss elimination method / Gauss-Gordon method / partial anchoring / Cramer's method / Trigonometric analysis method. Indirect methods Practical: Cramer's method program to solve a system of linear equations, using a function found in MATLAB To calculate the best polynomial data fit coefficients.	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
4 weeks	Solving systems using direct methods	Inclusion and interpolation / finite differences / Newton's progressive and regressive method and central formulas / proportional differences method / Lagrange's formula / least squares method / horizontal curves methods	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
4 weeks	Learn the methods of inclusion Completion and some other methods	Numerical integration and differentiation / Newton's formulas for numerical differentiation / Trapezium rule for numerical integration / Simpson's rule / Three-eighths rule / Paul's rule / Wedel's rule / Romberg's method for improving results /Gauss Quadratic Numerical Integration Methods /Gauss Lender's Method	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
5 weeks	Some methods for solving differential equations	Differential equation solutions / Tyler series method / Explicit Euler method / Developed Euler method / Renca-Kutta method / Solving a system of differential equations		

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

- Numerical analysis and its numerical calculation methods, written by Dr. Muhammad Mansour Sobh and Dr.
- Saleh bin Muni` Al-Harbi. Al Rushd Library, Kingdom of Saudi Arabia 0116
- Numerical Techniques (Numerical Analysis), second edition, written by Yassin Ahmed
- Al-Shaboul, Arab Community Library for Publishing and Distribution - Amman, Jordan 0117.
- Numerical analysis and programming methods on the electronic calculator, written by: Dr. Abdul Muttalib Ibrahim Al-Sheikh Ahmed, Ministry of Higher Education, University of Technology
- .0111
- Numerical Analysis, 2nd Edition by L. Ridgway Scott, Princeton University Press UK 2015.
- Numerical Analysis, 1st Edition by Ian Jacques and Colin
- Judd by Chapman and Hall, 1987.
- Matlab 2018a application program

Main references (sources)

Applied Numerical Analysis by Gerald ‘C.F. and Wheatley ‘P.O; Addison Wesley publishing ‘Inc. ‘ .4891

Recommended books and references (scientific journals, reports...)

Electronic References, Websites

Course Description Form Partial differential equations

1. Course Name:	Partial differential equations				
2. Course code	Math 326				
3. Semester / Year:	annual				
4. Description Preparation Date:	2025-2026				
5. Available Attendance Forms:	Lectures are delivered to students in person according to the schedule announced in the department				
6. Number of Credit Hours (Total) / Number of Units (Total)	- 120 hours (4 hours per week (2 practical and 2 theoretical) * 30 weeks - 180 units (6 units per week) * 30 weeks				
7. Course administrator's name (mention all, if more than one name)	Name: Abdul-Karim Ali Hussein Email : abdul Kareem.ali@uomisan.edu.iq				
8. Course Objectives					
Course Objectives	* Learn the basic concepts of partial differential equations and methods for solving homogeneous and inhomogeneous partial differential equations. * Learn to solve some life problems, such as heat, wave, and other problems, which are expressed as partial differential equations. * Study and understand Laplace equations and Laplace transformations.				
9. Teaching and Learning Strategies					
Strategy	* In-person lectures in classrooms. * Discussion method, surprise exams, and methods of refining skills. * Asking intellectual questions or holding a competition between students, stimulating creative thinking, and answering clearly and quickly to the problems presented				
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-7	28 Hours	Learn how to solve homogeneous equations	Solving homogeneous differential equations	Lecture and Discussion	Quarterly and daily attendance exams
8-10 Weeks	12 Hours	Learn how to solve non-homogeneous equations	Solving non-homogeneous differential equations	Lecture and Discussion	Quarterly and daily attendance exams
11-15 Weeks	20 Hours	Learn how to solve Fourier series	The Fourier series	Lecture and Discussion	Quarterly and daily attendance exams
16-18 Weeks	12 Hours	Solve the heat equation	The heat conduction equation in one dimension	Lecture and Discussion	Quarterly and daily attendance exams
19-22 Weeks	16 Hours	Solve the wave equation	The wave equation in one dimension	Lecture and Discussion	Quarterly and daily attendance exams
23-27 Weeks	20 Hours	Solve the Laplace equation	Solve Laplace's equation in two dimensions	Lecture and Discussion	Quarterly and daily attendance exams
28-30 Weeks	12 Hours	Solve the wave and heat equation by iterative methods	Iterative methods for solving partial differential equations of the first and second order	Lecture and Discussion	Quarterly and daily attendance exams

11. Course Evaluation

- * Semi-daily and monthly tests and surprise exams.
- * Divide the class into several groups, give each group various exercises, and make the process of evaluating answers mutual between the students.
- * Close follow-up to solve chapter questions and pay attention to the process of writing simple reports about any valuable information or an outstanding mathematician.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	1- Methods for solving partial differential equations (Dr. Atallah Thamer Al-Ani) 2- Partial differential equations for scientific and engineering colleges (Dr. Atallah Thamer Al-Ani).
Main references (sources)	1- Partial Differential Equations W.A.Straus 2-Advanced differential equations
Recommended books and references (scientific journals, reports...)	Partial Differential Equations with fourier Series and Boundary value Problems (Nakhle H. Asmar)
Electronic References, Websites	https://www.bing.com/search?q=https%3A%2F%2Fwww.alfreed-ph.com&form=IPRV10#

Course Description Form Curricula and teaching methods

1. Course Name:	Curricula and teaching methods			
2. Course code	Math 328			
3. Semester / Year:	annual			
4. Description Preparation Date:	2025-2026			
5. Available Attendance Forms:	Lectures are delivered to students in person according to the schedule announced in the department			
6. Number of Credit Hours (Total) / Number of Units (Total)	*60 hours (2 hours per week (2 theoretical) *30 weeks *120 units (4 units per week) *30 weeks			
7. Course administrator's name (mention all, if more than one name)	Name: Ayat Muhammad Jabr Email: mr.ayat@uomisan.edu.iq			
8. Course Objectives				
Course Objectives	1– Types of curricula and the foundations of their construction. 2– The four components of the curriculum – educational objectives, scientific subject content, teaching methods and evaluation 3– The foundations of good teaching planning			
9. Teaching and Learning Strategies				
Strategy	1) That the student remembers the information and laws given in the course. 2) That the student understands the course topics and the mathematical problems related to them 3) The student should be able to apply what he has learned to solve mathematical problems 4) That the student is able to analyze the text of the question and arrange the information to benefit from it in the solution and obtain correct results. 5) The student composes problems related to the course topics and then arrives at their correct solution. 6) The student should have ideas about the course material and know how to devise appropriate laws to solve it.			
10. Course Structure				
Week	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
2 weeks	The student learns the concepts presented in the lecture	Basic concepts in the curriculum	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
2 weeks	The student learns the concepts presented in the lecture	Foundations of building the curriculum	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
2 weeks	The student learns the concepts presented in the lecture	Organizing the curriculum	Lecture and discussions	Discuss daily exam, and attendance

				exams Monthly
3 weeks	The student learns the concepts presented in the lecture	Types of curricula	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
2 weeks	The student learns the concepts presented in the lecture	Elements of the curriculum/curriculum as a five-year system	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
3 weeks	The student learns the concepts presented in the lecture	Educational objectives	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
2 weeks	The student learns the concepts presented in the lecture	Workshop	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
2 weeks	The student learns the concepts presented in the lecture	Teaching planning		
2 weeks	The student learns the concepts presented in the lecture	Content/Textbook		
2 weeks	The student learns the concepts presented in the lecture	Calendar		
2 weeks	The student learns the concepts presented in the lecture	Types of tests		
2 weeks	The student learns the concepts presented in the lecture	Teaching methods and teaching aids		
2 weeks	The student learns the concepts presented in the lecture	Educational means		

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 any)	كتب طرائق تدريس الرياضيات، تطوير في مجال الرياضيات المدرسية
Main references (sources)	اساليب تدريس الرياضيات المعاصرة، تأليف نائل جواد الناطور
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form Counseling and mental health

1. Course Name:	Counseling and mental health
2. Course code	Math 327
3. Semester / Year:	annual
4. Description Preparation Date:	2025-2026
5. Available Attendance Forms:	Lectures are delivered to students in person according to the schedule announced in the department
6. Number of Credit Hours (Total) / Number of Units (Total)	- 60 hours (2 hours per week (2 theoretical)) * 30 weeks - 120 units (4 units per week) * 30 weeks
7. Course administrator's name (mention all, if more than one name)	Name: Mohammed Mahdi Sekhi Email: mohammad_mehdi@uomisan.edu.iq

8. Course Objectives

Course Objectives	• The mathematics student learned about the importance of psychological counseling and mental health in daily life • How to employ this knowledge in facing daily life situations in the field of education, family and society. • It makes students of colleges of education feel the value and importance of counseling and mental health in their dealings with school students after graduation and exercising their specialties as teachers in primary, middle and middle schools.
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9. Teaching and Learning Strategies

Strategy	1) That the student remembers the information and laws given in the course. 2) That the student understands the course topics and the mathematical problems related to them 3) The student should be able to apply what he has learned to solve mathematical problems 4) That the student is able to analyze the text of the question and arrange the information to benefit from it in the solution and obtain correct results. 5) The student composes problems related to the course topics and then arrives at their correct solution. 6) The student should have ideas about the course material and know how to devise appropriate laws to solve it.
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10. Course Structure

Week	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
4 weeks	Acquiring knowledge in the field of psychological counselling, and converting this knowledge into behavior that contributes to guiding oneself and others	- A general lecture on counseling and mental health as a course of study - Guidance, psychological counselling, counseling psychology, the meaning of educational counselling. The origins and development of psychological counselling. - Development of the concepts of guidance and counselling	Lecture and discussions	Discuss daily exam, and attendance exams Monthly

4 weeks	Acquiring knowledge in the field of psychological counselling, and converting this knowledge into behavior that contributes to guiding oneself and others	Justifications for psychological counselling, goals of psychological counselling. The relationship between counseling and other sciences. The relationship between counseling and other sciences. Fundamentals of guidance and counselling: Foundations General, philosophical foundations.	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
4 weeks	Acquiring knowledge in the field of psychological counselling, and converting this knowledge into behavior that contributes to guiding oneself and others	Fundamentals of guidance and counselling: Foundations Psychological, social and neurological. Fields of psychological counselling. Methods of psychological counselling. Guidance and guidance theories: Psychoanalytic theory. Behavioral theory.	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
3 weeks	Acquiring knowledge in the field of psychological counselling, and converting this knowledge into behavior that contributes to guiding oneself and others	Guidance and guidance theories: Self-theory. Existential theory. Information needed for the psychological counseling process: Importance of information, problems in collecting information, types of information Means of collecting information: Cumulative record case study anecdotal record - Second semester exam	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
3 weeks	Acquiring knowledge in the field of psychological counselling, and converting this knowledge into behavior that contributes to guiding oneself and others	Means of collecting information: the biography Corresponding observational tests and measures Counseling and guidance in school: Objectives of counseling and guidance in school	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
4 weeks	Acquiring knowledge in the field of psychological counselling, and converting this knowledge into behavior that contributes to guiding oneself and others	The mentor teacher: his functions and preparation. The educational counselor, his functions and preparation. The need for counseling programs in school. The meaning of mental health, negative definitions, positive definitions.	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
8 weeks	Acquiring knowledge in the field of psychological counselling, and converting this knowledge into behavior that contributes to guiding oneself and others	Manifestations of mental health, basic concepts related to mental health, the relationship of mental health to other sciences. Characteristics of a normal personality, a normal person and an abnormal person.	Lecture and discussions	Discuss daily exam, and attendance exams Monthly

		- Mental health standards. Manifestations of normal and abnormal behavior, personality integration. Psychological crises, the meaning of psychological crises, proper ways to solve psychological crises. Defensive tricks, frustration, psychological disorders. Psychological defense mechanisms. Compatibility, the meaning of compatibility, adaptation, differences between compatibility and adaptation. Types of compatibility, characteristics of a compatible person - Second semester exam		
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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 any)	1- علم نفس الشخصية (١٩٩١) (حنا عزيز داود، وناظم هاشم العبيدي - جامعة بغداد 2- الإرشاد النفسي والتوجيه التربوي (١٩٩١) (مصطفى محمود الإمام، و أنور حسين عبدالرحمن - جامعة بغداد. 3- أصول علم النفس (١٩٨٢) (أحمد عزت ارجح، الإسكندرية.
Main references (sources)	تم إعتداد مصادر حديثة بحثت موضوعي الإرشاد النفسي والصحة النفسية إلى جوار المصادر الأساسية المبينة في أعلاه، لغرض إعداد المادة المقررة على وفق مفردات اللجنة القطاعية المعتمدة في وزارة التعليم العالي والبحث العلمي، ومن هذه المصادر: 1. التوجيه والإرشاد النفسي (٢٠١٥) (حامد عبد السلام زهارن، القاهرة - عالم الكتب 2. مبادئ التوجيه والإرشاد النفسي (٢٠١١) (سامي محمد ملحم، عمان - دار المسيرة 3. مبادئ الإرشاد النفسي للمرشدين والأخصائيين (٢٠١٨) (محمد أحمد خدام مشاقبة، عمان 4. المرجع في الصحة النفسية (٢٠١٩) (أديب محمد الخالدي، بغداد - مكتب أبيابيل. 5. الصحة النفسية (٢٠١٩) (سامر جميل رضوان، عمان - دار المسيرة.
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Description of the **Fourth-stage** **courses**

Course Description Form General Topology

1. Course Name:	General Topology
2. Course Code	Math430
3. Semester / Year:	annual
4. Description Preparation Date:	2024-2025
5. Available Attendance Forms:	Lectures are delivered to students in person according to the schedule announced in the department
6. Number of Credit Hours (Total) / Number of Units (Total)	120 hours (4 hours per week (2 practical, 2 theoretical) * 30 weeks - 180 units (6 units per week) * 30 weeks
7. Course administrator's name (mention all, if more than one name)	Name: Dr. Hadeel Ghazi Abd Ali Email: hadeel_ghazi@uomisan.edu.iq
8. Course Objectives	

Course Objectives

- * Study and understand topological spaces and everything related to them (open and closed sets, neighbors, and bases) and how to solve their examples.
- * Identify the types of derived sets (inner, outer, boundary, limit and closure points), their properties, and how to find them.
- * Expanding students' understandings regarding the continuity in topological space and its equivalent definitions and linking them to their definition in other branches of mathematics.
- * Definition of homeomorphism mappings in topological spaces.
- * Study of compact space and definition of the cover (open, closed, finite and countable) and its properties.
- * Introducing students to Lindeloff space and its relationship to compact space and its properties.
- * Introducing students to the basic definitions of the axioms of separation and hereditary property, topological property.
- * Understanding connected and disconnected spaces, their equivalent definitions, and types of connected (local and communicative)

9. Teaching and Learning Strategies

Strategy	* In-person lectures in classrooms. * Discussion method, surprise exams, and methods of refining skills. * Asking intellectual questions or holding a competition between students, stimulating creative thinking and answering clearly and quickly to the problems presented.
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10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
4 Weeks	16 Hours	The student is able to understand the given material	Topological Space	Lecture and Discussion	Quarterly and daily attendance exams
3 Weeks	12 Hours	The student is able to understand the given material	Derived sets	Lecture and Discussion	Quarterly and daily attendance exams

3 Weeks	12 Hours	The student is able to understand the given material	Continuity between topological spaces	Lecture and Discussion	Quarterly and daily attendance exams.
3 Weeks	12 Hours	The student is able to understand the given material	Derived topological spaces	Lecture and Discussion	Quarterly and daily attendance exams.
3 Weeks	12 Hours	The student is able to understand the given material	Compact spaces	Lecture and Discussion	Quarterly and daily attendance exams.
5 Weeks	20 Hours	The student is able to understand the given material	Separation axioms	Lecture and Discussion	Quarterly and daily attendance exams.
4 Weeks	16 Hours	The student is able to understand the given material	Connected spaces	Lecture and Discussion	Quarterly and daily attendance exams

11. Course Evaluation

- * Semi-daily and monthly tests and surprise exams.
- * Divide the class into several groups, give each group various exercises, and make the process of evaluating answers mutual between the students.
- * Close follow-up to solve chapter questions and pay attention to the process of writing simple reports about any valuable information or an outstanding mathematician.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Topology by James R. Munkres/1999
Main references (sources)	Topology by James R. Munkres/1999
Recommended books and references (scientific journals, reports...)	* التوبولوجيا العامة / د. عريبي الزوبعي General topology by N. Bourbaki, /1996.
Electronic References, Websites	https://ar.khanacademy.org أكاديمية خان

Course Description Form Complex Numbers

1. Course Name:	Complex Numbers
2. Course Code	Math 431
3. Semester / Year:	annual
4. Description Preparation Date:	2025-2026
5. Available Attendance Forms:	Lectures are delivered to students in person according to the schedule announced in the department
6. Number of Credit Hours (Total) / Number of Units (Total)	120 hours (4 hours per week (2 practical, 2 theoretical) * 30 weeks - 180 units (6 units per week) * 30 weeks

7. Course administrator's name (mention all, if more than one name)	Name: lecture : Ahmed Kareem Mutashar Email: ahmed86km@uomisan.edu.iq
8. Course Objectives	
Course Objectives	1. Acquiring mathematical knowledge of the prescribed subjects and understanding the sufficient meanings behind each mathematical concept. • Developing understanding of applying the nodal analysis subject as an integrated system of basic concepts that will provide a basis for understanding numerical systems. • Applying the steps to solve a mathematical problem by analyzing the problem and developing and implementing a solution plan. • Comparing complex functions with real functions to apply what the student learned in the mathematical analysis subject in the previous stage 2. Mastering Problem-Solving Skills: • Analyzing complex problems and identifying their influencing factors. • Utilizing appropriate methods and techniques to solve problems. • Evaluating results and determining optimal solutions. 3. Developing Communication and Expression Skills: • Explaining mathematical concepts clearly and accurately. • Using appropriate mathematical terminology when communicating with others. 4. Developing Teamwork Skills: • Collaborating with classmates to solve problems and complete projects. • Exchanging ideas and information effectively. • Respecting others' opinions and cooperating to achieve common goals. 5. Raising Awareness of the Importance of Differential Equations in Various Fields: • Understanding the role of differential equations in various scientific, technological, and engineering fields. • Applying differential equations to solve real-world problems in different fields. • Appreciating the achievements of mathematicians and their contributions to human civilization. 6. Cultivating a Love for Learning and Exploration: • Arousing students' curiosity and love for learning. • Encouraging them to explore and innovate. • Developing a sense of accomplishment and satisfaction in themselves.
9. Teaching and Learning Strategies	

Strategy	1-Active Learning: • Project-Based Learning :Assigning students research projects related to complex numbers, such as: Solving specific exercises, researching problems that can be solved using special functions. • Classroom Discussions: Encouraging students to participate in discussions about the concepts of: Complex numbers, Elementary functions, Residues and poles • Inquiry: Posing open-ended questions to students to stimulate their critical thinking and analysis of concepts.
	2-Use of Technology: • Distance learning: Providing access to distance learning through online educational platforms.
	3-Connecting Theory to Practice: • Providing real-world examples: Linking theoretical concepts to their applications in other fields such as: physics, engineering, and computer science.
	4-Assessment of Learning: • Continuous assessment: Using tools such as short quizzes, homework assignments, and participation in discussions to assess student progress. • Final assessment: Using comprehensive exams to assess student learning of the entire year's content.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
4 Week	16 Hours	The student is able to understand the material	Complex numbers	Lecture and Discussion	Exams: Daily: Short quizzes to assess understanding of concepts. Monthly: Comprehensive exams to assess learning progress.
4 Week	16 Hours	The student is able to understand the material	Analytic functions	Lecture and Discussion	Exams: Daily: Short quizzes to assess understanding of concepts. Monthly: Comprehensive exams to assess learning progress.
4 Week	16 Hours	The student is able to understand the material	Elementary functions	Lecture and Discussion	Exams: Daily: Short quizzes to assess understanding of concepts. Monthly: Comprehensive exams to assess learning progress.
4 Week	16 Hours	The student is able to understand the material	Sequences , series ,power series	Lecture and Discussion	Exams: Daily: Short quizzes to assess understanding of concepts. Monthly: Comprehensive exams to assess learning progress.
4 Week	16 Hours	The student is able to understand the material	Residues and poles	Lecture and Discussion	Exams: Daily: Short quizzes to assess understanding of concepts. Monthly: Comprehensive exams to assess learning progress.

11. Course Evaluation	
1-50 Grade: Reports: 10 points Daily Quizzes and Preparation: 5 points Monthly Exams: 35 points 2-Final Exam: 50 points	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	1-Complex variables and applications by Ruel V.Churchill الكتاب المساعد : مقدمة في التحليل العقدي، د. ابتسام كمال الدين و د.عطا الله ثامر.
Main references (sources)	Lectures prepared by me.
Recommended books and references (scientific journals, reports...)	مبادئ التحليل المركب الدكتور محمود كتكت سلسلة شوم للتحليل المركب
Electronic References, Websites	https://ar.khanacademy.org Khan Academy

Course Description Form **Mathematical Statistics**

1. Course Name:	Mathematical Statistics
2. Course Code	Math 432
3. Semester / Year:	annual
4. Description Preparation Date:	2025-2026
5. Available Attendance Forms:	Lectures are delivered to students in person according to the schedule announced in the department
6. Number of Credit Hours (Total) / Number of Units (Total)	120 hours (4 hours per week (2 practical, 2 theoretical) * 30 weeks - 180 units (6 units per week) * 30 weeks
7. Course administrator's name (mention all, if more than one name)	Name: Assis. prof.D Sarah Abdel Hussein Bandar Email: sara.ab@uomisan.edu.iq
8. Course Objectives	
Course Objectives	Providing the student with basic information in the field of mathematical and applied statistics by knowing the types of random variables and probability distributions of their discrete and continuous types, as well as methods for using integrals in finding common and marginal functions, and then knowing the basic functions such as the functions generating the moments and the discriminant functions, as well as knowing how to find a good estimator through the most commonly used methods. The ease and use of point or period estimation methods,

	as well as knowledge of the characteristics of a good estimator. Finally, the student acquires how to test statistical hypotheses and the extent of the correlation between variables by integrating them with the health, social, educational reality and other fields.
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9. Teaching and Learning Strategies

Strategy	1- In-person lectures in the classroom 2- The method of discussion and dialogue between the student and the teacher 3- Daily and monthly attendance tests 4- Preparing the student scientifically and educationally according to solid scientific foundations 5- Education by making the student a teacher to enhance his self-confidence
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17. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-5	20	The student learns what was presented in the lecture	Introduction to probability and discrete distributions	Presentation lecture and discussion	Attendance exams (daily and monthly)
6-11	24	The student learns what was presented in the lecture	Continuous distributions	Presentation lecture and discussion	Attendance exams (daily and monthly)
12-14	12	The student learns what was presented in the lecture	Moments and the functions generating them / finding the M.G.F for both continuous and discrete distributions	Presentation lecture and discussion	Attendance exams (daily and monthly)
15-18	16	The student learns what was presented in the lecture	Point estimation methods	Presentation lecture and discussion	Attendance exams (daily and monthly)
19-23	20	The student learns what was presented in the lecture	Properties of a good estimator	Presentation lecture and discussion	Attendance exams (daily and monthly)
24-26	12	The student learns what was presented in the lecture	The exponential family	Presentation lecture and discussion	Attendance exams (daily and monthly)
27-30	16	The student learns what was presented in the lecture	Statistical hypothesis tests	Presentation lecture and discussion	Attendance exams (daily and monthly)

10. Course Evaluation

- 1- Semi-daily and monthly tests and surprise exams.
- 2- Divide the class into several groups, give each group various exercises, and make the process of evaluating answers mutual between the students.
- 3- Close follow-up on solving chapter questions and paying attention to the process of writing simple reports on any valuable information or an outstanding mathematician.

11. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Introduction to mathematical statistics, by Hogg and Craig.
Main references (sources)	1- مقدمة في نظرية الإحصاء / المؤلف د. عبد الله توفيق الهلباوي 2- الاستدلال الإحصائي/ المؤلف د. جلال مصطفى الصياد 3- الإحصاء الرياضي / المؤلف د. أمير حنا هرمز 4- Probability and Statistics, by Morris, H. Degroot
Recommended books and references (scientific journals, reports...)	1- مقدمة في نظرية الإحصاء / المؤلف د. عبد الله توفيق الهلباوي 2- SOME BASIC THEORY FOR STATISTICAL INFERENCE
Electronic References, Websites	4) https://youtu.be/7mnbzfzmtelI 5) https://www.alfreed-ph.com/2018/09/9-pdf.html

	6) https://www.youtube.com/watch?v=Q0zDzxKfWFY
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Course Description Form Applied Mathematics

1. Course Name:	Applied Mathematics
2. Course Code	Math433
3. Semester / Year:	annual
4. Description Preparation Date:	2025-2026
5. Available Attendance Forms:	Lectures are delivered to students in person according to the schedule announced in the department
6. Number of Credit Hours (Total) / Number of Units (Total)	- 120 hours (4 hours per week (2 practical, 2 theoretical) * 30 weeks - 180 units (6 units per week) * 30 weeks
7. Course administrator's name (mention all, if more than one name)	Name Dr. Hiba Rabeea Baanoon Email: hibabaanoon@uomisan.edu.iq
8. Course Objectives	
Strategy	1 Course Objectives 1. Understand the basic concepts of differential equations: • Define power series, special functions and their types, Fourier series and their transformation. • Solve definite integrals using the gamma or beta function. • Understand the properties of power series, Fourier series, gamma function, beta function, Bessel function, and Legendre function. 2. Master problem-solving skills: • Analyze complex problems and identify the factors affecting them. • Use appropriate methods and techniques to solve problems. • Evaluate results and determine optimal solutions. 3. Develop communication and expression skills: • Explain mathematical concepts clearly and accurately. • Use appropriate mathematical terminology when communicating with others. 4. Develop teamwork skills: • Work with classmates to solve problems and complete projects. • Exchange ideas and information effectively. • Respect the opinions of others and cooperate to achieve common goals. 5. Develop awareness of the importance of differential equations in various fields: • Understand the role of differential equations in various fields of science, technology, and engineering. • Use differential equations to solve practical problems in various fields.

	• Appreciate the achievements of mathematicians and their contributions to human civilization. 6. Develop a love of learning and exploration: • Stimulate students' curiosity and love of learning. • Encourage them to explore and innovate. • Develop a sense of accomplishment and self-satisfaction.
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9. Course Structure

Week	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1 week	Student learning directional spaces	ector spaces - Subspaces - Addition (and direct addition) of subspaces - Linear composition - Independent and dependent sets - Basis - Linear transformations	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
1 week	Student learning normed spaces	egular and irregular singular points, and infinity	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
1 week	Student learning directional spaces	solution near the normal point	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
2 weeks	Student learning directional spaces	Solution near a regular singular point	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
1 week	Student learning directional spaces	Solution near infinity	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
2 weeks	Student learning directional spaces	Gamma function	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
2 weeks	Student learning directional spaces	Beta function	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
2 weeks	Student learning directional spaces	Bessel function and Bessel recurrence relations	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
1 week	Student learning directional spaces	Integral formulas for Bessel functions	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
1 week	Student learning directional spaces	Legendre function and Legendre polynomials	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
1 week	Student learning directional spaces	Generating function of Legendre polynomials and	Lecture and discussions	Discuss daily exam, and attendance

		orthogonality of Legendre polynomials		exams Monthly
1 week	Student learning directional spaces	Fourier series	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
10. 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				
11. Learning and Teaching Resources				
Required textbooks (curricular books, if any)		Applied Mathematics Methods, Basil Yaqoub Yousef, University of Basra, 1989.		
Main references (sources)		Applied Mathematics Methods, Basil Yaqoub Yousef, University of Basra, 1989.		
Recommended books and references (scientific journals, reports...)		Advanced engineering mathematics, by E. Kreyszig ٢٠١١ .		
Electronic References, Websites		https://ar.khanacademy.org		

Course Description Form **Functional Analysis**

1. Course Name:	Functional Analysis
2. Course Code	Math434
3. Semester / Year:	annual
4. Description Preparation Date:	2025-2026
5. Available Attendance Forms:	Lectures are delivered to students in person according to the schedule announced in the department
6. Number of Credit Hours (Total) / Number of Units (Total)	- 120 hours (4 hours per week (2 practical, 2 theoretical) * 30 weeks - 180 units (6 units per week) * 30 weeks
7. Course administrator's name (mention all, if more than one name)	Name: Asst. Prof. Dr. Mustafa Ali Hussein Email: mustafa.ali@uomisan.edu.iq
8. Course Objectives	
Course Objectives	9.
10. Teaching and Learning Strategies	
Strategy	1. Review vector spaces and related concepts and their application to subsequent topics. 2. A detailed study of norm spaces and their relationship to metric spaces, product of norm spaces, continuity of functions in norm spaces, the concept of a restricted set and a restricted function in norm spaces. 3. Generalization of topological concepts to metric spaces and their study. 4. Study of Banach spaces (complete norm spaces).

	5. Study of inner product spaces (examples and basic properties) and their application in the study of Hilbert spaces. 6. Obtain norm spaces from known inner product spaces and demonstrate that not every norm space can be derived from an inner product space using the Cauchy-Schwartz inequality proof. 7. Study of orthogonal vectors and sets (and mono-orthogonal).
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11. Course Structure

Week	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
4 weeks	Student learning directional spaces	ector spaces - Subspaces - Addition (and direct addition) of subspaces - Linear composition - Independent and dependent sets - Basis - Linear transformations	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
8 weeks	Student learning normed spaces	Norm spaces (various examples that satisfy and examples that do not satisfy) Minkowski, Jordan-Holder, Cauchy-Guerz inequalities and applications thereof Relationship between norm spaces and metric spaces	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
3 weeks	Student learning directional spaces	Multiplication of standard spaces and their properties	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
3 weeks	Student learning directional spaces	neralization of topological concepts to standard spaces such as the open-closed sphere, the open-closed set, and the closure of a set, with examples, theorems, and applications. Applications to convex sets in standard spaces, convergent sequences, divergent sequences, and bounded sequences with their basic properties and some applications to them.	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
7 weeks	Student learning directional spaces	Continuity, continuous and restricted functions with their characteristics, properties of continuous functions when the functions are linear transformations, with applications of the relationship between continuous and restricted functions when the functions are linear transformations on standard spaces	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
3 weeks	Student learning directional spaces	anach spaces: examples that satisfy and examples that do not satisfy, with some theorems, and a study of the condition for a division space to be of Banach type	Lecture and discussions	Discuss daily exam, and attendance exams Monthly
2 weeks	Student learning directional spaces	Orthogonal Sets and Monotopic Sets in Inner Productive Spaces - Complementary Sets: Definitions, Examples, and Properties of Bessel's Theorem	Lecture and discussions	Discuss daily exam, and attendance exams Monthly

12. 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	
13. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form Research Project

1. Course Name:	Research Project
2. Course Code	Math435
3. Semester / Year:	annual
4. Description Preparation Date:	2025-2026
5. Available Attendance Forms:	Lectures are delivered to students in person according to the schedule announced in the department
6. Number of Credit Hours (Total) / Number of Units (Total)	60 hours (2 practical hours per week) * 30 weeks 60 units (2 units per week) * 30 weeks
7. Course administrator's name (mention all, if more than one name)	
8. Course Objectives: To prepare fourth-year students to be competent teachers in the specialty subject (mathematics) through: 1. Reviewing all aspects of the curriculum (objectives, content, and teaching methods). 2. Introducing the basics of teaching. 3. Introducing them to the personal and professional characteristics of a successful teacher. 4. Introducing them to the ethics of the teaching profession. 5. Training them through workshops on the skills of analyzing mathematical knowledge and evaluating content. 6. Training them through workshops on the use of teaching skills. 7. Training them to prepare a daily plan for mathematics lessons. 8. Training them to prepare and deliver a video lecture using various teaching strategies. 9. Individual application	

Course Description Form Measurement and Evaluation

1. Course Name:	Measurement and Evaluation
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2. Course Code	Math436
3. Semester / Year:	annual
4. Description Preparation Date:	2025-2026
5. Available Attendance Forms:	Lectures are delivered to students in person according to the schedule announced in the department
6. Number of Credit Hours (Total) / Number of Units (Total)	- 60 hours (2 hours per week (2 theoretical)) * 30 weeks - 120 units (4 units per week) * 30 weeks
7. Course administrator's name (mention all, if more than one name)	Name: Ayat Muhammad Jabr Email: mr.ayat@uomisan.edu.iq

8. Course Objectives

- To introduce mathematics students to the fundamental concepts and terminology in measurement and evaluation and their role in the educational process.
- To introduce the student-teacher to educational competencies and how to define cognitive, affective, and psychomotor objectives, formulate test questions and standardized tests, interpret their results, and utilize them as feedback.
- To train them, through flipped learning, in the skill of analyzing mathematical knowledge and evaluating content.
- To train them, through flipped learning, in using teaching skills.
- To distinguish between different types of evaluation and their relationship to measurement and testing.
- To clarify the teacher's role in the evaluation process in achievement tests and their different types (essay/objective/performance), explaining methods for their construction and diagnosing key strengths and weaknesses through application, while outlining the most important methods for addressing and improving their use.
- To introduce students to the most important steps for formulating test items according to specific guidelines, determining the key criteria for their selection through building a specification table that balances behavioral objectives and study content to achieve the required validity of a good test, culminating in various pilot studies leading to the approved main experiment.
- To introduce students to the most important characteristics of a good test regarding validity, its types, and how to apply it, as well as the second

characteristic, reliability, its various types, and how to conduct, apply, and achieve it through statistical methods.

2. Course Outcomes, Teaching and Learning Methods, and Assessment

A. Cognitive Objectives

1. The student recalls the information and rules given in the course curriculum.
2. The student understands the course topics and related problems.
3. The student is able to apply what they have learned to solve mathematical problems.
4. The student can analyze a question's text, organize information to utilize in the solution, and obtain correct results.
5. The student can synthesize problems related to course topics and then reach correct solutions.
6. The student can formulate ideas about the course material and know how to derive appropriate rules to solve it.

B. Course-Specific Skill Objectives:

1. The student proves concepts related to the course.
2. The student uses appropriate rules for solving each problem.
3. The student excels at linking topics that can be connected within the course curriculum.
4. Linking measurement and evaluation concepts to our daily lives through the types of achievement tests and methods for their construction and application, especially in our educational institutions.
5. The student distinguishes between the use of different statistical methods for calculating achievement test items.

3. Teaching and Learning Methods

- Lecture method.
- Use of brainstorming.
- Free and guided discovery method.
- Discussion and dialogue method.

- Video lectures via the instructor's dedicated YouTube channel.

4. Assessment Methods

1. Daily and monthly in-class quizzes.
2. Assigning students with graded academic tasks.
3. Assigning students to prepare reports on mathematics topics.
4. Assigning students analysis homework and identifying the types of objectives used in future teaching and in the student's (teacher's) professional life.

5. General Objectives

1. The student shows interest in the explanation of the subject matter provided by the instructor via the videos uploaded on YouTube.
2. The student acquires sufficient conviction about the importance of the subject they are receiving.
3. The student can organize the data they have to benefit from the Measurement course in other scientific subjects.
4. The student can organize the data they have to benefit from the Measurement course in their practical life during their work in the field of education or any other field.
5. Developing a productive inclination in the student towards mathematics and its teaching methods.

6. Teaching and Learning Methods

1. Using methods appropriate to the topic.
2. Teaching using modern electronic means.
3. Using active learning.
4. Using flipped learning to strengthen the student-teacher independently.
5. Using blended learning.
6. Learning by having the student act as a teacher to boost their self-confidence.
7. Learning through brainstorming among students.

7. Assessment Methods

• Discussion and dialogue method between the student and the instructor.
• Observation method.
• Exams.
• Cooperative group assessment among students.
• Measuring different abilities.

Targeted Skills:

1. Employing acquired information in the life domain.
2. Personal development through linking traditional education with electronic education.
3. Building the character of a competent mathematics teacher capable of transferring their expertise to future students.
4. Preparing the student scientifically and educationally according to solid scientific foundations.
5. Developing flexibility in the student's skills for solving problems and classroom situations.

15. Course Syllabus Content

Week	Hours	Required Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
2+1	4 = 2*2	Introduce students to the concepts of measurement and evaluation in the educational process.	1. Objectives of Measurement & Evaluation / Concept / Meaning / Test / Types of Measurement & Types of Evaluation. 2. Characteristics / Nature of Psychological or Educational Measurement	Lecture & Discussion	Activities, Discussions, and Daily Exams.

Week	Hours	Required Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
			& the Relationship between Measurement, Evaluation, and Testing. 3. Evaluation Tools; Types of Evaluation According to Timing: a) Preparatory b) Formative c) Diagnostic d) Summative.		
5+4+3	2 = 3*2	Tests and Educational Objectives.	1. Test Classification According to Score Interpretation: a) Norm-Referenced Tests b) Criterion-Referenced Tests 2. Questions for Self-Assessment. 3. Determining General Aims and Behavioral Objectives.	Lecture & Discussion	Activities, Discussions, and Daily Exams.
6+7+8	2 = 3*2	Enables the student to analyze content.	Content Analysis.	Lecture & Discussion	Activities, Discussions, and Daily Exams.

Week	Hours	Required Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
13+14	4 = 2*2	Enables the student to construct a specifications table.	Constructing a Specifications Table and its Importance in the Educational Process through Designing a Test Blueprint Including Two Axes: Study Content and Behavioral Patterns According to Bloom's Levels in the Cognitive Domain.	Lecture & Discussion	Activities, Discussions, and Daily Exams.
15	2	Enables the student to prepare tests.	Determining and Preparing Test Items Based on the Specifications Table / Arranging Test Items / Preparing Test Instructions.	Lecture & Discussion	Activities, Discussions, and Daily Exams.
16+17+18	2 = 3*2	The student understands types of tests.	1. Oral Tests: Meaning & Concept / Identifying Strengths & Weaknesses & Methods for Improvement. 2. Essay Tests: Meaning & Concept / Types (Free &	Lecture & Discussion	Activities, Discussions, and Daily Exams.

Week	Hours	Required Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
			Restricted) / Identifying Strengths & Weaknesses / Methods for Preparing or Formulating Items & Suggestions for Improving Tests. 3. Objective Tests: Meaning & Concept / Determining Advantages & Disadvantages & Methods for Formulating Items / Methods for Scoring Tests & Their Types. 4. a) True/False Tests: Meaning & Concept / Advantages & Disadvantages & Preparing/Formulating Items. b) Completion Tests: Meaning & Concept & Determining Advantages & Disadvantages & Preparing/Formulating Items.		

Week	Hours	Required Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
19+20+21+22	8 = 2*4	Discussing Reports.	Applying Flipped Learning by Discussing Students' Reports on the Subject Matter.	Lecture & Discussion	Activities, Discussions, and Daily Exams.
23+24+25+26	2 = 4*2	Characteristics of a Good Test.	- Introducing Students to the Statistical Analysis of Achievement Test Items and Extracting Their Psychometric Properties: Difficulty / Discrimination Index / Effectiveness of Distractors. - Detecting Guessing in Answers.	Lecture & Discussion	Activities, Discussions, and Daily Exams.
27+28+29+30	2 = 3*2	Enables the student to extract psychometric characteristics of tests.	- Defining Achievement Tests: Meaning & Concept. - Introducing Students to the Characteristics of a Good Test: a) Validity, its Types, and Methods of Calculation Using Formulas and Statistical Means.	Lecture & Discussion	Activities, Discussions, and Daily Exams.

Week	Hours	Required Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
			b) Reliability, its Types, and Various Methods of Calculation Using Specific Statistical Means. c) Objectivity and its Meaning. d) Comprehensiveness.		
31+32	4 = 2*2	The student understands non-test tools.	a) Observation: Meaning & Concept / Types of Observation & Tools. b) Observation: Advantages & Disadvantages. c) The Interview: Meaning & Concept / Types of Interviews & Advantages & Disadvantages.	Lecture & Discussion	Activities, Discussions, and Daily Exams.
33	2	The student understands the content of the school record.	The School Record (Report Card): Contents of the Record.	Lecture & Discussion	Activities, Discussions, and Daily Exams.

Week	Hours	Required Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
34+35	4 = 2*2	Interpreting Results.	Uses of Measurement in the Evaluation Process.	Lecture & Discussion	Activities, Discussions, and Daily Exams.

Supplementary Sources

Lectures prepared by: Dr. Hayam Mahdi Jawad

1. Required Textbooks:

• Core Texts:

- Odeh, Ahmad Sulaiman (2003): *Measurement and Evaluation in the Teaching Process*, Irbid, Dar Al-Amal.
- Al-Imam, Mustafa et al. (2004): *Evaluation and Measurement*, Baghdad, Dar Al-Hikma Printing.
- Al-Nabhān, Mūsá (2005): *Fundamentals of Measurement in Behavioral Sciences*, Amman, Dar Al-Shuruq.

2. Primary References (Sources):

- All sources related to the topic in libraries and electronic libraries, depending on circumstances.

A. Recommended Readings (Scientific Journals, Reports, etc.):

- *Measurement and Evaluation in Psychology*: <https://www.noor-book.com>
- *Educational and Psychological Measurement and Evaluation* (Salahuddin Mahmoud Allam) (Product Code: bskn9870): <https://ketabpedia.com>
- *Educational Measurement and Evaluation* (Mohammed Al-Amin Mustafa Al-Khatib): <https://arabpsychology.com/kb/>

B. Electronic References:

Course Description Form **Viewing and Application**

1. Course Name:	Viewing and Application
2. Course Code	Math437
3. Semester / Year:	annual
4. Description Preparation Date:	2025-2026
5. Available Attendance Forms:	Lectures are delivered to students in person according to the schedule announced in the department
6. Number of Credit Hours (Total) / Number of Units (Total)	90 hours (3 hours per week (2 practical and 1 theoretical)) * 30 weeks - 120 units (4 units per week) * 30 weeks
7. Course administrator's name (mention all, if more than one name)	Name: Taghreed Abdel Karim Email: taghreedabdulkareem2017@gmail.com
1. Course Objectives: To prepare fourth-year students to be competent teachers in the specialty subject (mathematics) through: 1. Reviewing all aspects of the curriculum (objectives, content, and teaching methods). 2. Introducing the basics of teaching. 3. Introducing them to the personal and professional characteristics of a successful teacher. 4. Introducing them to the ethics of the teaching profession. 5. Training them through workshops on the skills of analyzing mathematical knowledge and evaluating content. 6. Training them through workshops on the use of teaching skills. 7. Training them to prepare a daily plan for mathematics lessons. 8. Training them to prepare and deliver a video lecture using various teaching strategies. 9. Individual application	