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

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: ...**Mosul**.....

Faculty/Institute: ..**College of Education for Pure Sciences**.....

Scientific Department: .. **Mathematic**...**Department**.....

Academic or Professional Program Name: ...**Bachelor**.....

Final Certificate Name: ... **Bachelor of Mathematic**.....

Academic System: ...Annual.....

Description Preparation Date: 1/9/2024

File Completion Date: 1/9/2024

جامعة الموصل
كلية التربية للعلوم الصرفة
رئيس قسم الرياضيات

التوقيع :
اسم المعاون العلمي: أ.د. ياسر يحيى قاسم
معاون العميد للشؤون العلمية
التاريخ : ٢٠٢٥/٤/١٦

Signature:

Head of Department Name:

Asst. Prof. Dr. Ali A. Alabdali

Date: 1/9/2024

Signature:

Scientific Associate Name:

Date: 16/4/2025

The file is checked by: **Prof . Dr. Yassir Shakeeb Mohamed**

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

6/4/2025

Date: 6/4/2025

Approval of the Dean

وزارة التعليم العالي والبحث العلمي
جامعة الموصل
كلية التربية للعلوم الصرفة

1. Program Vision

1- The department seeks to provide an appropriate scientific environment and develop the level of education at the undergraduate and postgraduate levels.

2- 2- Achieving the pioneering role of the department by contributing to scientific progress and keeping up to date with all new.

2. Program Mission

The department's mission is to graduate high-level educational cadres capable of working in the country institutions and be supportive of the development of society.

3. Program Objectives

1- Preparation of graduates who are scientifically and educationally qualified to work in the field of teaching and providing students with appropriate experiences related to teaching methods.
2- Paying attention to higher studies and carrying out scientific research in order to support the university to engage in the global ranking.
3- Providing scientific expertise in the field of mathematics to all institutions and the private sector.

4. Program Accreditation

Does the program have program accreditation? And from which agency? No

5. Other external influences

Is there a sponsor for the program? Ministry of Higher Education / University of Mosul

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	8	20	10.75	Basic
College Requirements	11	40	21.5	Basic

Department Requirements	**24**	**128**	**68.8**	**Basic**
Summer Training	**1**	**4**	**2.15**	**Application in Schools**
Other				

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

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
First	EDMA25F101	Calculus	3	2
First	EDMA25F102	Foundation of Mathematics	2	2
First	EDMA25F103	Linear Algebra	2	2
First	EDMA25F104	Physics	2	--
First	EDMA25F105	Computers	1	--
First	EDMA25F106	Educational and Growth Psychology	2	--
First	EDMA25F107	Principles Education	2	--
First	EDMA25F108	Human Right	1	--
First	EDMA25F109	Arabic Language	1	--
First	EDMA25F110	English Language	1	--
Second	EDMA25F201	Advanced Calculus	3	2
Second	EDMA25F202	Ordinary Differential Equations	2	2
Second	EDMA25F203	Group Algebra	3	--
Second	EDMA25F204	Axioms and Geometry	3	--
Second	EDMA25F205	Programming	1	0
Second	EDMA25F206	Research Approach	2	--
Second	EDMA25F207	Growth Psychology	2	--
Second	EDMA25F208	Administration and Secondary Education	2	--
Second	EDMA25F209	English Language	1	--
Second	EDMA25F210	Crimes of Baath Regime	1	--
Third	EDMA25F301	Real Analysis	2	2
Third	EDMA25F302	Partial Differential Equations	2	2
Third	EDMA25F303	Ring Algebra	2	2
Third	EDMA25F304	Probability and Statistics	2	2
Third	EDMA25F305	Numerical Analysis	2	2
Third	EDMA25F306	Mythology and Teaching Methods	2	--
Third	EDMA25F307	Psychological Heath and Guidance	2	--
Fourth	EDMA25F401	Topology	2	2
Fourth	EDMA25F402	Mathematical Statistics	2	2
Fourth	EDMA25F403	Selective (1)	2	2
Fourth	EDMA25F404	Selective (2)	2	2

Fourth	EDMA25F405	Complex Analysis	2	2
Fourth	EDMA25F406	Graduated Project	--	2
Fourth	EDMA25F407	School Practice	1	2
Fourth	EDMA25F408	Measurement and Evaluations	2	--

8. Expected learning outcomes of the program

Knowledge	
Recruiting teachers	Scientific, professional and technical recruiting with a high standard of cultural and proficiency
Recruiting Scientific researchers	Achieving the basic principles of scientific research and teaching
Reinforcement of Scientific co-operation	Via training courses, workshops and symposia
Post-graduate studies opportunities	Through accomplishing scientific material and scientific teaching methods
Skills	
Teaching skills	Acquiring basic skills of teaching fields of Mathematic
Scientific research skills	Developing scientific research in Mathematic and teaching methods fields
Sustainable development skills	Preservation of state resources from depletion in all fields
Practical skills	Developing student skills in the laboratory
Ethics	
Developing ethics and useful attitudes	In accordance with religion and habits and costumes
Developing attitudes towards teaching job	To face current challenges and developing overall education system
Establishing the principles of teaching	To limit toe abuse of their responsibilities in scientific and education fields
Disclosing the importance of science in human life	The great role of Mathematic in people life.

9. Teaching and Learning Strategies

Theoretical and practical lecture, conversation and discussion, problem solving, performing practical experiment, project and application in school

10. Evaluation methods

Quizzes, practical semester exam, mid and final exam in first and second turn, preparing reports and homework.

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements /Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Professor	Mathematic	Algebra Functional Analysis Differential Equations Algebraic Geometry Teaching Math. Applied Mathematics			5	
Assistant professor	Mathematic	Applied Mathematics Numerical Optimization Differential Equations Math.Teaching Methods Statistics andProbability Algebra Numerical Analysis Optimization			15	

		Applied Mathematics Topology				
Lecturer	Mathematic	Applied Mathematics Topology Algebra Numerical Analysis Algebra and Graph Th. Statistics and Probability Topology Function Analysis Statistics Applied Statistics Differential Equation Spatial Statistics			13	
Assistant lecturer	Mathematic	Applied Mathematics Intelligent technologies Differential Equation Pure Mathematics Mathematics			6	

Professional Development
Mentoring new faculty members
Using recent scientific references , teaching films , training ciurses and workshops
Professional development of faculty members
Proving new references for the library , participating in specialized training courses

12.	**Acceptance Criterion**
Central admission through the ministry of higher education	

13.	**The most important sources of information about the program**
Central admission guide, electronic site of the department and internet	

14.	Program Development Plan
Updating the content of the program according to new references	

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A 1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
First	EDMA25F101	Calculus	major	*	*	*									
	EDMA25F102	Foundation of Mathematics	major	*	*	*									
	EDMA25F103	Linear Algebra	major	*	*	*									
	EDMA25F104	Physics	major					*			*				
	EDMA25F105	Computers	major					*							
	EDMA25F106	Educational and Growth Psychology	major		*						*				
	EDMA25F107	Principles Education	major		*						*				
	EDMA25F108	Human Right	major		*			*			*				
	EDMA25F109	Arabic Language	major												
	EDMA25F110	English Language	Major												
Second	EDMA25F201	Advanced Calculus	Major	*	*	*	*								
	EDMA25F202	Ordinary Differential Equations	Major	*	*	*									

	EDMA25F203	Group Algebra	Major	*	*	*										
	EDMA25F204	Axioms and Geometry	Major	*	*	*			*							
	EDMA25F205	Programming	Major				*									
	EDMA25F206	Research Approach	Major		*			*		*	*					
	EDMA25F207	Growth Psychology	Major		*			*								
	EDMA25F208	Administration and Secondary Education	Major		*				*							
	EDMA25F209	English Language	major													
	EDMA25F210	Crimes of Baath Regime	major													
	EDMA25F301	Real Analysis	major	*	*											
	EDMA25F302	Partial Differential Equations	major	*	*	*										
	EDMA25F303	Ring Algebra	major	*				*								
	EDMA25F304	Probability and Statistics	major	*	*											
	EDMA25F305	Numerical Analysis	major	*		*		*								
	EDMA25F306	Mythology and Teaching Methods	major	*	*			*								
	EDMA25F307	Psychological Heath and Guidance	major	*			*									

Fourth	EDMA25F401	Topology	major	*												
	EDMA25F402	Mathematical Statistics	major	*		*										
	EDMA25F403	Selective (1)	major	*		*										
	EDMA25F404	Selective (2)	major	*		*										
	EDMA25F405	Complex Analysis	major	*		*										
	EDMA25F406	Graduated Project	major	*												
	EDMA25F407	School Practice	major													
	EDMA25F408	Measurement and Evaluations	major													

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

Course Description Form

University of Mosul College of Education for Pure Sciences Department of Mathematics

1. Course Name and Stage: Calculus (1st Class)
2. Course Code: EDMA25F101
3. Semester / Year: 2024-2025
4. Description Preparation Date: 1/9/2024

5. Available Attendance Forms: Laboratory , Classroom

6. Number of Credit Hours (Total) / Number of Units (Total)

5/10

7. Course administrator's name (mention all, if more than one name)

Name: Assistant Prof. Dr. Amal Jasim Mohammed
Name: Assistant Prof. Aseel Muayad Qassim
Email: a.j.moha7@uomosul.edu.iq
Email: aseel.albaza@uomosul.edu.iq

8. Course Objectives

Course Objectives	The course aims to identify the following concepts: • Defining the function and the types of functions: drawing, finding the domain and range for each type. • Limit and Continuity. • Derivative laws. And its theorems. • Applications of the derivative, slope, and tangent equation. • Integration and Integration methods and solutions

9. Teaching and Learning Strategies

Strategy	Practical and theoretical lecture , talk and discussions, problem solving , performing practical experiments , reports and homework

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
First	5	Functions, Domain and Range, Drawing	Introduction to the course, defining the set of numbers and establishing the international symbols used during this course. Different examples	Lecture	Discussion
Second	5	Functions, Domain and	Examples	Lecture	Quiz

		Range, Drawing			
Third	5	Domain and Range, Drawing	Fractional functions, Examples	Lecture	Quiz
Fourth	5	Domain and Range, Drawing	Examples	Problem solving	Quiz, report, homework
Fifth	5	Domain and Range, Drawing	Sign, Heaviside, Greatest integer, Polynomial: Linear Quadratic Quartic, Functions	Lecture	Report, homework
Sixth	5	Domain and Range, Drawing	Trigonometric and invers trigonometric Functions	Lecture, Problem solving	Quiz
Seventh	5	Domain and Range, Drawing	Logarithm and exponential Functions with examples	Lecture, Problem solving	Quiz
Eighth	5	Domain and Range, Drawing	Greatest integer Add, subtract multiply and combined Functions with examples	Lecture, Experiment	Quiz, report, homework
Nineth	5	Domain and Range, Drawing	Solve assignments and exam questions. Additional examples include focused questions about students' weaknesses	Problem solving	Homework
Tenth	5	Derivations	Derivation using Definition, Examples	Problem solving	Quiz
Eleventh	5	Derivations	Examples	Problem solvi	Quiz
Twelfth	5	Derivations	Law of derivations Theorem and applications	Lecture, Problem solving	Quiz, report, homework
Thirteen	5	Limits and Continuity	Definitions of limit and methods to find it	Lecture	Quiz
Fourteenth	5	Limits and Continuity	Definitions of Continuity and methods to find	Lecture, Problem solving	Quiz
Fifteenth	5	Limits and Continuity	Examples	Problem solving	Quiz
Sixteenth	5	Infinite Integral	Constant, power functions Examples	Lecture	Quiz, report, homework
Seventeenth	5	Infinite Integral	Fractional functions, Examples	Lecture	Homework
Eighteenth	5	Infinite	Linear,	Problem	Quiz

		Integral	Quadratic , Quartic, Functions , examples	solving	
Nineteenth	5	Infinite Integral	Logarithms and exponential functions, examples	Lecture	Quiz
Twentieth	5	Infinite Integral	Examples	Problem solving	Quiz, report, homework
Twenty first	5	Infinite Integral	Examples	Lecture	Homework
Twenty second	5	Finite Integral	Solve assignments and exam questions. Additional examples include focused questions about students' weaknesses	Problem solving	Quiz
Twenty third	5	Finite Integral, Area	Trigonometric functions Examples	Lecture	Quiz
Twenty fourth	5	Infinite Integral	Examples	Problem solving	Quiz, report, homework
Twenty fifth	5	Infinite Integra	Inverse Trigonometric functions Examples	lecture	Homework
Twenty sixth	5	Infinite Integral	Examples	Problem solving	Quiz
Twenty seventh	5	Infinite Integral	Integration by parts, substitutions Examples	Lecture	Quiz
Twenty eighth	5	Infinite Integral	Examples	Lecture	Quiz, report, homework
Twenty nineth	5	Infinite Integral	Integrating Rational Functions by Partial Fraction	Lecture	Homework
Thirtieth	5	Integral and Derivate of Hypothesis functions	Examples	Lecture, Problem solv	Quiz

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 boo if any)	• حسبان التفاضل والتكامل مع الهندسة التحليلية: ج1.تاليف اي .جي. برسل ، 1983. • النادر في التفاضل والتكامل: نادر ابو مغلي، محمد موسى، ناجي ابراهيم. 2002-2001 الكتاب
Main references (sources)	• Thomas, George Brinton, et al. *Thomas' calculus*. Reading: Addison-Wesley, 2003. • Anton, Bivens, Davis. *Calculus.* Seventh Edition, New York, 2002.
Recommended books and references (scientific journals,	Hintikka, Jaakko. *The principles of mathematics revisited*. Cambridge University Press, 1998.

reports...)	
Electronic References, Websites	**https://ocw.mit.edu/resources/res-18-001-calculus-online-textbook-spring-2005/textbook/** **https://www.freebookcentre.net/maths-books-download/Calculus-Lecture-Notes.html** **https://www.freebookcentre.net/maths-books-download/Advanced-Calculus-Lecture-Notes-for-Mathematics.html** **https://ocw.mit.edu/courses/mathematics/18-01-single-variable-calculus-fall-2006/lecture-notes/** **https://www.math.upenn.edu/~rimmer/math103/notes.html**
Percentage of Curriculum Update	

Assistant Prof. Dr. Amal Jasim Mohammed

Name and Signature of Curriculum Administer

Assist. Prof. Dr. Ali A. Alabdali

Name and Signature of Department Head

https://uomosul.edu.iq/en/education/academic-program-description-apd/

Course Description Form

University of Mosul College of Education for Pure Sciences Department of Mathematics

1. Course Name and Stage: Mathematical Foundations(1st Class)
2. Course Code: **EDFA25F102**

Semester / Year: 2024−2025

3. Description Preparation Date: 1/ 9 /2024

4. Available Attendance Forms: Classroom and E- Classroom

5. Number of Credit Hours (Total) / Number of Units (Total): 120 hours / 6units

6. Course administrator's name (mention all, if more than one name)

Name: Ruqayah nafea Balo
Email:ruqayah.nafee@uomosul.edu.iq
Name: Shaymaa M.Younus
shaymaa.mohammed@uomosul.edu.iq

7. Course Objectives

Course Objectives	• **This course, Foundations of Mathematics, will te students the fundamentals of mathematics.**

8. Teaching and Learning Strategies

Strategy	Practical and theoretical lecture , talk and discussions, problem solving , performing practical experiments , reports and homework

9. Course Structure

Week	Hours	Unit or subject name	Learning method	Evaluation method
first	4	Logic + Statement + Logical Tools	Lecture	quizzes and discussions
Second	4	Open Statement + Existential Quantifier + Universal Quantifier	Lecture	Quizzes
Third	4	Nested Quantifier + Mathematical Proof	Lecture	Quizzes
Fourth	4	The Sets + Notion of Sets +	Lecture	quizzes and homework's

		Equal of Sets		
Fifth	4	Subsets + Intersection and Union of Sets	Lecture	Quizzes
Sixth	4	Complement of the Sets + Difference + Symmetric Difference	Lecture	Quizzes
Seventh	4	Relation + Notion of Relation	Lecture	Quizzes
Eighth	4	Ordered Pair + The Cartesian Product	Lecture	quizzes and homework's
Ninth	4	Domain and Range of Relation	Lecture	homework's
Tenth	4	Inverse Relation	Lecture	quizzes and homework's
Eleventh	4	Reflexive, Symmetric and Transitive Relation	Lecture	quizzes and homework's
Twelfth	4	Equivalence Relation	Lecture	homework's
Thirteen	4	Equivalence Class	Lecture	quizzes and homework's
Fourteenth	4	Partially and Totally Ordered Relation	Lecture	homework's
Fifteenth	4	Mapping + Conception of Mapping	Lecture	Quizzes
Sixteenth	4	Domain and Range of Mapping	Lecture	quizzes and homework's
Seventeenth	4	Inverse Image of Mapping	Lecture	Quizzes
Eighteenth	4	Type of Mappings (Injection, Surjection and Bijective)	Lecture	quizzes and homework's
Nineteenth	4	Composition of Mappings	Lecture	Quizzes
Twentieth	4	Constant Mapping + Identity Mapping + Restriction Mapping	Lecture	quizzes and homework's
Twenty first	4	The Inverse Mapping and Theorem on Inverse Mappings	Lecture	quizzes and discussions
Twenty second	4	Cardinality of Sets and its Conception	Lecture	quizzes and discussions
Twenty third	4	The Equality Cardinality Sets	Lecture	quizzes and discussions
Twenty fourth	4	Finite and Infinite Sets	Lecture	quizzes and discussions
Twenty fifth	4	Binary Operations and its Conception	Lecture	quizzes and discussions
Twenty sixth	4	Type of Binary Operations	Lecture	quizzes and discussions
Twenty seventh	4	Semi Group and Group	Lecture	quizzes and discussions

Twenty eighth	4	The Conception of Ring + Ordered Ring	Lecture	Quizzes
Twenty ninth	4	The Conception of Field + Ordered Field	Lecture	Quizzes
Thirtieth	4	Homomorphisms	Lecture	quizzes and discussions

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)	Foundations of Mathematics / Dr. Hadi Jabir Mustafa / Dr. Riad Shakir Naoum / Dr. Nader George Mansour
Recommended books and references	Kenneth Kunen, The Foundation of Mathematics, 2007.
Percentage of Curriculum Update	

Ruqayah Nafea Balo

Name and Signature of Curriculum Administer

Assist. Prof. Dr. Ali A. Alabdali

Name and Signature of Department Head

https://uomosul.edu.iq/en/education/academic-program-description-apd/

Course Description Form

University of Mosul College of Education for Pure Sciences Department of Mathematics

1. Course Name and Stage: Linear Algebra(1^{st} Class)
2. Course Code: **EDMA25F103**
3. Semester / Year: 2024−2025
4. Description Preparation Date: 01/09/2024
5. Available Attendance Forms:

   Physical attendance in classroom and online classes
6. Number of Credit Hours (Total) / Number of Units (Total)

   120 hours (60 theoretical / 60 discussion)
7. Course administrator's name (mention all, if more than one name)

Name: Dr. Naseer Sabah Abdullah, Email: naseer.s.abdullah@uomosul.edu.iq
: Professor Dr Ammar S. Mahmood, Email: asmahmood65@uomosul.edu.iq
: Lecturer Hanan Salem Mohammed Email: hanansalim73@uomosul.edu.iq

8. Course Objectives

Course Objectives	• **Giving the student experience and knowledge in the basic concepts of linear algebra** • **The student gains experience in identifying some of the applied fields of linear algeb** • **The student uses more than one science with some (linear algebra) with mathematics (other specializations) or mathematics with other sciences such as chemistry, life sciences, physics, computer science).**

9. Teaching and Learning Strategies

Strategy	• Explaining the lecture in detail. • Students' participation in the lecture by asking some questions that have previously been raised. • Group discussions of a question raised during the lecture. • Providing part of the lecture time for questions. • Giving some privileges to distinguished students to answer or to ask questions

10. Course Structure

Week	Hours	Required Learning	Unit or subject name	Learning	Evaluation

		Outcomes		method	method
1	4	Matrix operations	Algebraic Properties of Matrices	In-class attendance	Questions discussion
2	4	Types of matrices	Special Matrices	In-class attendance	Questions discussion
3	4	Finding the inverse of a matrix	Inverse of Matrices	Online class attendance	Questions discussion
4	4	Finding the rank of a matrix	Order of Matrices	In-class attendance	Questions discussion
5	4	Using theorems to solve questions	Some Theorems for the Order of Matrix	In-class attendance	Questions discussion
6	4	Identify the system of homogeneous linear equations and their properties	System of Linear Equations Some Properties of Systems of Linear Equation System of Homogeneous Linear Equations	In-class attendance	Home-Work
7	4	Finding solutions to a system of linear equations	Solutions of Systems of Linear Equations	In-class attendance	Questions discussion
8	4	How to use the Gauss Method in finding solutions to systems of linear equations?	Using the Gauss Method to Solve Systems of Linear Equations	Online class attendance	Questions and discussion
9	4	How to use the Gauss-Jordan method in finding solutions to systems of linear equations?	Using the Gauss-Jordan Method to Solve Systems of Linear Equations	In-class attendance	Daily Exam
10	4	Finding the determinant	Determinants, Introduction to Determinants	In-class attendance	Home-Works
11	4	Using properties to solve questions	Some Properties of Determinants	In-class attendance	Questions and discussion
12	4	Using theorems	Some Theorems for Determinants	In-class attendance	Scientific report
13	4	Finding the cofactor	Cofactor	In-class attendance	Questions and discussion
14	4	The cofactor	Applications of the Cofactor	In-class attendance	Questions and discussion

15	4	Applying Cramer's rule t solve a system of linear equations	Cramer's Rule	In-class attendance	Semester Exam
16	4	Defining vector space, finding the numerical product and the norm	Vector Space/Introduction to Vector Space, Properties of Vectors, Scala Productivity, Norm, Distance	In-class attendance	Questions and discussion
17	4	Finding the vector product and defining the subspace	Current Product, Subspaces	In-class attendance	Questions and discussion
18	4	Defining composition, correlation and linear independence	Linear Composition, Linear Correlation, and Linear Independence	In-class attendance	Daily Exam
19	4	Proof of some theorems	Some Theorems	Online class attendance	Questions and discussion
20	4	Finding the base and dimension	Base and Dimension	In-class attendance	Home-Work
21	4	Finding the dimension of the space of rows and columns	Line and Column Space	In-class attendance	Daily Exam
22	4	Definitions and examples	Introduction to Linear Transformations	In-class attendance	Questions and discussion
23	4	Finding the kernel and range	Kernel and Range of Linear Transformations	In-class attendance	Questions and discussion
24	4	Proof of some theorems	Some Theorems	In-class attendance	Daily Exam
25	4	Finding the linear transformation matrix	Matrix of Linear Transformations	In-class attendance	Questions and discussion
26	4	Solving examples and applications	Examples and Applications	In-class attendance	Semester Exam
27	4	Definitions and examples	Eigenvalues and Eigenvectors	In-class attendance	Questions and discussion
28	4	Proofs of some theorems	Some Theorems	In-class attendance	Questions and discussion
29	4	How to calculate the values and eigenvectors a square matrix?	Calculating Eigenvalues and Eigenvectors	In-class attendance	Questions and discussion

30	4	Solving examples and applications	Examples and Applications	In-class attendance	Scientific report

11. Course Evaluation
Weekly, semester and final exams. The grade is distributed out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly and written exams, and scientific reports.

12. Learning and Teaching Resources

Required textbooks (curricular books, if an	• Linear Algebra, written by Yahya Abdul Saeed, Dr. Nizar Hamdoun Shukr. • Linear Algebra, B. Y. Hoffman at Kenz, And. Bre H.L., at.
Main references (sources)	Introduction to linear algebra with applications, by Kolman
Recommended books and references (scientific journals, reports…)	Linear Algebra, by Serge Lange.
Electronic References, Websites	https://www.youtube.com/watch?v=JnTa9XtvmfI https://www.youtube.com/playlist?list=PLxIvc-MGOs6iQXFnjF_STbhGdrZBphrv_
Percentage of Curriculum Update	

Dr. Naseer Sabah Abdullah

Name and Signature of Curriculum Administer

Assist. Prof. Dr. Ali A. Alabdali

Name and Signature of Department Head

https://uomosul.edu.iq/en/education/academic-program-description-apd/

Course Description Form

University of Mosul College of Education for Pure Sciences Department of Mathematics

1. Course Name and Stage: Computer driving skills (1^{st} Class)
2. Course Code: EDMA25F104
3. Semester / Year: 2024−2025
4. Description Preparation Date:10/2/2025
5. Available Attendance Forms: Classroom
6. Number of Credit Hours (Total) / Number of Units (Total)

Number of study hours (90) (30 mental ,60 practical) Number of unit (2)

7. Course administrator's name (mention all, if more than one name)

Name: Ahmed Hussien Mohammad Email: ahmedshexo@uomosul.edu.iq

8. Course Objectives

Course Objectives	• Introduction to computer. • Numbering system • Conversion between different numbering systems. • Arithmetic operations in the binary system. • Algorithms. • Flow Charts. • Desktop. • Microsoft Word 2010. • Icons of the program • Microsoft Excel 2010. • Write and execute programs using MATLAB. • Use MATLAB to solve simple mathematical and engineering problems. • Analyze data using MATLAB and produce appropriate graphs.

9. Teaching and Learning Strategies

Strategy	Theoretical lecture and Practical (discussions) examples, problem solving , performing practical experiments, homework.

10. Course Structure

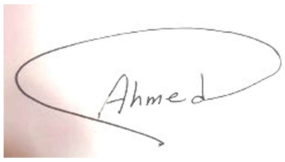
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3	Introduction to computer.	Introduction to computers, types, and history .	Theoretical Lecture	Homework
2	3	Introduction to computer.	Computer components (Hardware and Software)	Theoretical Lecture	Homework

3	3	Introduction to computer.	Operating systems and types, user interfaces	Theoretical Lecture	Homework
4	3	Introduction to computer.	Input/output devices, storage units	Discussion	Homework
5	3	Introduction to computer.	Basic office applications (Word processing, spreadsheets)	Theoretical Lecture	Homework
6	3	Programming	Programming and Differences between programming la	Theoretical Lecture	Quizzes
7	3	Flowcharts	Algorithms and flowcharts	Discussion	Homework
8	3	Microsoft Word 2010	Program structure and basic concepts	Discussion	Homework
9	3	Microsoft Word 2010	Basic concepts of file and folder usage	Theoretical Lecture	Quizzes
10	3	Microsoft Word 2010	Introduction to information security a	Theoretical Lecture	Homework
11	3	Microsoft Word 2010	Familiarization with Word interface	Theoretical Lecture	Homework
12	3	Microsoft Word 2010	Text entry and formatting	Theoretical Lecture	Homework
13	3	Microsoft Word 2010	Table creation and formatting	Discussion	Homework
14	3	Microsoft Word 2010	Inserting pictures, shapes, and symbols	Theoretical Lecture	Homework
15	3	Microsoft Word 2010	Using styles, bulleting, and margins	Theoretical Lecture	Homework

16	3	Microsoft Word 2010	Page setup for printing	Theoretical Lecture	Homework
17	3	Microsoft Word 2010	Creating official reports and ready-to-print projects	Theoretical Lecture	Homework
18	3	MATLAB	Familiarization with MATLAB envir	Theoretical Lecture	Homework
19	3	MATLAB	Vectors	Theoretical Lecture	Homework
20	3	MATLAB	Vector operations	Theoretical Lecture	Homework
21	3	MATLAB	Writing and executing basic commands	Theoretical Lecture	Homework
22	3	MATLAB	Handling matrices and variables	Theoretical Lecture	Homework
23	3	MATLAB	Using loops and conditional statements	Theoretical Lecture	Homework
24	3	MATLAB	Creating graphs	Theoretical Lecture	Homework
25	3	MATLAB	Data analysis using MATLAB	Theoretical Lecture	Homework
26	3	MATLAB	Mathematical and engineering applications	Theoretical Lecture	Homework
27	3	MATLAB	Matrices in MATLAB	Theoretical Lecture	Homework
28	3	MATLAB	Matrix operations	Theoretical Lecture	Homework
29	3	MATLAB	num2str, Input commands	Theoretical Lecture	Homework

30	3	MATLAB	disp command	Theoretical Lecture	Homework

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 boc if any)	.....
Introduction to programming Introduction to MATLAB	1) XP Windows , Omar Basil Muhammad Saleh, Moatasem Mahmoud Youssef, College of Education for Pure Sciences, Department of Physics 2) Microsoft office word 2007 binding Omar Basil Muhammad Saleh, Moatasem Mahmoud Youssef College of Education for Pure Sciences, Department of Physics. 3) 4. Microsoft office Excel 2007 binding Omar Basil Muhammad Saleh Moatasem Mahmoud Youssef College of Education for Pure Sciences, Department of Physics. 4) MATLAB , Omar Basil Muhammad Saleh, Moatasem Mahmoud Youssef, College of Education for Pure Sciences, Department of Physics.
Recommended books and references (scientific journals, reports…)	Ni Multisim software ww.watad.me//1.http:
Percentage of Curriculum Update	



Ahmed Hussien Mohammad

Name and Signature of Curriculum Administer

Assist. Prof. Dr. Ali A. Alabdali

Name and Signature of Department Head

https://uomosul.edu.iq/en/education/academic-program-description-apd/

Course Description Form

University of Mosul College of Education for Pure Sciences Department of Mathematics

1. Course Name and Stage: General Physics(1st Class)
2. Course Code: **EDMA25F105**
3. Semester / Year: 2024−2025
4. Description Preparation Date: 1/9/2024
5. Available Attendance Forms: Laboratory , Classroom
6. Number of Credit Hours (Total) / Number of Units (Total):60 /2
7. Course administrator's name (mention all, if more than one name)

Name: Asmaa Zaki Khalil
Emil : asmaa.zaki@uomosul.edu.iq

8. Course Objectives

Course Objectives	1. To study basic and derived physical quantities. 2. To learn about dimensional theory. 3. To understand the process of vector multiplication. 4. To study linear motion, free fall, and projectile motion. 5. To understand rotational motion and its variables. 6. To learn about the mechanical properties of the material.

9. Teaching and Learning Strategies

Strategy	Practical and theoretical lecture , talk and discussions, problem solving , performing practical experiments , reports and homework

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
first	2	Physics and measurement	Physical quantities	Lecture	quizzes
Second	2	Fundamental physical quantities	Derived physical quantities	Lecture	quizzes
Third	2	Physical quantities and	Dimensional theory	Lecture	quizzes

		dimensions			
Fourth	2	Vectors	Vector compounds	experiment	Quiz, report , homework
Fifth	2	Fundamental unit vectors	Add and subtract vectors	Problem solving	Homework
Sixth	2	Drawing in a parallelogram method	Analytical method	experiment	Quiz, report , homework
Seventh	2	Vector multiplication	Numerical multiplication of vectors	Problem solving	Homework
Eighth	2	Cross multiplication of vectors	Cross multiplication of vectors	experiment	Quiz, report , homework
Nineth	2	the movement	Displacement, velocity and acceleration	Problem solving	Homework
Tenth	2	Types of special movement	Motion with uniform speed in a straight line	experiment	Quiz, report , homework
Eleventh	2	Motion with uniform acceleration in a straight line	free fall	experiment	Quiz, report , homework
Twelfth	2	Projectile movement	Projectile movement	Problem solving	Homework
Thirteen	2	Rotational motion variables	Angular displacement	Lecture	Quiz, and homework
Fourteenth	2	Angular velocity	Angular acceleration	Problem solving	Homework
Fifteenth	2	Exam	Exam		
Sixteenth	2	Special types of rotational movement	Special types of rotational movement	lecture	Quiz, report , homework
Seventeenth	2	Rotary motion with constant angular velocity	Rotary motion with constant angular velocity	lecture	Quizzes
Eighteenth	2	Rotational motion with constant angular acceleration	Rotational motion with constant angular acceleration	Problem solving	Quiz, and homework
Nineteenth	2	The relationship between rotational and linear motion variables	The relationship between rotational and linear motion variables	Lecture	Quizzes
Twentieth	2	Flexibility	Flexibility	Problem solving	homework
Twenty first	2	Stress	Stress	Lecture	Quiz

Twenty second	2	Irritability or compliance	Irritability or compliance	Problem solving	homework
Twenty third	2	Types of emotion	Types of emotion	Lecture	Quiz
Twenty fourth	2	Elastic strain	Elastic strain	Problem solving	homework
Twenty fifth	2	Plastic strain	Plastic strain	lecture	Quiz
Twenty sixth	2	Elasticity coefficients	Elasticity coefficients	Problem solving	homework
Twenty seventh	2	Young's modulus	Young's modulus	Lecture	Quiz
Twenty eighth	2	Shear modulus of elasticity	Shear modulus of elasticity	lecture	Quiz, report , homework
Twenty nineth	2	Volumetric modulus of elasticity	Volumetric modulus of elasticity	Lecture	Quiz
Thirtieth	2	Exam	Exam		

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, any)	1) General physics. 2) Basics of physics. 3) Physics principles and applications.
Main references (sources)	1) General physics.
Recommended books and references (scientific journals, reports…)	Reports - periodicals and scientific journals
Electronic References, Websites	International Information Network (Internet)
Percentage of Curriculum Update	

Asmaa Zaki Khalil

Name and Signature of Curriculum Administer

Assist. Prof. Dr. Ali A. Alabdali

Name and Signature of Department Head

https://uomosul.edu.iq/en/education/academic-program-description-apd/

Course Description Form

University of Mosul College of Education for Pure Sciences Department of Mathematics

1. Course Name and Stage:

Pedagogy(1st Class)

2. Course Code:

EDMA25F106

3. Semester / Year:

The first and second semesters of the 2024−2025 academic year

4. Description Preparation Date:

2024/10/6

5. Available Attendance Forms:

In-person and electronic

6. Number of Credit Hours (Total) / Number of Units (Total)

3 Hours per week

7. Course administrator's name (mention all, if more than one name)

Name: **Rahma Talal Sultan**
Email: rahma.sultan@uomosul.edu.iq

8. Course Objectives

Course Objectives	**• It aims to make students know the general principles and principles on which education is based by reviewing a set of founda such as the historical, social, economic, cognitive and philosophical foundations.** **• Developing values in Arab and Islamic education.** **• Teach students research skills about education throughout history.**

9. Teaching and Learning Strategies

Strategy	1. Managing lectures in a way that shows the importance of time. 2. Group activities for which 10% of the grade is allocated. 3. Individual and group assignments that require the use of the library and the Internet. 4. Increasing the spirit of positive competition. 5. Reciprocal teaching.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1	Knowledge and skill	The concept of education and definitions	Electronic integrated into the lecture	a test

2	1	Knowledge and skill	The necessity of education, function and its origins	Electronic integrated the lecture	a test
3	1	Knowledge and skill	The historical basis of education	Electronic integrated the lecture	a test
4	1	nowledge and skill	The development of educatic thought throughout the ages	Electronic integrated the lecture	a test
5	1	Knowledge and skill	Chinese education	Electronic integrated the lecture	a test
6	1	Knowledge and skill	Education among the anc Egyptians	Electronic integrated the lecture	a test
7	1	Knowledge and skill	Greek (Athenian) education	Electronic integrated the lecture	a test
8	1	Knowledge and skill	Greek (Spartan) education	Electronic integrated the lecture	a test
9	1	Knowledge and skill	Education in Mesopotamia	Electronic integrated the lecture	a test
10	1	Knowledge and skill	Education among the Arabs	Electronic integrated the lecture	a test
11	1	Knowledge and skill	Education in the Islamic era	Electronic integrated the lecture	a test
12	1	Knowledge and skill	The Concept of Islamic Education	Electronic integrated the lecture	a test
13	1	Knowledge and skill	Notable Islamic Educational Thou Abu Hamid Al-Ghazali	Electronic integrated the lecture	a test
14	1	Knowledge and skill	Notable Islamic Educational Thou Ibn Khaldun	Electronic integrated the lecture	a test
15	1	Knowledge and skill	Modern education	Electronic integrated the lecture	a test
16	1	Knowledge and skill	John Dewey	Electronic integrated the lecture	a test
17	1	Knowledge and skill	The Psychological Basis of Educatic	Electronic integrated the lecture	a test
18	1	Knowledge and skill	Psychological Principles of Learnin	Electronic integrated the lecture	a test
19	1	Knowledge and skill	The Social Basis of Education	Electronic integrated the lecture	a test
20	1	Knowledge and skill	The Educational Role of the Far and School	Electronic integrated the lecture	a test
21	1	Knowledge and skill	The Role of Women in Islam	Electronic integrated the lecture	a test
22	1	Knowledge and skill	Women's Rights in Islam	Electronic integrated the lecture	a test
23	1	Knowledge and skill	Environmental and Commu Education	Electronic integrated the lecture	a test
24	1	Knowledge and skill	The Cognitive Basis of Education	Electronic integrated the lecture	a test
25	1	Knowledge and skill	Comparative Education and Glc Trends	Electronic integrated the lecture	a test
26	1	Knowledge and skill	Educational Systems in Develo Countries	Electronic integrated the lecture	a test
27	1	Knowledge and skill	Philosophical basis of education	Electronic integrated the lecture	a test
28	1	Knowledge and skill	Economic basis and econo development	Electronic integrated the lecture	a test
29	1	Knowledge and skill	Economic return and financing education	Electronic integrated the lecture	a test

30	1	Knowledge and skill	Basic sources of financing of educat	Electronic integrated the lecture	a test

11. Course Evaluation

25% half the year
5% daily exams
5% activity (report or lecture)
5% semester exam
60% end-of-year exam

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures on the principles of educat compiled by the subject professor
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	
Percentage of Curriculum Update	

Rahma Talal Sultan

Name and Signature of Curriculum Administer

Assist. Prof. Dr. Ali A. Alabdali

Name and Signature of Department Head

https://uomosul.edu.iq/en/education/academic-program-description-apd/

Course Description Form

University of Mosul College of Education for Pure Sciences Department of Mathematics

1. Course Name and Stage:
Educational Psychology, Development and Ethics of the Teaching Profession(1st Class)
2. Course Code:
EDMA25F107
3. Semester / Year:
2025/2024
4. Description Preparation Date:
2024/11/26
5. Available Attendance Forms:
In-person / Blended Learning
6. Number of Credit Hours (Total) / Number of Units (Total)
Three hours a week six (units)
7. Course administrator's name (mention all, if more than one name)
Name:**Mustafa fahmi hamid** : Email: mustafa.hamid@uomosul.edu.iq
8. Course Objectives

Course Objectives	• **The general goal: The course aims to understand h psychological factors affect the educational process and h to improve the learning and teaching experience for stude and teachers alike.** • **The specific goal: The course aims in particular to underst how psychological factors affect the learning and teach process and to develop effective educational strategies methods to improve students' performance and enhance t educational experience.**
9. Teaching and Learning Strategies	
Strategy	The lecture, solving problems, reports, Active cooperative learning, Brainstorming.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1.	6	Introduction Psychology	Introduction to Psycholo	Lecture	Quiz
2.	6	Historical evolution of psychology	Historical evolution of psychology	Discussion	Ask questions and discuss
3.	6	The nature psychology	The nature psychology	Lecture	
4.	6	The objectives of psychology	The objectives of psychology	Lecture	Oral test
5.	6	schools of Psychology	schools of Psycholo	Lecture & Discussion	
6.	6	Branches of psychol	Branches psychology	Lecture	Classroom interaction
7.	6	Factors influencing behavior	Factors influencing behaviour	Lecture & Discussion	Classroom interaction
8.	6	Educational process & educational psychology	Educational process & educational psychology	Lecture & cooperative learning	Individual assignments
9.	6	Factors that affect the effectiveness of the process	Factors that affect the effectiveness of the process	Lecture and brainstorming	
10.	6	The attention	The attention	Lecture	Individual assignments
11.	6	The nature of the attention process	The nature of the attention process	Lecture & cooperative learning	Reports
12.	6	Interference in the attention process	Interference in the attention process	Lecture & mutual learning	Quiz

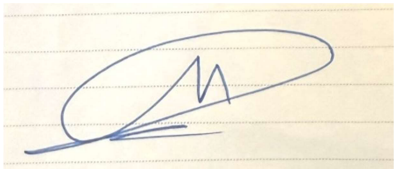
13.	6	Attention theories	Attention theories	Lecture and brainstorming	Quick questions at the end of the lesson
14.	6	Factors that affect attention	Factors that affect attention	Lecture and prepared reports	Reports
15.	6	sense perception	sense perception	Lecture	Oral test
16.	6	perception	perception	Test	Classroom interaction
17.	6	Motivation in learning	Motivation in learning	Lecture & mutual learning	Oral test
18.	6	The importance of studying motivation	The importance of studying motivation		
19.	6	The nature of motivation	The nature of motivation	Lecture and prepared reports	
20.	6	Motivation theories in learning	Motivation theories in learning	Lecture	Classroom interaction
21.	6	Educational functions of motivation	Educational functions of motivation	Lecture	Electronic test
22.	6	Stimulate students' motivation to learn	Stimulate students' motivation to learn	Lecture	
23.	6	Remembering and forgetting	Remembering and forgetting	Lecture	Classroom interaction
24.	6	Types of memory	Types of memory	Lecture & mutual learning	individual performance
25.	6	Forgetfulness	Forgetfulness	Lecture and brainstorming	Discussion
26.	6	**Theories of forgetting**	Theories of forgetting	Lecture and prepared reports	Discussion
27.	6	Factors affecting forgetfulness	Factors affecting forgetfulness	Lecture & mutual learning	Reports & Discussion

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
(Annual pursuit 40 + Final 60).

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures on Educational Psychology by Dr. Ali Suleiman Hussein.
Main references (sources)	Foundations of Educational Psychology Professor Fadhel Mohsen Al-Azergawi.
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	
Percentage of Curriculum Update	



Mustafa Fahmi Hamid

Name and Signature of Curriculum Administer

Assist. Prof. Dr. Ali A. Alabdali

Name and Signature of Department Head

https://uomosul.edu.iq/en/education/academic-program-description-apd/

Course Description Form

University of Mosul College of Education for Pure Sciences Department of Mathematics

1. Course Name and Stage: Arabic Language(1st Class)
2. Course Code: EDMA25F108
3. Semester / Year:2024 – 2025

4. Description Preparation Date: 1 / 9 / 2024

5. Available Attendance Forms: Lecture .

6. Number of Credit Hours (Total) / Number of Units (Total)

3 hour each class / 2 units

7. Course administrator's name (mention all, if more than one name)

Name: Assistant Lecturer. Enas Talal Ahmed
Email:

8. Course Objectives

Course Objectives	**The course aims to empower students with Arabic language skills and issues** • ..... • .....

9. Teaching and Learning Strategies

Strategy	Lecture and discussions

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
First	1	General concepts	Hamza in arabic	Lecture	Homework
Second	1	General concepts	Writing the lett Dhad and Dhad	Lecture	Homework

Third	1	General concepts	**Punctuation marks**	Lecture	Homework
Fourth	1	General concepts	**Writing the short a long alif**	Lecture	Homework
Fifth	1	Basic concepts	Number rules a numerical adjectives	Lecture	Homework
Sixth	1	Basic concepts	Original and second diacritical marks	Lecture	Homework
Seventh	1	Basic concepts	The Arabic senter and its types	Lecture	Homework
Eighth	1	Basic concepts	Actual sentence	Lecture	Homework
Nineth	1	Basic concepts	actor	Lecture	Homework
Tenth	1	Basic concepts	The representative the actor	Lecture	Homework
Eleventh	1	Basic concepts	Nominal sentence	Lecture	Homework
Twelfth	1	Basic concepts	The subject and t predicate	Lecture	Homework
Thirteen	1	Basic concepts	Modal Verbs	Lecture	Homework
Fourteenth	1	Basic concepts	The letters a already suspicious	Lecture	Homework
Fifteenth	1	General basic concepts	Definition literature and divisions	Lecture	Homework
Sixteenth	1	General basic concepts	Pre- Islamic literature	Lecture	Homework
Seventeenth	1	General basic concepts	Islamic literature	Lecture	Homework

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)	Facilitator in general Arabic for non-Specialist departments, Ziad Shuli General Grammer of Arabic language

Main references (sources)	
Recommended books and references (scientific journals, reports…)	Methods of teaching Arabic , Saleh Nuseirat
Electronic References, Websites	
Percentage of Curriculum Update	

Enas Talal Ahmed

Name and Signature of Curriculum Administer

Assist. Prof. Dr. Ali A. Alabdali

Name and Signature of Department Head

https://uomosul.edu.iq/en/education/academic-program-description-apd/

Course Description Form

University of Mosul College of Education for Pure Sciences Department of Mathematics

1. Course Name and Stage: Human Rights and Democracy(1^{st} Class)
2. Course Code: **EDMA25F109**
3. Semester / Year: 2025−2024
4. Description Preparation Date: 1/9/2024
5. Available Attendance Forms: Lecture , Classroom
6. Number of Credit Hours (Total) / Number of Units (Total)

6 hrs/ 2 units

7. Course administrator's name (mention all, if more than one name)

Name: Assist. Lec. Omar Othman ibrahim
Email: omar.othman@uomosul.edu.iq

8. Course Objectives

Course Objectives	• **The curriculum aims that the student will be familiar with concepts of human rights and principles of human rights** • **Presenting a balanced scientific comprehension for Human rights in simple understandable way for most of subjects and syllables the are important for the student that are in undergraduate specialties in all colleges**

9. Teaching and Learning Strategies

Strategy	theoretical lecture , talk and discussions, reports and quizzes and homework

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
first	2	Weekly assessment of student /discussions	Chapter 1: Human rights : history , definition and similarities	Lecture	Quizzes and homework
Second	2	Weekly assessment of student /discussions	Section 1: Definition of human right , what is human and what are human rights	Lecture	Quizzes and homework
Third	2	Weekly assessment of student /discussions	History of human rights in ancient Iraqi civilizations	Lecture	Quizzes and homework

Fourth	2	Weekly assessment of student /discussions	Human rights in in eastern and western ancient civilizations	Lecture	Quizzes and homework
Fifth	2	Weekly assessment of student /discussions	Human rights in Christian and Jewish religions	Lecture	Quizzes and homework
Sixth	2	Weekly assessment of student /discussions	Human rights in Islam and characteristics	Lecture	Quizzes and homework
Seventh	2	Weekly assessment of student /discussions	Section 2: human rights in meddle ages: Church control and feudalism	Lecture	Quizzes and homework
Eighth	2	Weekly assessment of student /discussions	Human rights within church control and feudalism and royal foundation	Lecture	Quizzes and homework
Nineth	2	Weekly assessment of student /discussions	Protestant doctrine and natural rights theory	Lecture	Quizzes and homework
Tenth	2	Weekly assessment of student /discussions	Human rights from social contract theory point of view	Lecture	Quizzes and homework
Eleventh	2	Weekly assessment of student /discussions	Human rights in civilizations and revolutions and their constitutions	Lecture	Quizzes and homework
Twelfth	2	Weekly assessment of student /discussions	First: Western revolutions and human rights	Lecture	Quizzes and homework
Thirteen	2	Weekly assessment of student /discussions	Second: Human rights and French citizen	Lecture	Quizzes and homework
Fourteenth	2	Weekly assessment of student /discussions	Third: Oriental revolutions and human rights	Lecture	Quizzes and homework
Fifteenth	2	Weekly assessment of student /discussions	Chapter 2: Human rights , determination definition and types	Lecture	Quizzes and homework
Sixteenth	2	Weekly assessment of student /discussions	Section 1: Types of human rights and linkage	Lecture	Quizzes and homework
Seventeenth	2	Weekly assessment of student /discussions	Individual human rights	Lecture	Quizzes and homework
Eighteenth	2	Weekly assessment of	Population human rights	Lecture	Quizzes and homework

		student /discussions			
Nineteenth	2	Weekly assessment of student /discussions	Economic , social and cultural human rights, and civilian and political human rights	Lecture	Quizzes and homework
Twentieth	2	Weekly assessment of student /discussions	Modern human rights, rights in development , rights in clean environment , rights in solidarity , rights in peace	Lecture	Quizzes and homework
Twenty first	2	Weekly assessment of student /discussions	Linkage between human rights, all undividable	Lecture	Quizzes and homework
Twenty second	2	Weekly assessment of student /discussions	Section 2: The relationship between human rights and general freedom in international and Arabic constitutions	Lecture	Quizzes and homework
Twenty third	2	Weekly assessment of student /discussions	Human rights in international announcement of human rights and international conventions	Lecture	Quizzes and homework
Twenty fourth	2	Weekly assessment of student /discussions	human rights in Arabic constitutions	Lecture	Quizzes and homework
Twenty fifth	2	Weekly assessment of student /discussions	Chapter 3: International, regional and national confession in human rights in current and modern history	Lecture	Quizzes and homework
Twenty sixth	2	Weekly assessment of student /discussions	Section 1: International confession of human rights since first world war	Lecture	Quizzes and homework
Twenty seventh	2	Weekly assessment of student /discussions	United nations and human rights issue	Lecture	Quizzes and homework
Twenty eighth	2	Weekly assessment of student /discussions	United nations and human rights system development	Lecture	Quizzes and homework
Twenty nineth	2	Weekly assessment of	Section 2: The regional confession of human rights	Lecture	Quizzes and homework

		student /discussions			
Thirtieth	2	Weekly assessment of student /discussions	European convention of human rights 1950 American convention of human rights 1969 African convention of human rights 1981 Arabic convention of human rights	Lecture	Quizzes and homework

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)	Human rights .2004. Hafez A. Aldelemy
Main references (sources)	Democracy and human rights . Al-Jabry M.A. Human rights and democracy and public freedom. Kadim M.S.
Recommended books and references (scientific journals, reports…)	Human rights , development , contents and protection. Hadi R.A. Democracy and human rights . Dr. Wtot A.
Electronic References, Website	New references, Articles and books from Web
Percentage of Curriculum Upda	

Omar Othman Ibrahim

Name and Signature of Curriculum Administer

Assist. Prof. Dr. Ali A. Alabdali

Name and Signature of Department Head

https://uomosul.edu.iq/en/education/academic-program-description-apd/

Course Description Form

University of Mosul College of Education for Pure Sciences Department of Mathematics

1. Course Name and Stage:
English Language(1st Class)
2. Course Code:
EDMA25F110
3. Semester / Year: 2024−2025
4. Description Preparation Date: 13/2/2025
5. Available Attendance Forms: Laboratory , Classroom
6. Number of Credit Hours (Total) / Number of Units (Total)
3/2
7. Course administrator's name (mention all, if more than one name)
Name: Assist lecturer / Raghad Essam MohammedAli Email: raghad.essam@uomosul.edu.iq
8. Course Objectives

Course Objectives	• The student learns the basics of the English Language. • The student is able to solve all the various problems related to t subject. • Developing the student's knowledge about the subject by adding so modern topics
9. Teaching and Learning Strategies	
Strategy	Theoretical lecture, dialogue and discussions, daily assignments, quiz

10. Course Structure

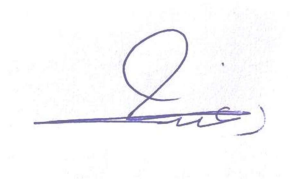
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
first	1	Simple past	Affirmative and negative	Lecture	Quiz
Second	1	Simple past	Questions and answers	Lecture	Quiz
Third	1	Simple	Affirmative and	Lecture	Quiz

		present	negative		
Fourth	1	Simple present	Questions and answers	Lecture	Quiz
Fifth	1	The future is simple	Affirmative and negative	Lecture	Quiz
Sixth	1	Future simple	Questions and answers	Lecture	Quiz
Seventh	1	Past continuous	Affirmative and negative	Lecture	Quiz
Eighth	1	Past continuous	Questions and answers	Lecture	Quiz
Ninth	1	present continuous	Affirmative and negative	Lecture	Quiz
Tenth	1	present continuous	Questions and answers	Lecture	Quiz
Eleventh	1	Continuous future	Affirmative and negative	Lecture	Quiz
Twelfth	1	Continuous future	Questions and answers	Lecture	Quiz
Thirteen	1	Absorption	Read a piece about a major in mathematics	Lecture	Quiz
Fourteenth	1	Absorption	Read a piece about a major in mathematics	Lecture	Quiz
Fifteenth	1	Absorption	Read a piece about a major i mathematics	Lecture	Quiz
Sixteenth	1	Educational Texts	Values of respect in the university environment	Lecture	Quiz
Seventeer	1	Educational	Self Esteem	Lecture	Quiz

th		Texts			
Eighteenth	1	Educational Texts	Respect Others	Lecture	Quiz
Nineteenth	1	Past perfect	Affirmative and Negative	Lecture	Quiz
Twentieth	1	Question composition	Questions and answers	Lecture	Quiz
Twenty first	1	Educational Vocabulary	Active Learning	Lecture	Quiz
Twenty second	1	Educational Vocabulary	Educational Evaluation	Lecture	Quiz
Twenty third	1	Educational Vocabulary	Course of Study	Lecture	Quiz
Twenty fourth	1	The passive voice in the past continuous	Questions and answers	Lecture	Quiz
Twenty fifth	1	The passive voice in the future continuous	Questions and answers	Lecture	Quiz
Twenty sixth	1	The student should distinguish weather conditions	Questions and answers	Lecture	Quiz
Twenty seventh	1	Absorption	Read a piece about a major in mathematics	Lecture	Quiz
Twenty eighth	1	Absorption	Read a piece about a major in mathematics	Lecture	Quiz
Twenty ninth	1	Absorption	Read a piece about a major in mathematics	Lecture	Quiz

Thirtieth		Final Exa			

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 (curricu books, if any)	Grammar Two
Main referenc (sources)(haedway) (introduction to English language	Grammar Two
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	Z AMERICAN ENGILISH
Percentage of Curriculum Update	



Raghad Essam Mohammed Ali

Name and Signature of Curriculum Administer

Assist. Prof. Dr. Ali A. Alabdali

Name and Signature of Department Head

https://uomosul.edu.iq/en/education/academic-program-description-apd/

Course Description Form

University of Mosul College of Education for Pure Sciences Department of Mathematics

1. Course Title and Stage:
Advanced Calculus(2^{nd} Class)
2. Course Code:
EDMA25F201
3. Semester / Year:
2024-2025
4. Description Preparation Date:
2025/10/1
5. Available Attendance Forms:
Physical and virtual attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
Lectures (3h), Tutorials (2h)
7. Course administrator's name (mention all, if more than one name)
Name: Dr. Sohaib Al-Ramadhani & Mr. Abdulrazzaq T. Abed Email:
8. Course Objectives

Course Objectives	Knowing multivariable calculus Learning concepts related to analytical geometry and infinite sequences and series
9. Teaching and Learning Strategies	
Strategy	Lecture, discussions, problem solving, and homework.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
first	5	Knowing the concept of infinite	Sequences	Lecture and discussion	Quizzes and homework

		sequence			
Second	5	Knowing the sequence convergence tests	Sequences	Lecture and discussion	Quizzes and homework
Third	5	Knowing the concept of infinite series	Series	Lecture and discussion	Quizzes and homework
Fourth	5	Knowing the series convergence tests	Series	Lecture and discussion	Quizzes and homework
Fifth	5	Knowing the concept of power series	Series	Lecture and discussion	Quizzes and homework
Sixth	5	Knowing the concept of vector in space	Vector algebra	Lecture and discussion	Quizzes and homework
Seventh	5	Knowing the equation of line and plane in space	Line and plane equations	Lecture and discussion	Quizzes and homework
Eighth	5	Knowing the concept of polar coordinates	Polar coordinates	Lecture and discussion	Quizzes and homework
Nineth	5	Sketching graphs in polar coordinates	Polar coordinates	Lecture and discussion	Quizzes and homework

Tenth	5	Finding length and area inside curves in polar coordinates	Polar coordinates	Lecture and discussion	Quizzes and homework
Eleventh	5	Knowing the concept of partial and total differentiation	Advanced differentiation	Lecture and discussion	Quizzes and homework
Twelfth	5	Knowing differential operators	Advanced differentiation	Lecture and discussion	Quizzes and homework
Thirteen	5	Finding and classifying extrema	Advanced differentiation	Lecture and discussion	Quizzes and homework
Fourteenth	5	Solving optimization problems using Lagrange method	Advanced differentiation	Lecture and discussion	Quizzes and homework
Fifteenth	2	Exam	Advanced differentiation	Lecture and discussion	Quizzes and homework
Sixteenth	5	Sketching graphs in plane	Analytic geometry	Lecture and discussion	Quizzes and homework
Seventeenth	5	Evaluating line integral	Advanced integral	Lecture and discussion	Quizzes and homework
Eighteenth	5	Evaluating double integral	Advanced integral	Lecture and discussion	Quizzes and homework
Nineteenth	5	Knowing application of	Advanced integral	Lecture and discussion	Quizzes and homework

		line and double integral			
Twentieth	5	Knowing Green's Theorem	Advanced integral	Lecture and discussion	Quizzes and homework
Twenty first	5	Knowing application of Green's theorem	Advanced integral	Lecture and discussion	Quizzes and homework
Twenty second	5	Sketching surfaces in space	Analytic geometry	Lecture and discussion	Quizzes and homework
Twenty third	5	Evaluating triple integral	Advanced integral	Lecture and discussion	Quizzes and homework
Twenty fourth	5	Evaluating surface integral	Advanced integral	Lecture and discussion	Quizzes and homework
Twenty fifth	5	Knowing application of triple and surface integral	Advanced integral	Lecture and discussion	Quizzes and homework
Twenty sixth	5	Knowing the divergence theorem	Advanced integral	Lecture and discussion	Quizzes and homework
Twenty seventh	5	Knowing application of divergence theorem	Advanced integral	Lecture and discussion	Quizzes and homework
Twenty eighth	5	Knowing Stoke's	Advanced integral	Lecture and discussion	Quizzes and homework

		theorem			
Twenty nineth	5	Knowing application of Stoke's theorem	Advanced integral	Lecture and discussion	Quizzes and homework
Thirtieth	2	Exam	Advanced integral	Lecture and discussion	Quizzes and homework

11. Course Evaluation

15 marks for quizzes, 25 marks for the mid-term exam, 60 marks for the final exam. The total is 100 marks.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	حسبان التفاضل والتكامل تأليف جي بيرسل (الجزء الثاني)
Main references (sources)	Calculus, Anton. Bivens. Davis
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	
Percentage of Curriculum Update	

Dr. Sohaib Talal Al-Ramadhani

Name and Signature of Curriculum Administer

Assist. Prof. Dr. Ali A. Alabdali

Name and Signature of Department Head

https://uomosul.edu.iq/en/education/academic-program-description-apd/

Course Description Form

University of Mosul College of Education for Pure Sciences Department of Mathematics

1. Course Name and Stage: Ordinary Differential Equations(2^{nd} Class)
2. Course Code: **(EDMA25F202)**
3. Semester / Year: 2024-2025
4. Description Preparation Date: 1/9/2024
5. Available Attendance Forms: Laboratory , Classroom
6. Number of Credit Hours (Total) / Number of Units (Total): 120/6
7. Course administrator's name (mention all, if more than one name)

1- Name: **Dr. Azzam Salahuddin Younus Aladool**

Email: Azzam.aladool@uomosul.edu.iq

2- Name: Noora Laith Housen

Email: nooralaith1984@uomosul.edu.iq

8. Course Objectives

Course Objectives	**1- It aims to enable the student to recognize the types of differential equation** **2- How to choose the appropriate method to solve the ordinary differential equation.**

9. Teaching and Learning Strategies

Strategy Theoretical lecture, dialogue and discussions, solving exercises, daily assignments, daily exams

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
first	4	Enabling students to understand the subject of differential equations	Types of ordinary differential equations	Lecture	quize
Second	4	Enabling students to understand the subject of differential equations	Types of ordinary differential equations	Lecture	quize
Third	4	Enabling students to understand the subject of differential equations	Types of ordin differential equations	Lecture	quize
Fourth	4	Enabling students to	Types of ordinary	experiment	quize

		understand the subject of differential equations	differential equation		
Fifth	4	That the student acquires the skills of solving differential equations	Solving first-order and first-order differential equations	Problem solving	Homework
Sixth	4	That the student acquires the skills of solving differential equations	Solving first-order and first-order differential equations	experiment	Homework
Seventh	4	That the student acquires the skills of solving differential equations	Solving first-order and first-order differential equations	Problem solving	Homework
Eighth	4	That the student acquires the skills of solving differential equations	Solving first-order and first-order differential equations	experiment	homework
Nineth	4	That the student acquires the skills of solving differential equations	Solving first-order and first-order differential equations	Problem solving	Homework
Tenth	4	That the student acquires the skills of solving differential equations	Complementary genes Solving first-order and first-order differential equations	experiment	, homework
Eleventh	4	That the stud acquires the skills solving differen equations	Complementary ge Solving first-order a first-order differen equations	experiment	homework
Twelfth	4	That the student acquires the skills of solving differential equations	Solving first-order and first-order differential equations	Problem solving	Homework
Thirteen	4	The student acquires the skills of distinguishing between differential equations types	Linear equations with constant coefficients	Lecture	Quiz, and homework
Fourteenth	4	The student acquires the skills of distinguishing between differential equations types	Linear equations with constant coefficients	Problem solving	Quiz, and homework
Fifteenth	4	The student acquires the skills of	Linear equations with constant	lecture	Quiz, and homework

		distinguishing between differential equations types	coefficients		
Sixteenth	4	The student acquires the skills of distinguishing between differential equations types	Linear equations with constant coefficients	lecture	Quiz, report , homework
Seventeenth	4	Enabling students to understand the differential operator	operator D	lecture	Quize
Eighteenth	4	Enabling students to understand the differential operator	operator D	lecture	Quiz
Nineteenth	4	Enabling students to understand the differential operator	operator D	Lecture	Quize
Twentieth	4	Enabling students to understand the differential operator	operator D	lecture	Quize
Twenty first	4	Discussion and dialogue between the student and the professor	Solve the non-homogeneous linear equation with fixed coefficients	Lecture	Quiz
Twenty second	4	Discussion and dialogue between the student and the professor	Solve the non-homogeneous linear equation with fixed coefficients	lecture	Quize
Twenty third	4	Discussion and dialogue between the student and the professor	Solve the non-homogeneous linear equation with fixed coefficients	Lecture	Quiz
Twenty fourth	4	Discussion and dialogue between the student and the professor	Solve the non-homogeneous linear equation with fixed coefficients	lecture	homework
Twenty fifth	4	The student acquires the skills of solving differential equations using Lablace transformation	Solve differential equations using the Laplace transform - the inverse Laplace transform	lecture	homework
Twenty sixth	4	The student acquires the skills of solving differential equations using	Solve differential equations using the Laplace transform - the inverse Laplace	lecture	homework

		Lablace transformation	transform		
Twenty seventh	4	The student acquires the skills of solving differential equations using Lablace transformation	Solve differential equations using the Laplace transform - the inverse Laplace transform	Lecture	homework
Twenty eighth	4	The student acquires the skills of solving differential equations using Lablace transformation	Solve differential equations using the Laplace transform - the inverse Laplace transform	lecture	Quiz, and homework
Twenty nineth	4	The student acquires the skills of solving differential equations using series	Solving differential equations with series	Lecture	Quiz, and homework
Thirty	4	The student acquires the skills of solving differential equations using series	Solving differential equations with series	lecture	Quiz, and homework

11. Course Evaluation

Distribution of the grade out of 15 according to the tasks assigned to the student, such as daily preparation and daily and monthly exams

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Methods of solving ordinary differential equations. Dr. Khaled Al-Samarrai Dr. Yahya Abdel Saeed
Percentage of Curriculum Update	

Dr. Azzam Salahuddin Younus Aladool

Name and Signature of Curriculum Administer

Assist. Prof. Dr. Ali A. Alabdali

Name and Signature of Department Head

https://uomosul.edu.iq/en/education/academic-program-description-apd/

Course Description Form

University of Mosul College of Education for Pure Sciences Department of Mathematics

1. Course Name and Stage: Axioms and geometry systems(2nd Class)	
2. Course Code: EDMA25F203	
3. Semester / Year: **2024 \ 2025**	
4. Description Preparation Date: **1 \ 9 \ 2024**	
5. Available Attendance Forms: Classroom	
6. Number of Credit Hours (Total) / Number of Units (Total) : 6 \ 3	
7. Course administrator's name (mention all, if more than one name)	
Name: : Assistant lecturer. **Tariq Hamad Abdullah** Email: t.a.abdullah@uomosul.edu.iq	
8. Course Objectives	
Course Objectiv	**. Explain to the student the basics of engineering, engineering systems** **. Enable the student to prove theorems logically and properly, starting f** **. Explain to the student the direct and indirect methods of proof.** **. Knowledge and good understanding of the correct integrated engineer** **. Understand and understand the basic theories of engineering types**
9. Teaching and Learning Strategies	
Strategy	Theoretical lecture, dialogue and discussions, problem solving, reports a

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name
1- 4	12	Knowledge, origination and developme of the intuitive system	Axiomatic system\Junk system\
5- 8	12	Properties of the axiomatic system	Consistency / Independence
9-12	12	Hilbertian system	Definition of pieces and convex

13- 16	12	Elementary engineering	Re-prove some theorems
17- 20	12	Euclidean geometry/ellipti geometry	Definitions and basic theore
21- 25	15	Study of Compositional Projecti Geometry	Study of Compositional Proje
26- 30	15	Analytical projective plane / Analyti harmonic plane	The analytical projective le level

11. Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student such as daily p	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Basic concepts of engineering, a book writte
Main references (sources)	• Knowledge of the correct and integrate • Axioms and geometry systems
Recommended books and references (scientific journals, reports…)	• Knowledge of the correct and integrate • Axioms and geometry systems • Scientific journals and reports related t
Electronic References, Websites	https://learn.geometry.utah.edu/
Percentage of Curriculum Update	

Tariq Hamad Abdullah

Name and Signature of Curriculum Administer

Assist. Prof. Dr. Ali A. Alabdali

Name and Signature of Department Head

https://uomosul.edu.iq/en/education/academic-program-description-apd/

Course Description Form

University of Mosul College of Education for Pure Sciences Department of Mathematics

1. Course Name and Stage: Group Theory(2nd Class)
2. Course Code: **EDMA25F204**
3. Semester / Year: 2024−2025
4. Description Preparation Date: 1/9/2024
5. Available Attendance Forms: Laboratory , Classroom
6. Number of Credit Hours (Total) / Number of Units (Total)

90 hours/ 6 units

7. Course administrator's name (mention all, if more than one name)

Name: Assis. Prof. Dr. Ali A. Alabdali Email: ali.alabdali@uomosul.edu.iq
Name: Lec. Hanan S. Mohammed Email: hanansalim73@uomosul.edu.iq

8. Course Objectives

Course Objectives	• Identify binary operations and the basic properties of group theory. • The ability to employ different theorems to study the types and properties of groups.

9. Teaching and Learning Strategies

Strategy	Practical and theoretical lectures , talks and discussions, solving problems, reports and homeworks.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
first	3	Identify the properties of operations	Definition and Examples of Groups	Lecture	quizzes
Second	3	Learn about group conditions	Definition and Examples of Grou	Lecture	quizzes
Third	3	Understanding the group	Definition and amples of Groups	Lecture	quizzes
Fourth	3	Understanding the group	Definition and Examples of Grou	experiment	Quiz, report , homework
Fifth	3	Apply group	Definition and Examples of Groups	Problem solving	Homework

Sixth	3	Identify the basic theorems	Certain Elementary Theorems on Groups	experiment	Quiz, report , homework
Seventh	3	Identify the basic theorems	Certain Elementary Theorems on Groups	Problem solving	Homework
Eighth	3	Identify the basic theorems	Certain Elementary Theorems on Groups	experiment	Quiz, homework
Nineth	3	Understand basic theorems with examples	Certain Elementary Theorems on Groups	Problem solving	Homework
Tenth	3	Apply the basic theorems	Certain Elementary Theorems on Groups	experiment	Quiz, homework
Eleventh	3	Identify the symmetr group of a square	Two Important Groups	experiment	Quiz, report , homework
Twelfth	3	Understanding the symmetry group of a square	Two Important Groups	Problem solving	Homework
Thirteen	3	Identify the symmetry group of a triangle	Two Important Groups	Lecture	Quiz, and homework
Fourteenth	3	Understanding the symmetry group of a triangle	Two Important Groups	Problem solving	Homework
Fifteenth	3	Apply the special grou	Two Important Groups	Solving problem	Quiz, homework
Sixteenth	3	Identify subgroups	Subgroups	lecture	Quiz, homework
Seventeenth	3	Understanding subgroups	Subgroups	lecture	Quizzes
Eighteenth	3	Distinguish between subgroups	Subgroups	Problem solving	Quiz, and homework
Nineteenth	3	Apply the subgroups	Subgroups	Lecture	Quizzes
Twentieth	3	Identify normal subgroups	Normal Subgroups and Quotient Groups	Problem solving	homework
Twenty first	3	Understanding normal subgroups	Normal Subgroups and Quotient Groups	Lecture	Quiz
Twenty second	3	Apply the normal subgroups	Normal Subgroups and Quotient Groups	Problem solving	homework
Twenty third	3	Identify the quotient group	Normal Subgroups and Quotient Groups	Lecture	homework
Twenty fourth	3	Understand and apply quotient group	Normal Subgroups and Quotient Groups	Problem solving	homework

Twenty fifth	3	Identify homomorphism	Homomorphisms	lecture	Quiz
Twenty sixth	3	Understanding homomorphism	Homomorphisms	Problem solving	homework
Twenty seventh	3	Apply the homomorphism	Homomorphisms	Lecture	Quiz
Twenty eighth	3	Identify isomorphism	Isomorphisms	lecture	homework
Twenty nineth	3	Understanding homomorphism	Isomorphisms	Lecture	Quiz
Thirtieth	3	Apply the isomorphism	Isomorphisms	Lecture	Quiz, report

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)	Abstract Algebra, David M. Buton, 1988, wm. c. Brown Publishers.
Main references (sources)	The Theory of Groups, Rotman J.J. 2nd, 1973, Boston.
Recommended books and references (scientific journals, reports…)	The Theory of Groups Macdonald, 1968, oxford.
Electronic References, Websites	Wolfram MathWorld: The Web's Most Extensive Mathematics Resource
Percentage of Curriculum Update	

Assist. Prof. Dr. Ali A. Alabdali

Name and Signature of Curriculum Administer

Assist. Prof. Dr. Ali A. Alabdali

Name and Signature of Department Head

https://uomosul.edu.iq/en/education/academic-program-description-apd/

Course Description Form

University of Mosul College of Education for Pure Sciences Department of Mathematics

1. Course Name and Stage: Advanced Computer Science(2^{nd} Class)
2. Course Code: EDMA25F205
3. Semester / Year: 2024-2025
4. Description Preparation Date: 1/9/2024

5. Available Attendance Forms: In-person , E-Classroom

6. Number of Credit Hours (Total) / Number of Units (Total): 2-2

7. Course administrator's name (mention all, if more than one name)

Name: **Omar Alniemi** Email: omaralniemi@uomosul.edu.iq

8. Course Objectives

Course Objectives	• The student gets to know the Matlab environment • The student gets to know the basic principles of programming in Matlab • Enable the student to read and write code in Matlab • Giving the student the skill of performing operations programmatically on vectors an matrices • Enable the student to build recursive loops and conditional statements • The student gets to know drawing tools in Matlab • Providing the student with the skill of drawing in Matlab

9. Teaching and Learning Strategies

Strategy	Practical and theoretical lecture , talk and discussions, problem solving , reports and homework

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
first	2	Matlab environment	-Matlab environment and windows -Variables -Constants -Operators -Functions -mathematical and logical operations	Lecture and laborator	Experimental activities
Second	2	Matlab environment	-mathematical and logical operations - M-File	Lecture and laborator	Quiz, activities and assignment
Third	2	vectors	-Types of vectors -Create vectors	Lecture and laborator	Experimental activities
Fourth	2	vectors	-Element adding -Element deleting -Element replacing -maximum and minimum -vector length	Lecture and laborator	Experimental activities

Fifth	2	vectors	-Call one element -Calling sequential elements -Calling non-sequential elements -Adding sequential elements -Adding non-sequential elements -Delete sequential elements - Delete non-sequential elements - Replace sequential elements -Replace non-sequential elements	Lecture and laborator	Experimental activities
Sixth	2	vectors	- Mathematical operations and vectors	Lecture and laborator	Quiz, activities and assignment
Seventh	2	Matrices	Matrices -Special Matrices	Lecture and laborator	Experimental activities
Eighth	2	Matrices	-Transpose - Symmetric -Skew symmetric -Determinant -Trace -Adjoint -Inverse	Lecture and laborator	Experimental activities
Ninth	2	Matrices	-diag -sum -triu -tril	Lecture and laborator	Experimental activities
Tenth	2	Matrices	-fliplr -flipud - Select a row or column -max & min	Lecture and laborator	Experimental activities
Eleventh	2	Matrices	- Addition and subtraction - multiplication - ^	Lecture and laborator	Experimental activities
Twelfth	2	Matrices	- Multidimensional Arrays	Lecture and laborator	Quiz, activities and assignment
Thirteen	2	Input and outpu	-Input -disp - num2str	Lecture and laborator	Quiz, activities and assignment
Fourteenth	2	loops	For Loop	Lecture and laborator	Experimental activities
Fifteenth	2	loops	For Loop	Lecture and laborator	Experimental activities
Sixteenth	2	loops	For Loop	Lecture and laborator	Quiz, activities and assignment
Seventeenth	2	loops	While Loop	Lecture and laborator	Experimental activities
Eighteenth	2	loops	While Loop	Lecture and laborator	Experimental activities
Nineteenth	2	loops	While Loop	Lecture and laborator	Quiz, activities and assignment
Twentieth	2	Conditional Statements	If Conditional	Lecture and laborator	Experimental activities
Twenty first	2	Conditional Statements	If Conditional	Lecture and laborator	Experimental activities
Twenty	2	Interruptive	Continue and Break	Lecture and laborator	Quiz, activities

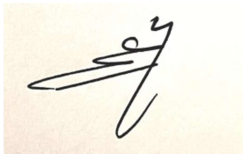
second		Statements	Statements		and assignment
Twenty third	2	plot	-Figure window -plot	Lecture and laborator	Experimental activities
Twenty fourth	2	plot	-color, symbols and line types -linspace -fplot	Lecture and laborator	Experimental activities
Twenty fifth	2	plot	-hold on -hold off -subplot	Lecture and laborator	Experimental activities
Twenty sixth	2	plot	-stem -stairs -bar	Lecture and laborator	Experimental activities
Twenty seventh	2	plot	-grid -xlabel -ylabel -title -legend -text -axis	Lecture and laborator	Quiz, activities and assignment
Twenty eighth	2	plot	-plot3 -meshgrid	Lecture and laborator	Experimental activities
Twenty ninth	2	plot	-pie3 -surf -ezplot	Lecture and laborator	Experimental activities
Thirtieth	2	plot	-polar -contour	Lecture and laborator	Quiz, activities and assignment

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	Matlab help
Recommended books and references (scientific journals, reports...)	Matlab for beginners: a gentle approach
Electronic References, Websites	mathworks.com
Percentage of Curriculum Update	



Omar Alniemi — **Assist. Prof. Dr. Ali A. Alabdali**

Name and Signature of Curriculum Administer — **Name and Signature of Department Head**

https://uomosul.edu.iq/en/education/academic-program-description-apd/

Course Description Form

University of Mosul College of Education for Pure Sciences Department of Mathematics

1. Course Name and Stage: Scientific research method(2nd Class)
2. Course Code: EDMA25F206
3. Semester / Year: 2024−2025
4. Description Preparation Date: 1/9/2024
5. Available Attendance Forms: Laboratory , Classroom
6. Number of Credit Hours (Total) / Number of Units (Total): 2/2
7. Course administrator's name (mention all, if more than one name)

Name: Assistant Lecturer **Zainab abdulateef rasheed**
Emil : zainab.abdulateef@uomosul.edu.iq

8. Course Objectives

Course Objectives	Training the student on how to write a graduation project research. • Preparing the student to prepare his thesis if he has a desire to complete his graduate studies • Introducing the student to how to conduct statistical analyzes to achieve accurate results

9. Teaching and Learning Strategies

Strategy	Practical and theoretical lecture , talk and discussions, problem solving , performing practical experiments , reports and homework

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
First	2	Basics of scientific research	The nature of scientific research / choosing the research problem / research plan / research methodology	Lecture	quizzes
Second	2	Scientific thinking and	History of thought and common factors in forming	Lecture	quizzes

		research	thinking/definition of thought/patterns of thinking/manifestations of thinking		
Third	2	the quote	Considerations that should be taken into account when quoting with an illustrative example	Lecture	quizzes
Fourth	2	Collect and classify data	Historical, library and field sources/data collection method	experiment	Quiz, report , homework
Fifth	2	How to document personal interview data	How to deal with people involved in the research, explaining this with an example	Problem solving	Homework
Sixth	2	Email information	How to cite information from email	experiment	Quiz, report , homework
Seventh	2	the society	Its definition and areas of use in research	Problem solving	Homework
Eighth	2	the sample	Definition of the sample / its types / method of drawing it and its mathematical methods / illustrative example	experiment	Quiz, report , homework
Nineth	2	The relationship between the population and the sample	Determine the cases in which the sample is used and what is its relationship to the population from which it is drawn.	Problem solving	Homework
Tenth	2	Writing scientific research	Preparing the research draft/preparing the original research/sending the original research for publication	experiment	Quiz, report homework
Eleventh	2	Descriptive statistics	Definition of descriptive and quantitative data/graphical representation of them	experiment	Quiz, report homework
Twelfth	2	Charts	Types of graphs/histogram/histogram/histogram/histogram/histogram	Problem solving	Homework
Thirteen	2	Frequency distribution tables	Organizing data into two types of frequency distribution tables/how to calculate the frequency for each of them	Lecture	Quiz, and homework
Fourteenth	2	Clustered repetition	Extracting the ascending and descending clustered frequencies and their graphical representation	Problem solving	Homework
Fifteenth	1	Measu of cent	Calculating the arithmetic		

		tenden	mean/median/mode/ uartile mean/geometı mean		
Sixteenth	2	Types of statistical data	Definition of classified and unclassified data	lecture	Quiz, report , homework
Seventeenth	2	Frequency distribution tables	Types of frequency tables and how to distribute the data within them	lecture	Quizzes
Eighteenth	2	Statistical samples	Method of statistical sampling, its types and field of application	Problem solving	Quiz, and homework
Nineteenth	2	Introduction to probability	Definition of probability/sample space/event/independent and independent events	Lecture	Quizzes
Twentieth	2	Probability calculation	Determine methods for calculating the value of probabilities, whether for independent or independent events	Problem solving	homework
Twenty first	2	Probability distributions	Definition of continuous and discontinuous distributions and their probability functions	Lecture	Quiz
Twenty second	2	Cumulative distributions	Definition of the cumulative distribution function and its mathematical formula	Problem solving	homework
Twenty third	2	Poisson distribution	Definition of its probability function/arithmetic mean/variance, standard deviation, mathematical expectation, moment-generating function, and its graphical form.	Lecture	Quiz
Twenty fourth	2	Bernoulli distribution	Give the formula for its probability function and calculate the arithmetic mean and variance/standard deviation/mathematical expectation/moment generating function	Problem solving	homework
Twenty fifth	2	Normal distribution	Its definition/shape of the curve/properties/arithmetic mean/variance/standard deviation/mathematical expectation	lecture	Quiz
Twenty sixth	2	Uses of normal distribution	Calculating areas under the curve using normal distribution tables instead of integrating	Problem solving	homework

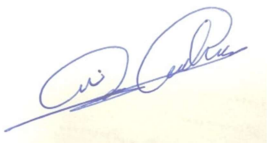
			them		
Twenty seventh	2	Chi-square distribution	Use to know the difference between real and expected views	Lecture	Quiz
Twenty eighth	2	Do a search	A group of students prepared an experimental research	lecture	Quiz
Twenty nineth	2	Discussing the research	Training students on how to discuss their research project before the discussion committee.	Lecture	Quiz
Thirtieth	1	Exam			

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, any)	Scientific/quantitative and qualitative research Professor Dr. Amer Kandilji and Dr Iman Al-Samarrai • Statistical methods/ Dr. Sabry Radif Al-Ani and Dr. Salim Al-Gharabi. • Probabilities and random variables / Dr. Basil Younis. • Statistics/Dr. Mahmoud Hassan Al-Mashhadani and Mr. Amir Hanna Hormuz
Main references (sources)	Basic texts prepared by the subject teacher
Recommended books and references (scientific journals, reports…)	Reports - periodicals and scientific journals
Electronic References, Websites	International Information Network (Internet)
Percentage of Curriculum Update	



Zainab abdulateef rasheed

Name and Signature of Curriculum Administer

Assist. Prof. Dr. Ali A. Alabdali

Name and Signature of Department Head

https://uomosul.edu.iq/en/education/academic-program-description-apd/

Course Description Form

University of Mosul College of Education for Pure Sciences Department of Mathematics

1. Course Name and Stage: Secondary Education, Administration and Supervision (2nd Class)
2. Course Code: EDMA25F207
3. Semester / Year: 2025/2024
4. Description Preparation Date:2024/9/1

5. Available Attendance Forms: My presence / Built-in

6. Number of Credit Hours (Total) / Number of Units (Total)

7. Course administrator's name (mention all, if more than one name)

Name: **Mustafa Fahmi Hamid**

Email: mustafa.hamid@uomosul.edu.iq

8. Course Objectives

Course Objectives	• **General goal: Students learn about the importance of secondary education, management, and supervision to raise their level of how to manage the classroom and strengthen their skills, develop a lesson plan, how to divide the curriculum, follow up on students' level, set a time for the exam, activate daily participation, as well as raise the students' administrative level and prepare them for the future in management and supervision tasks. .** • **• Special goal: Preparing students on how to deal with classroom management, controlling the classroom, raising the level of students, solving problems and obstacles that the student experiences, and producing results to raise the educational level of the student, as well as practicing management and supervision by visiting schools, following up on students' requirements, and activating courses for the teaching staff to raise the level of education. And solving obstacles among the teaching staff.....** • ..... • .....

9. Teaching and Learning Strategies

Strategy	

	Lecture, problem solving, reports, active learning, brainstorming cooperative

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	The concept and goals	education	lecture	Daily exam
2	2	education	General and specific goals	Discussion	Ask questions
3	2	Objectives of second	E-Learning	a lecture	discuss
4	2	education in Iraq	Management concept	lecture	
5	2	Educational innovations	Patterns of educati	Lecture and discuss	Oral test
6	2	secondary education	administration	lecture	
7	2	Administration	Types of planning	Lecture	Class interaction
8	2	Contemporary trends	Organization characteristics	discussion	Class
9	2	educational administrati	Basic functions of guidance	lecture	interaction
10	2	Planning	Types of calendar	lecture	Daily exam
11	2	Organization	The importance of classro	lecture	Class
12	2	Guidance	interaction	lecture	interaction
13	2	Supervision and	Objectives of the questions	Lecture	Quick
14	2	evaluation	The concept of sch	discussion	questions
15	2	Classroom management	administration	Lecture	the end of
16	2	ask questions	Skills that a school princ	brainstormin	lesson
17	2	The school	must have	lecture	discussion
18	2	administration	Teacher skills in evalua	lecture	Daily testi
19	2	School principal duties	students	a test	Quick
20	2	Teacher qualities	Causes of classroom problem	lecture	questions
21	2	Classroom problems	midyear	lecture	the end of
22	2	Training news	Causes of distraction	lecture	lesson
23	2	Simple problems that	Treating absence problems	lecture	Daily exam
24	2	have a direct impact on	Cheating and the reasons	lecture	Oral test
25	2	the educational process	cheating	lecture	
26	2	Frequent absence from	The principles on wh	lecture	Oral test
27	2	school	supervision is based	lecture	Class
28	2	Core behavioral	Methods of educati	Lecture	interaction
29	2	problems	supervision in general	brainstormin	Daily exam
30	2	Educational Supervision	A brief presentation of the n	lecture	Class
		Advantages of modern	important and promin	Lecture	interaction
		educational supervision	supervisory methods	interactive	Quick
		Basis for choosing the	Exchange of visits betw	learning	questions
		supervisory method	teachers	lecture	the end of
			Steps to conduct the pract	a lecture	lesson
		Basis for choos	lesson	a lecture	Class
		the supervis	Its goals		interaction
		method	Its concept and conditions		Class
		Supervisory	Objectives of action research		interaction
		deliberations	Its advantages		discussion
		Practical lessons	E-learning objectives		discussion
		Educational	Comparison of electr		Daily exam
		workshop	education		Reports
		Supervisory	and traditional education		discussion
		meetings			Class

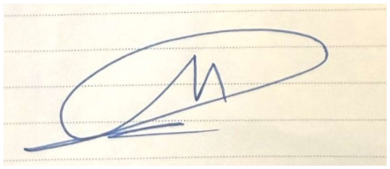
		sessions Action research Microlearning E-Learning Characteristics electronic educat			interactio Lecture teaching Built-in Lecture teaching Built-in

11. Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc. (40 endeavors + 60 final)

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Bound. .Dr . Ahmed Saeed Rashid Taie, entitled Secondary Educati Administration and Supervision, summary from a group of books.
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	
Percentage of Curriculum Update	



Mustafa Fahmi Hamid

Name and Signature of Curriculum Administer

Assist. Prof. Dr. Ali A. Alabdali

Name and Signature of Department Head

https://uomosul.edu.iq/en/education/academic-program-description-apd/

Course Description Form

University of Mosul College of Education for Pure Sciences Department of Mathematics

1. Course Name and Stage:
Developmental Psychology(2nd Class)
2. Course Code:
EDMA25F208
3. Semester / Year:
Year
4. Description Preparation Date:
1-9-2024
5. Available Attendance Forms:
Study hall
6. Number of Credit Hours (Total) / Number of Units (Total)
7. Course administrator's name (mention all, if more than one name)
Name: Assist. Prof. Ahmed O.Owaid Email: unmoah@uomosul.edu.iq
8. Course Objectives

Course Objective	• **Introducing the student to the concepts of growth and th importance of studying the psychology of growth and its demands according to all its stages…..** • **Introducing the student to the factors affecting growth…..** • **Providing the student with information and facts about mental, emotional, and social development throughout t stages of childhood, adolescence, and old age.** • **Introducing the student to the stages of childhood, adolescence and old age and the most important proble**

	of each stage • **Introducing the student to growth theories.** • **• Introducing the student to research methods in developmental psychology….**

9. Teaching and Learning Strategies	
Strategy	• Lecture, discussion, class interaction

10. Course Structure

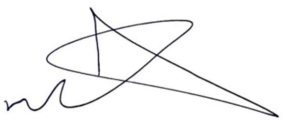
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
the first	2		Developmental psychology, the difference betwee growth and maturity Its goals and Importance	Lecture and discussion	Oral questior and tests
the second	2		Stages and demands of th gr	Lecture and discussion	Oral questior and tests
the third	2		Factors affecting growth	Lecture and discussion	Oral questior and tests
Fourth	2		Mental and moral development in childhood	Lecture and discussion	Oral questior and tests
Fifth	2		Linguistic, social, and emotional development of childhood	Lecture and discussion	Oral questior and tests

Sixth	2		adolescence	Lecture and discussion	Oral question and tests
Seventh	2		Mental and moral development of adolescence	Lecture and discussion	Oral question and tests
Eight Ninth	2 2		Social developme and emotion in adolescence Aging and its stages	Lecture and discussion Lecture and discussion	Oral question and tests Oral question and tests
tenth	2		Motivation in learning	Lecture and discussion	Oral question and tests
eleventh	2		Growth theories	Lecture and discussion	Oral question and tests
twelfth	2		Educational applications of developmental psychology	Lecture and discussion	Oral question and tests

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 an	Al-Alusi, Jamal Hussein (1983): Psychology of childhood and adolescence.
Main references (sources)	• Hormuz, Sabah Hanna and Youss Hanna Ibrahim (1988): Formativ

	Psychology • Alwan, Fadia (2003): Introducti to developmental psychology
Recommended books and references (scientific journals, reports…)	Hormuz, Sabah Hanna and Youss Hanna Ibrahim (1988): Formativ Psychology
Electronic References, Websites	nothing
Percentage of Curriculum Update	



Assist. Prof. Ahmed O. Owaid

Name and Signature of Curriculum Administer

Assist. Prof. Dr. Ali A. Alabdali

Name and Signature of Department Head

https://uomosul.edu.iq/en/education/academic-program-description-apd/

Course Description Form

University of Mosul College of Education for Pure Sciences Department of Mathematics

1. Course Name and Stage: English Language(2nd Class)
2. Course Code: **EDMA25F209**
3. Semester / Year: 2024−2025
4. Description Preparation Date: 11/2/2025

5. Available Attendance Forms: Laboratory , Classroom

6. Number of Credit Hours (Total) / Number of Units (Total)

1/2

7. Course administrator's name (mention all, if more than one name)

Name: Lecturer / **Noora Laith Housen**
Email: nooralaith1984@uomosul.edu.iq

8. Course Objectives

Course Objectives	• The student learns the basics of the English Language. • The student is able to solve all the various problems related to t subject. • Developing the student's knowledge about the subject by add some modern topics

9. Teaching and Learning Strategies

Strategy	Theoretical lecture, dialogue and discussions, daily assignments, Quiz

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
first	1	Type of adjectives	adjectives	Lecture	Quiz
Second	1	Type of adjectives	adjectives	Lecture	Quiz
Third	1	Type of adjectives	adjectives	Lecture	Quiz
Fourth	1	The student learns about the types of	Jobs	Lecture	Quiz

		jobs			
Fifth	1	The student learns about the types of jobs	Jobs	Lecture	Quiz
Sixth	1	Future simple	Questions and answers	Lecture	Quiz
Seventh	1	The student learns the names of family members	Combining family names with some fruits	Lecture	Quiz
Eighth	1	The student learns the names of family members	Combining family names with some fruits	Lecture	Quiz
Ninth	1	The student learns the names of family members	Combining family names with some fruits	Lecture	Quiz
Tenth	1	Comprehensio n	Reading Passage	Lecture	Quiz
Eleventh	1	Comprehension	Reading Passage	Lecture	Quiz
Twelfth	1	Distinguish between attributes	Questions and answers	Lecture	Quiz
Thirteen	1	The student learns how to write numbers	Numbers	Lecture	Quiz
Fourteent h	1	The student learns how to write numbers	Numbers	Lecture	Quiz
Fifteenth	1	Definite and Indefinite Article	a/an and the	Lecture	Quiz
Sixteenth	1	Present simple of “be”	Affirmative and Negative forms	Lecture	Quiz
Seventeent h	1	Present simple of “be”	Questions and Short answers	Lecture	Quiz
Eighteenth	1	Past perfect	Affirmative and negative	Lecture	Quiz
Nineteent h	1	Past perfect	Questions and answers	Lecture	Quiz
Twentieth	1	If-Conditional 3rd type	If had - would have	Lecture	Quiz
Twenty first	1	The student learns how to write time	the time	Lecture	Quiz
Twenty second	1	The student learns how o write time	he time	Lecture	Quiz
Twenty thi	1	The student learns to write history	the date	Lecture	Quiz
Twenty fourth	1	The student should	the weather	Lecture	Quiz

		distinguish weather conditions			
Twenty fifth	1	Educational Texts	Values of Respect in the University Environment	Lecture	Quiz
Twenty sixth	1	Educational Texts	Respect others	Lecture	Quiz
Twenty seventh	1	Prepositions of time	In, at, on	Lecture	Quiz
Twenty eighth	1	Educational Vocabulary	Active Learning	Lecture	Quiz
Twenty ninth	1	Educational Vocabulary	Course of Study	Lecture	Quiz
Thirtieth		Final Exar			

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 any)	Grammar Two
Main references (sources)	Grammar Two
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	Z AMERICAN ENGILISH
Percentage of Curriculum Update	

جامعة الموصل
كلية التربية للعلوم الصرفة
رئيس قسم الرياضيات

Noora Laith Housen

Name and Signature of Curriculum Administer

Assist. Prof. Dr. Ali A. Alabdali

Name and Signature of Department Head

https://uomosul.edu.iq/en/education/academic-program-description-apd/

Course Description Form

University of Mosul College of Education for Pure Sciences Department of Mathematics

1. Course Name and Stage: Crimes of Baath Regime(2^{nd} Class)
2. Course Code: **EDMA25F210**
3. Semester / Year: 2025−2024
4. Description Preparation Date: 1/9/2024

5. Available Attendance Forms: Lecture , Classroom

6. Number of Credit Hours (Total) / Number of Units (Total)

6 hrs/ 2 units

7. Course administrator's name (mention all, if more than one name)

Name: Assist. Lec. **Omar Othman ibrahim**
Email omar.othman@uomosul.edu.iq

8. Course Objectives

Course Objectives	**• The curriculum aims that the student will be familiar with conce of crimes and human rights violations that occurred in Iraq** **• Presenting a balanced scientific comprehension for law basics in simple understandable way for most of subjects and syllables the are important for the student that are in undergraduate specialties in all colleges**

9. Teaching and Learning Strategies

Strategy	theoretical lecture , talk and discussions, reports and quizzes and homework

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
first	2	Weekly assessment of student /discussions	Chapter 1: Concept of crime and types	Lecture	Quizzes and homework
Second	2	Weekly	Section 1: definition of	Lecture	Quizzes and

		assessment of student /discussions	crime		homework
Third	2	Weekly assessment of student /discussions	Linguistic definition of crime	Lecture	Quizzes and homework
Fourth	2	Weekly assessment of student /discussions	Idiomatic definition of crime	Lecture	Quizzes and homework
Fifth	2	Weekly assessment of student /discussions	Divisions of crimes	Lecture	Quizzes and homework
Sixth	2	Weekly assessment of student /discussions	Crimes according to *Iraq Supreme* Criminal Tribunal 2005	Lecture	Quizzes and homework
Seventh	2	Weekly assessment of student /discussions	Section 2: International laws	Lecture	Quizzes and homework
Eighth	2	Weekly assessment of student /discussions	Types of international laws	Lecture	Quizzes and homework
Nineth	2	Weekly assessment of student /discussions	Decisions issued from *Iraq Supreme* Criminal Tribunal	Lecture	Quizzes and homework
Tenth	2	Weekly assessment of student /discussions	Crimes and issues seen by *Iraq Supreme* Criminal Tribunal	Lecture	Quizzes and homework
Eleventh	2	Weekly assessment of student /discussions	Chapter 2: Psychological and social crimes and their effect on Iraq	Lecture	Quizzes and homework
Twelfth	2	Weekly assessment of student /discussions	First: Psychological crimes	Lecture	Quizzes and homework
Thirteen	2	Weekly assessment of student /discussions	Mechanisms and methods of Psychological crimes	Lecture	Quizzes and homework
Fourteenth	2	Weekly assessment of student /discussions	Effects of Psychological crimes	Lecture	Quizzes and homework
Fifteenth	2	Weekly assessment of student /discussions	Second: social crimes	Lecture	Quizzes and homework
Sixteenth	2	Weekly assessment	Militarization of	Lecture	Quizzes and

		of student /discussions	society		homework
Seventeenth	2	Weekly assessment of student /discussions	Monopoly of religion	Lecture	Quizzes and homework
Eighteenth	2	Weekly assessment of student /discussions	Iraqi laws violations	Lecture	Quizzes and homework
Nineteenth	2	Weekly assessment of student /discussions	Pictures of human rights violations and regime	Lecture	Quizzes and homework
Twentieth	2	Weekly assessment of student /discussions	Military and political Executions decisions	Lecture	Quizzes and homework
Twenty first	2	Weekly assessment of student /discussions	Places of prisons, arresting and detentions	Lecture	Quizzes and homework
Twenty second	2	Weekly assessment of student /discussions	Chapter 3: Ecological crimes and effects on Iraq	Lecture	Quizzes and homework
Twenty third	2	Weekly assessment of student /discussions	War pollution , radiation and mine explosions	Lecture	Quizzes and homework
Twenty fourth	2	Weekly assessment of student /discussions	Burned land policy	Lecture	Quizzes and homework
Twenty fifth	2	Weekly assessment of student /discussions	Dredging orchards, trees and cultivars	Lecture	Quizzes and homework
Twenty sixth	2	Weekly assessment of student /discussions	Chapter 4: Mass craves crimes	Lecture	Quizzes and homework
Twenty seventh	2	Weekly assessment of student /discussions	Events of 1963 and relationships with mass craves	Lecture	Quizzes and homework
Twenty eighth	2	Weekly assessment of	Events and wars in Iraq from 1979 to	Lecture	Quizzes and homework

		student /discussions	2003 and relationships with mass craves		
Twenty nineth	2	Weekly assessment of student /discussions	Mass craves sites due to events and coups from 1963-1979	Lecture	Quizzes and homework
Thirtieth	2	Weekly assessment student /discussions	Mass craves sites due to events and coups from 1980-2003	Lecture	Quizzes a homework

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)	Textbook (Baath regime crimes) by ministry committee 2023
Main references (sources)	Al-Shuhaddaa Foundation archives Poltical prisoners foundation archive
Recommended books and references (scientific journals, reports…)	Al-Fadhel M. Crimes on state security. 1978 Abdul Malak J. Criminal encyclopedia .1990
Electronic References, Websites	New references, Articles and books from Web
Percentage of Curriculum Upda	

Omar Othman ibrahim

Name and Signature of Curriculum Administer

Assist. Prof. Dr. Ali A. Alabdali

Name and Signature of Department Head

https://uomosul.edu.iq/en/education/academic-program-description-apd/

Course Description Form

University of Mosul College of Education for Pure Sciences Department of Mathematics

1. Course Name and Stage: Mathematical Analysis(3^{rd} Class)
2. Course Code: **EDMA25F301**
3. Semester / Year: 2024−2025
4. Description Preparation Date: 1/9/2024
5. Available Attendance Forms: Classroom and E- Classroom
6. Number of Credit Hours (Total) / Number of Units (Total): 120 hours / 4units
7. Course administrator's name (mention all, if more than one name)

Name: Marwan Azeez Jardo
Email: marwanjardo@uomosul.edu.iq
Nadia Adnan Abdul Razaq
nadia.adnan@uomosul.edu.iq

8. Course Objectives

Course Objectives	• **Learn the basic principles of mathematics through the mathemat analysis course.**

9. Teaching and Learning Strategies

Strategy	Practical and theoretical lecture , talk and discussions, problem solving , performing practical experiments , reports and homework

10. Course Structure

Week	Hours	Unit or subject name	Learning method	Evaluation method
first	4	The Bounded Sets	Lecture	quizzes and discussions
Second	4	The relation between the Rational numbers field and Real numbers field	Lecture	quizzes
Third	4	The Irrational numbers and real numbers	Lecture	quizzes

Fourth	4	Archimedes Pinciple	Lecture	quizzes and homework's
Fifth	4	Density of Rational numbers	Lecture	quizzes
Sixth	4	Density of Irrational numbers	Lecture	quizzes
Seventh	4	The Linear space	Lecture	quizzes
Eighth	4	The Absolute value	Lecture	quizzes and homework's
Ninth	4	Sequences of Real numbers/Converging Sequence	Lecture	homework's
Tenth	4	Bounded Sequences,Monotonic Sequences and Cauchy sequences	Lecture	quizzes and homework's
Eleventh	4	Operations on Sequences	Lecture	quizzes and homework's
Twelfth	4	Normed Space	Lecture	homework's
Thirteen	4	Completeness of Real numbers space theorem	Lecture	quizzes and homework's
Fourteenth	4	The Metric space	Lecture	homework's
Fifteenth	4	The Sequences of Metric space	Lecture	quizzes
Sixteenth	4	Compact spaces	Lecture	quizzes and homework's
Seventeenth	4	Continuity	Lecture	quizzes
Eighteenth	4	Continuity in the Metric Space	Lecture	quizzes and homework's
Nineteenth	4	Continuity of equivalences theorem	Lecture	quizzes
Twentieth	4	Real Volued mappings	Lecture	quizzes and homework's
Twenty first	4	Uniform Continuity	Lecture	quizzes and discussions
Twenty second	4	Sequences and Series of functions	Lecture	quizzes and discussions
Twenty third	4	Pointwise convergence and Uniform convergence	Lecture	quizzes and discussions
Twenty fourth	4	The Derivative	Lecture	quizzes and discussions
Twenty fifth	4	Rule's theorem and Mean value theorem	Lecture	quizzes and discussions
Twenty sixth	4	Riemann integral	Lecture	quizzes and discussions
Twenty seventh	4	Measure theory	Lecture	quizzes and discussions
Twenty eighth	4	Outer measurement of Bounded set	Lecture	quizzes
Twenty ninth	4	Properties of outer measurement	Lecture	quizzes

Thirtieth	4	Lebesgue Integral	Lecture	quizzes and discussions

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)	مقدمة في التحليل الرياضي، أ. د. عادل غسان نعوم، كلية العلوم، جامعة بغداد، 1981.
Recommended books and references	Introduction of Mathematic Analysis, John E. Hutchinson, Department of Mathematics School of Mathematical Sciences ANU, 1995.
Percentage of Curriculum Update	

Dr. Marwan Azeez Jardo

Name and Signature of Curriculum Administer

Assist. Prof. Dr. Ali A. Alabdali

Name and Signature of Department Head

https://uomosul.edu.iq/en/education/academic-program-description-apd/

Course Description Form

University of Mosul College of Education for Pure Sciences Department of Mathematics

1. Course Name and Stage: Partial Differential Equations (PDEs) (3^{rd} Class)
2. Course Code: **EDMA25F302**
3. Semester / Year: 2024−2025
4. Description Preparation Date: 1−9−2023

5. Available Attendance Forms: Laboratory , Classroom

6. Number of Credit Hours (Total) / Number of Units (Total)

4\4

7. Course administrator's name (mention all, if more than one name)

Name: **Asst. Prof. Dr. JUNAID IDREES MUSTAFA**
Email: j.i.mustafa20@uomosul.edu.iq
Name: Lecturer Eman Hashem Najm
Email: emanhashem1986@uomosul.edu.iq

8. Course Objectives

Course Objectives	• **Knowing the concept of PDEs** • **Knowing the points on which PDEs classified.** • **Knowing the origin of PDEs and how can we get it.** • **Knowing the methods of solution of PDEs.**

9. Teaching and Learning Strategies

Strategy	Theoretical lecture, discussions, solution of problems, repo and daily assignments.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
first	4	Knowing the general concepts	The Definitions and classification of PDEs	Lecture	quizzes

Second	4	**Knowing the Derivation of Partial Differential Equation**	the elimination of arbitrary constants and functions	Lecture	quizzes
Third	4	**Knowing the Derivation of Partial Differential Equation**	the elimination of arbitrary constants and functions	Lecture	quizzes
Fourth	4	**Knowing the Lagrange's method**	First order PDEs	Lecture	Quiz, and homework
Fifth	4	**Knowing the Lagrange's method for solving linear PDEs of order one**.	First order PDEs	Lecture	Homework
Sixth	4	**Knowing the Lagrange's method for solving linear PDEs of order one**.	First order PDEs	Lecture	Quiz, and homework
Seventh	4	**Knowing the Charpit's Method (General Method of Solving p.d.es of Order One but of any Degree)**	Nonlinear first order PDEs	Lecture	Homework
Eighth	4	**Knowing some of the** particular **forms of the nonlinear PDEs of order one**.	Nonlinear first order PDEs	Lecture	Quiz, and discussions
Nineth	4	**Using Some Hypotheses in the Solution**	Nonlinear first order PDEs	Lecture	Homework
Tenth	4	Methods of solutions	Second and higher order reducible PDEs	Lecture	Quiz, and homework
Eleventh	4	Methods of solutions	Second and higher order reducible PDEs	Lecture	Quiz, and homework
Twelfth	4	Methods of solutions	Second and higher order	Lecture	discussions

			irreducible PDEs		
Thirteen	4	Knowing the finding of the particular and general solution	Non-homogeneous PDEs with constant coefficients	Lecture	Quiz, and homework
Fourteenth	4	Knowing the finding of the particular and general solution	Non-homogeneous PDEs with constant coefficients	Lecture	Homework
Fifteenth	4	Knowing the finding of the particular and general solution	PDEs of Euler type	Lecture	Quiz, and discussions
Sixteenth	4	Knowing the finding of the solution of the particular cases of non-homogene PDEs	PDEs with variable coefficients	Lecture	Quiz, and homework
Seventeenth	4	Knowing the finding of the solution of the particular cases of non-homogene PDEs	PDEs with variable coefficients	Lecture	Quizzes
Eighteenth	4	Knowing the Classification of PDEs for the Conic sections	Second order PDEs and the Conic sections	Lecture	Quiz, and homework
Nineteenth	4	Knowing the Classification of PDEs for the Conic sections	Second order PDEs and the Conic sections	Lecture	Quizzes
Twenty	4	Knowing the main concepts.	Fourier series of periodic functions in interval [0,2pi]	Lecture	discussions
Twenty first	4	evaluate Fourier series	Fourier series of periodic functions and even and odd functions	Lecture	Quiz

Twenty second	4	evaluate Fourier series	The Half Range Fourier Series	Lecture	homework
Twenty third	4	evaluate Fourier series	Fourier series of periodic functions in general interval [-L, L]	Lecture	Quiz
Twenty fourth	4	Knowing the **separation of variables method**	Second order PDEs	Lecture	homework
Twenty fifth	4	Knowing the **separation of variables method**	Second order PDEs	Lecture	Quiz
Twenty sixth	4	Knowing the **heat equation**	Derivation of the heat equation	Lecture	discussions
Twenty seven	4	Knowing the **heat equation**	Solving the heat equation	Lecture	Quiz
Twenty eighth	4	Knowing the **wave equation**	Derivation of the wave equation	Lecture	Quiz
Twenty nine	4	Knowing the **wave equation**	Derivation of the wave equation	Lecture	Quiz
Thirtieth	4	Knowing the **Laplace equation**	Solving of the Laplace equation by using the **separation of variables method**	Lecture	Quiz

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)	1- مقدمة الى المعادلات التفاضلية الجزئية- تاليف: عطا الله ثامر العاني
Recommended books and references (scientific journals, reports…)	2- Elementary differential equations, Kells 3- Elements of partial differential equations, IAN N SEDDON 4- نظريات ومسائل في المعادلات التفاضلية (سلسلة سشوم)، فرانك ايزر Partial Differential Equations Scientists and Engineers - Stanley Farlow
Electronic References, Websites	
Percentage of Curriculum Update	

Assist. Prof. Dr. JUNAID IDREES MUSTAFA

Name and Signature of Curriculum Administer

Assist. Prof. Dr. Ali A. Alabdali

Name and Signature of Department Head

https://uomosul.edu.iq/en/education/academic-program-description-apd/

Course Description Form

University of Mosul College of Education for Pure Sciences Department of Mathematics

1. Course Name and Stage: **Ring Theory**(3rd Class)

2. Course Code: **EDMA25F303**

3. Semester / Year: 2024-2025

4. Description Preparation Date: 1/10/2024

5. Available Attendance Forms: In person in class , Classroom

6. Number of Credit Hours (Total) / Number of Units (Total)

120 hour, 4 hours of the week *30 weeks / 6 units

7. Course administrator's name (mention all, if more than one name)

Name: Dr. Luma Ahmed Khaleel /
Mrs. Shaymaa mohammed
Prof. Dr. Nada Yassen Qassim
Email: l.a.khaleel81@uomosul.edu.iq /ShaymmaMohammed@uomosul.edu.iq

8. Course Objectives

Course Objectives	• **Knowing the the algebra of rings, methods of diagnosing them,** • **Knowing the solving examples, and studying theorems.** • **The help them understand the basic concepts in ring.** **ıe The student should know the considerations on** • **which the algebra of rings is classified.**

9. Teaching and Learning Strategies

Strategy	Practical and theoretical lecture , talk and discussions, problem solving , performing practical experiments , reports and homework

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
first	4	Knowing the meaning of the ring, its properties, and its operation are general concepts	Defining the ring giving examples theorems, and solving	Lecture	Homework

Second	4	Knowing Subrings and examples and theorems	Defining the Subrings ,examples ,theorems and solving problems	Lecture	Homework
Third	4	Knowing the meaning of ideals Its properties and importance	Defining the ideals, example, theorems and solving problems	Lecture	Homework And Quiz.
Fourth	4	Knowing the meaning of Quotient Rings and Characteristic	Quotient Rings and Characteristic of a until Ring ,example theorems and solving problem	Lecture	Homework And Quiz.
Fifth	4	Knowing the meaning Rings Homomorphism	Rings Homomorphism	Lecture	Homework
Sixth	4	Knowing the meaning of fields Its properties and importance	Defining the fields, example, theorems and solving problems	experiment	Quiz, homework
Seventh	4	Knowing the meaning of subfields Its properties and importance	Defining the subfields, example, theorems and solving problems	Lecture	Homework
Eighth	4	How to obtain special types of ideals.	Some Special ideals and Operations on Ideals.	Lecture	Quiz, homework
Ninth	4	Knowing the meaning of Maximal ideals and their properties	Defining the Maximal ideals example, theorems and solving problems	Lecture	Homework
Tenth	4	Knowing the meaning of Prime ideals and their properties and comparing them	Defining the Prime Ideals example, theorems and solving problems	experimen	Quiz , homework
Eleventh	4	Knowing the meaning of PRIMARY ideals, their properties and comparing them	Defining the Primary Ideals example, theorems and solving problems	experimen	Quiz, homework
Twelfth	4	Knowing the meaning of Pure ideals and their properties	Defining the Pure Ideals example, theorems and solving problems	Lecture	Homework
Thirteen	4	Knowing the meaning of idempotent ideal , multiplicative ideal and their properties	Defining the idempoten ideal , multiplicative Ideals example, theorems and solving problems	Lecture	Quiz, and homework
Fourteenth	4	Knowing the meaning of the Radical of the ring	Defining the Radical of the ring, give exampl	Lecture	Homework

			theorems and solving problems		
Fifteenth	4	Knowing the meaning of the nil- Radical ideal theorems and its properties	Defining the nil- Radica ideal, give example, theorems and solving problems	Lecture	Homework
Sixteenth	4	Know the meaning of another type of the Boolean rings	Defining the Boolean Ring, give example, theorems	Lecture	Quiz, homework
Seventeentl	4	Know the meaning Polynomial ring	Defining Polynomial ring give example, theorems and solving problems	Lecture	Quiz, homework
Eighteenth	4	Know how to sum Polynomial ring	Defining sum Polynomial ring give example, Theorem and solving problems	Lecture	Quiz, and homework
Nineteenth	4	Know how to degree ring polynomials and how to multiply them	Defining degree , multiply ring polynomials and how to find them	Lecture	Quiz, homework
Twentieth	4	Knowing the meaning of the Division Algorithm	State Theorem Division Algorithm and solving	Lecture	Quiz, homework
Twenty first	4	Understanding REMAINDER THOREM	State Theorem REMAINDER THOREM ,give example.	Lecture	Quiz, homework
Twenty second	4	Knowing the meaning o the Module give Some theorems	Defining the Module give example and Properties of them	Lecture	Quiz, homework
Twenty third	4	Solving problem of the Module	Solving problem	Lecture	Quiz, homework
Twenty fourth	4	Knowing the meaning o the Sub Module give Some theorems	Defining the SubModu give example and Properties of them	Lecture	homework
Twenty fifth	4	Study the types of sub modules	Study the types of sub modules give example a Properties of them	lecture	Homework
Twenty sixth	4	Knowing the meaning Pure sub module	Defining the Pure sub module give example ar Properties of them	Lecture	Homework
Twenty seventh	4	Knowing the meaning Prime sub module	Defining the Prime Sub module give exam and Properties of them	Lecture	Quiz, homework
Twenty eighth	4	Knowing the meaning Primary sub module	Defining the Primary Sub module give exam	lecture	Quiz, homework

			and Properties of them		
Twenty ninth	4	Knowing the meaning Simple ,cyclic module	Defining the Simple module ,cyclic module	Lecture	Quiz, homework
Thirtieth	4	Knowing the meaning F-regular module	Defining the F-regular module		

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)	- A First Course in Abstract Algebra: Rings, Groups, and Fields, Third Edition 3rd Edition by Marlow Anderson(2020) - A First Course in Non commutative Rings Buchvers and kostenfrei - Weltbild.de February (2020)
Recommended books and references (scientific journals, reports...)	A First Course in Rings and Ideals ,Addison Wesley publishing company.(1979) DAVID M. BURTON
Electronic References, Websites	https://math.berkeley.edu/
Percentage of Curriculum Update	

Dr. Luma Ahmed Khaleel

Name and Signature of Curriculum Administer

Assist. Prof. Dr. Ali A. Alabdali

Name and Signature of Department Head

https://uomosul.edu.iq/en/education/academic-program-description-apd/

Course Description Form

University of Mosul College of Education for Pure Sciences Department of Mathematics

1. Course Name and Stage: Statistics and Probability (3rd Class)

2. Course Code: EDMA25F304

3. Semester / Year: 2024-2025

4. Description Preparation Date: 16/9/2024

5. Available Attendance Forms: Attendance, Classroom

6. Number of Credit Hours (Total) / Number of Units (Total)

120/4

7. Course administrator's name (mention all, if more than one name)

Name: **Assistant Prof. Dr. Younus Hazim Ismael Al-Taweel**
Email: younus.altaweel@uomosul.edu.iq
Name: **Zainab Abdulateef Rasheed**
Email: zainab.abdulateef@uomosul.edu.iq

8. Course Objectives

Course Objectives	• **Knowing the basic principles of Statistics** • **Knowing the principles of probability theory probability distributions.**

9. Teaching and Learning Strategies

Strategy	Practical and theoretical lectures, talks and discussions, problem solving, reports, and homework

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
first	4	Knowing the Random	Random experiments	Lecture, Problem	Quiz, homework

		experiments		solving	
Second	4	Knowing the Sample space, events	Samples space, events	Lecture, Problem solving	Quiz, homework
Third	4	understanding the theorems of probability	theorems of probability and examples,	Lecture, Problem solving	Quiz, homework
Fourth	4	Understanding the Rules of Probability Computations	Rules of Probability Computations	Lecture, Problem solving	Quiz, homework
Fifth	4	Apply Probability Computations	Examples	Lecture, Problem solving	Quiz, homework
Sixth	4	Knowing the probability space	probability space	Lecture, Problem solving	Quiz, homework
Seventh	4	Understanding the Conditional probability	Conditional probability	Lecture, Problem solving	Quiz, homework
Eighth	4	Understanding Bayes theorem and its applications	Bayes theorem, examples	Lecture, Problem solving	Quiz, homework
Nineth	4	Understanding the Random variables	Random variables, examples	Lecture, Problem solving	Quiz, homework
Tenth	4	Knowing and understanding the basic principles of Probability functions	Probability functions, examples	Lecture, Problem solving	Quiz, homework
Eleventh	4	Knowing and Understanding the Cumulative distribution functions	Cumulative distribution functions	Lecture, Problem solving	Quiz, homework
Twelfth	4	Practical applications	Construct probability functions.	Lecture, Problem solving	Quiz, homework
Thirteen	4	Understanding Basic Principles of Expectations	Expectations of Random Variables	Lecture, Problem solving	Quiz, homework
Fourteenth	4	Understanding basic principles of variance	variance of Random Variables	Lecture, Problem solving	Quiz, homework

Fifteenth	4	Understandi the ba principles Moments	Moments	Lecture, Problem solving	Quiz, homework
Sixteenth	4	Understanding the basic principles	Theorems and examples	Lecture, Problem solving	Quiz, homework
Seventeenth	4	Knowing and understanding the distributions and their properties	Bernoulli distribution, binomial distribution	Lecture, Problem solving	Quiz, homework
Eighteenth	4	Knowing and understanding the distribution and its properties	Geometric distribution, Poisson distribution	Lecture, Problem solving	Quiz, homework
Nineteenth	4	Knowing and understanding the distribution and its properties	uniform distribution,	Lecture, Problem solving	Quiz, homework
Twentieth	4	Knowing and understanding the distribution and its properties	Gamma distribution, Beta distribution	Lecture, Problem solving	Quiz, homework
Twenty first	4	Knowing and understanding the distribution and its properties	Normal distribution	Lecture, Problem solving	Quiz, homework
Twenty second	4	Knowing and understanding the distribution and its properties	standard Normal distribution,	Lecture, Problem solving	Quiz, homework
Twenty third	4	Knowing and understanding the distribution and its properties	Exponential distribution, uniform(continuous)	Lecture, Problem solving	Quiz, homework
Twenty fourth	4	Knowing and understanding the distributions and their properties	Chi-Square distribution	Lecture, Problem solving	Quiz, homework
Twenty fifth	4	Knowing the idea o Estimation	Introduction to Estimation Theory	Lecture, Problem solving	Quiz, homework
Twenty sixth	4	Knowing the Estimation methods	Estimation methods, MLE	Lecture, Problem solving	Quiz, homework

Twenty seventh	4	Knowing the Estimation methods	Moment method	Lecture, Problem solving	Quiz, homework
Twenty eighth	4	Knowing the properties of estimators	Some properties of estimators, unbiased	Lecture, Problem solving	Quiz, homework
Twenty nineth	4	Knowing the properties of estimators	consistent	Lecture, Problem solving	Quiz, homework
Thirtieth	4	Knowing properties estimators	Mean square error	Lecture, Problem solving	Quiz, homework

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)	**Schaum's Outline of Theory and Problems of Probability**
Main references (sources)	Hana, A. 1990. Mathematical statistics, Mosul University Press. Alsayad, J.M (1993) Statistical Inference, Al-Mareek Press, Saudia Arabia.
Electronic References, Websites	https://www.math-exercises.com/probability-and-statistics https://www.grasple.com/statistics
Percentage of Curriculum Update	

Assist. Prof. Dr. Younus Hazim Ismael Al-Taweel

Name and Signature of Curriculum Administer

Assist. Prof. Dr. Ali A. Alabdali

Name and Signature of Department Head

https://uomosul.edu.iq/en/education/academic-program-description-apd/

Course Description Form

University of Mosul College of Education for Pure Sciences Department of Mathematics

1. Course Name and Stage: Numerical Analysis(3rd Class)
2. Course Code: EDMA25F305
3. Semester / Year: 2024-2025

4. Description Preparation Date: 1\9\2024

5. Available Attendance Forms: Laboratory , Classroom

6. Number of Credit Hours (Total) / Number of Units (Total)

12\12

7. Course administrator's name (mention all, if more than one name)

Name: **Dr. Ghanim Mohameed Salih**
Email: g.m.abdullah@uomosul.edu.iq
Name: Eman Hashem Najem
Email: emanhashem1986@uomosul.edu.iq

8. Course Objectives

Course Objectives	• **Knowing the basic of error source.** • **Knowing and learning the how to solve the non−linear differential equations.** • **show the general of numerical methods for soling the system of differe equations.** • **Knowing the concept of the interpolation \extrapolation methods.** • **Knowing the numerical integration.** • **Knowing the numerical algorithm and applying the matlap programing.**

9. Teaching and Learning Strategies

Strategy	**Practical and theoretical lecture, talk and discussions, problem solving , performing pract experiments , and homework.**

10. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1	12	Error sources	Type of error sources	lecture	Quiz, report homework
2	12	Error sources	error sources with examples	lecture	Homework
3	12	Error sources	Formulation, truncation, errors	lecture	quizzes
4	12	Error sources	Examples for Formulation, truncation, errors	lecture	Quiz, report homework
5	12	Solution of nonlinear Eq. methods	Graphical methods	lecture	Homework
6	12	Solution of nonlinear Eq. methods	Bisection methods	lecture	quizzes
7	12	Solution of nonlinear Eq. methods	Methods of false position	lecture	Quiz, report homework
8	12	Solution of nonlinear Eq. methods	Secant methods	lecture	Homework
9	12	Solution of nonlinear Eq. methods	Newton-Raphson's methods	lecture	quizzes
10	12	Solution of nonlinear Eq. methods	Improvement Newton-Raphson's methods	lecture	Quiz, report homework
11	12	Solution of nonlinear Eq. methods	Convergence of Newton-Raphson methods	lecture	Homework
12	12	Solution of nonlinear Eq. methods	Quadratic factors	lecture	quizzes
13	12	Solution of nonlinear Eq. methods	Solution for system of nonlinear equations	lecture	Quiz, report homework
14	12	Solution of nonlinear Eq. methods	Modify formula	lecture	Homework
15	12	Numerical solution fo system linear equatio	Direct methods\Gaussian elimination methods	lecture	quizzes
16	12	Numerical solution fo system linear equatio	Direct methods\Gaussian- Jordan methods	lecture	Quiz, report homework
17	12	Numerical solution fo system linear equatio	Direct methods\LU decompositio	lecture	Homework
18	12	Numerical solution fo system linear equatio	Iterative methods\ Jacobi metho	lecture	quizzes
19	12	Numerical solution fo system linear equatio	Iterative methods\Gauss-Seidel method	lecture	Quiz, report homework
20	12	Interpolating polynomials	Lagrange methods	lecture	Homework
21	12	Interpolating polynomials	Calculus of finite differences	lecture	quizzes
22	12	Interpolating polynomials	Newton backward differences	lecture	Quiz, report homework

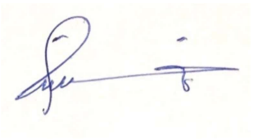
23	12	Interpolating polynomials	Divide finite differences	lecture	Homework
24	12	Numerical integratio	Trapezium methods	lecture	quizzes
25	12	Numerical integratio	Simpson methods	lecture	Quiz, report homework
26	12	Numerical integratio	Bool methods and Weddle methods	lecture	Homework
27	12	Numerical integratio	Romberg integration methods	lecture	quizzes
28	12	Differential equation	uler's method and Runge-kutta methods	lecture	Quiz, report homework
29	12	Stability of Numerica Methods	Interdiction of One step Methods	lecture	Homework
30	12	Stability of Numerica Methods	Interdiction of multistep Methods	lecture	quizzes

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)	Fundamental of Numerical Analysis
Main references (sources)	• Applied engineering and numerical analysis • Applied numerical analysis
Recommended books and references (scientific journals, reports…)	• Introduction numerical analysis • Applied numerical analysis • Elementary Numerical Analysis
Electronic References, Websites	
Percentage of Curriculum Update	



Dr. Ghanim Mohameed Salih

Name and Signature of Curriculum Administer

Assist. Prof. Dr. Ali A. Alabdali

Name and Signature of Department Head

https://uomosul.edu.iq/en/education/academic-program-description-apd/

Course Description Form

University of Mosul College of Education for Pure Sciences Department of Mathematics

1. Course Name and Stage:
Teaching curricula and methods(3rd Class)
2. Course Code:
EDMA25F306
3. Semester / Year:
2024–2025
4. Description Preparation Date:
2025/2/12
5. Available Attendance Forms:
In-person/integrated
6. Number of Credit Hours (Total) / Number of Units (Total)
3
7. Course administrator's name (mention all, if more than one name)
Name: **Dr. Enas Yonuis Alazwo** Email: dr.enasalazw@uomosul.edu.iq Name: Nadi Adnan Abd-Alrazaq email: Nadiaadnan@uomosul.edu.iq
8. Course Objectives

Course Objectives	• **General goal: Students learn about the importance of curricu and teaching methods, and how to write an annual and daily lesson plan for mathematics lessons in different ways, while employing educational methods, preparing tests, and formulating daily questio** • **Specific objective: Familiarize students with the concept of t ancient and modern curriculum, learn about objectives and how to formulate them according to Bloom's levels and fields, scientific–mathematical content, methods for teaching variety, evaluation methods, how to ask questions, and educational methods……** • **Students are introduced to the principles of sustaina development and its fourth theme, education, and are introduced methods for developing them in mathematics lessons.** • **Students are introduced to thinking styles and methods employing them in mathematics teaching.** • **Students are introduced to cases of people with special needs**

	methods for presenting mathematical topics…… • …..

9. Teaching and Learning Strategies

Strategy	Lecture, problem solving, reports, active cooperative learni brainstorming

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1	Learn about the concep	Science and its skills	Lecture	Daily exam
2	2	of science and its	Science and technolo	Discussion	Ask questions
3	1	relationship to technol	The concept of the	a lecture	and discuss
4	2	Learn about applicatio	curriculum and its	lecture	
5	1	of science	importance	Lecture and	Oral test
6	2	Learn about the concep	Curriculum philosoph	discussion	
7	1	of curriculum	Preparing types of	lecture	Class interact
8	2	Determine the philoso	curriculum	Lecture and	Class interact
9	1	of the curriculum	Components of the	discussion	Individual
10	2	Mention the types of	modern curriculum	Lecture and	duties
11	1	curricula	Educational goals a	cooperative	
12	2	Comparison between t	their types	learning	Individual
13	1	ancient and modern	Formulating cognitiv	The lecture ar	duties
14	2	curriculum	goals according to	the mental ha	Reports
15	1	Identify educational go	Bloom's six levels	lecture	Daily testing
16	2	Identify the types of go	Formulating cognitiv	Lecture and	Quick questio
17	1	and their classifications	and skill goals	cooperative	at the end of t
18	2	Distinguishing betwee	Academic content, its	learning	lesson
19	1	cognitive, skillful, and	types and	Lecture and	Reports
20	2	affective goals	characteristics	interactive	Oral test
21	1	Learn about the acade	Types of curricula	learning	Class interact
22	2	content	The concept of	Lecture and	Oral test
23	1	Distinguishing betwee	methods, style and	brainstorming	
24	2	types of curricula	strategy	Lecture and	
25	1	Recognizing the concep	Teaching methods	prepared	Class interact
26	2	of methods and	based on cognitive	reports	Electronic tes
27	1	distinguishing between	theories	lecture	
	2	method and method	Methods based on	a test	Class interact
	1	Identify cognitive	behavioral theories	Lecture and	Individual
		methods	Teaching methods	interactive	performance
		Identify behavioral	based on social theor	learning	discussion
		methods	midyear		discussion
		Learn about social	Method and methods	Lecture and	Reports
		methods			
		Training news			
		Identify the methods			

		assigned to cooperation Identifying environmentally based methods Identify electronic methods Acquiring skills Identify educational methods And the skill of asking questions Learn about the class calendar Identify the types of teaching plans Daily plan themes Daily plan exercises school book -Learn about ways develop thinking -Learn about spe needs education -Learn about dimensions of sustaina development	cooperative learning Method of field visits Individual electronic education Trainings on using teaching methods in teaching mathematic Teaching aids Class questions Calendar and its type Types of teaching pla Daily plan Discussing daily teaching plans in mathematics Its concept and evaluation criteria -Teaching Thinking People with Special Needs Sustainable Development	prepared reports lecture lecture lecture lecture Lecture and interactive learning Lecture and brainstorming Lecture and prepared reports Lecture and interactive learning -Lecture and Collaborative Learning Lecture and Discussion E-Learning	discussion Classroom Interaction Report Online Test

11. Course Evaluation(40 quest + 60 final)

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)	A book by Dr. Osama Hamid and external sources of the material • Teaching methods books, mathematics teaching methods, and curriculum books - A workshop on using the educational platfo Google Classroom Electronic testing training workshop.
Main references (sources)	
Recommended books and references (scientific journals, reports…)	Contemporary Mathematics Teach Methods / Nael Jawad Al-Nattour 2011 Integrating People with Special Ne

	into General Education / Dr. Muhamm Sadiq / Dar Al-Manhal Publishing Ho / 20214 - Teaching Thinking / Dr. Ibrahim Ahmed Al-Harthi / Dar Al-Manhal / 20 Sustainable Development: Its Conc and Dimensions / Dr. Medhat Abu N and Yasmine Medhat / 2017
Electronic References, Websites	https://www.arageek.com/edu/teaching-methods
Percentage of Curriculum Update	

Dr. Enas Yonuis Alazwo

Name and Signature of Curriculum Administer

Name and Signature of Curriculum Administer

Assist. Prof. Dr. Ali A. Alabdali

Name and Signature of Department Head

Name and Signature of Department Head

https://uomosul.edu.iq/en/education/academic-program-description-apd/

Course Description Form

University of Mosul College of Education for Pure Sciences Department of Mathematics

1. Course Name and Stage: Counseling and mental health(3rd Class)

2. Course Code: EDMA25F307

3. Semester / Year:2024-2025

4. The history of preparation of this description: 2024 \9\1

5. Available Attendance Forms: My presence\ Madam C

6. Number of credit hours (total) / Number of units (total):6 hours per week

7. The name of the course administrator (if more than one name is mentioned)

Email: ghada.eh35@student.uomosul.edu.iq Name: Ghada Abdul Aziz Hassan

8. Course Objectives

Course Objectives
1. Raising awareness of mental health: Introduce students to the concept of mental health and its importance in daily life, and its relationship with physical and social health. 2. Enhancing life skills: Empower students to develop skills to cope with stress, manage time, make sound decisions, and communicate effectively with others. 3. Improving psychological and social adjustment: Help students understand and control their emotions, and promote positive relationships with others in school and community environments. 4. Developing problem-solving skills: Teach students strategies for problem-solving and conflict resolution in a constructive way, and encourage critical and creative thinking. 5. Enhancing self-esteem and self-respect: Empower students to build a positive self-image and increase their confidence in their abilities and personal potentials. 6. Teaching prevention methods for psychological disorders: Raise awareness of the importance of preventing anxiety, depression, stress, and addiction, and provide mechanisms for promoting mental health. 7. Encouraging positive behavior and social responsibility: Promote ethical and human values, and encourage students to take personal and social responsibility. 8. Promoting awareness of the importance of psychological support: Direct students on how to offer psychological support to others and seek help when needed.

9. Teaching and Learning Strategies

Strategy
Lecture, Reports, Problem Solving, Active Cooperative Learning, Brainstorming

10. Headquarters structure t

Week	Hours	Learning Outcomes	Topic Name	Learning Method	Assessment Method
1	6	Define the concept of psychological	Counseling	Interactive Lectures	Written Exams (Quizzes and Final

		counseling and explain its relation to other sciences		Group Discussions Presentations Case Studies Problem-Based Learning Practical Activities	Exam) Continuous Assessment through Classroom Activities Research Reports and Case Studies Active Participation in Discussions Individual or Group Projects
2	6	Analyze the relationship between counseling and career guidance, and their practical applications	Counseling and Career Guidance	Interactive Lectures Group Discussions Presentations Case Studies Problem-Based Learning Practical Activities	Written Exams (Quizzes and Final Exam) Continuous Assessment through Classroom Activities Research Reports and Case Studies Active Participation in Discussions Individual or Group Projects
3	6	Recognize the goals of counseling and their practical applications	Counseling	Interactive Lectures Group Discussions Presentations Case Studies Problem-Based Learning Practical Activities	Written Exams (Quizzes and Final Exam) Continuous Assessment through Classroom Activities Research Reports and Case Studies Active Participation in Discussions Individual or Group Projects
4	6	Recognize counseling methods: individual and group counseling	Counseling Methods	Interactive Lectures Group Discussions Presentations Case Studies Problem-Based Learning Practical Activities	Written Exams (Quizzes and Final Exam) Continuous Assessment through Classroom Activities Research Reports and Case Studies Active Participation in Discussions Individual or Group Projects
5	6	Analyze the fields of psychological and educational	Fields of Educational & Psychological	Interactive Lectures Group	Written Exams (Quizzes and Final Exam)

		counseling	Counseling	Discussions Presentations Case Studies Problem-Based Learning Practical Activities	Continuous Assessment through Classroom Activities Research Reports and Case Studies Active Participation in Discussions Individual or Group Projects
6	6	Learn about career guidance services	Career Guidance	Interactive Lectures Group Discussions Presentations Case Studies Problem-Based Learning Practical Activities	Written Exams (Quizzes and Final Exam) Continuous Assessment through Classroom Activities Research Reports and Case Studies Active Participation in Discussions Individual or Group Projects
7	6	Learn about counseling services for the elderly	Counseling Services for the Elderly	Interactive Lectures Group Discussions Presentations Case Studies Problem-Based Learning Practical Activities	Written Exams (Quizzes and Final Exam) Continuous Assessment through Classroom Activities Research Reports and Case Studies Active Participation in Discussions Individual or Group Projects
8	6	Study counseling services for people with special needs	Special Needs Counseling Services	Interactive Lectures Group Discussions Presentations Case Studies Problem-Based Learning Practical Activities	Written Exams (Quizzes and Final Exam) Continuous Assessment through Classroom Activities Research Reports and Case Studies Active Participation in Discussions Individual or Group Projects
9	6	Understand Freud's theory and its basic principles	Freud's Theory	Interactive Lectures Group Discussions	Written Exams (Quizzes and Final Exam) Continuous

				Presentations Case Studies Problem-Based Learning Practical Activities	Assessment through Classroom Activities Research Reports and Case Studies Active Participation in Discussions Individual or Group Projects
10	6	Understand the basic concepts of behavioral theory	Behavioral Theory	Interactive Lectures Group Discussions Presentations Case Studies Problem-Based Learning Practical Activities	Written Exams (Quizzes and Final Exam) Continuous Assessment through Classroom Activities Research Reports and Case Studies Active Participation in Discussions Individual or Group Projects
11	6	Define the concept of observation and its use in counseling	Observation	Interactive Lectures Group Discussions Presentations Case Studies Problem-Based Learning Practical Activities	Written Exams (Quizzes and Final Exam) Continuous Assessment through Classroom Activities Research Reports and Case Studies Active Participation in Discussions Individual or Group Projects
12	6	Understand the advantages of counseling interviews	Counseling Interviews	Interactive Lectures Group Discussions Presentations Case Studies Problem-Based Learning Practical Activities	Written Exams (Quizzes and Final Exam) Continuous Assessment through Classroom Activities Research Reports and Case Studies Active Participation in Discussions Individual or Group Projects
13	6	Define the concept of case studies and their importance in counseling	Case Studies	Interactive Lectures Group Discussions Presentations	Written Exams (Quizzes and Final Exam) Continuous Assessment through

				Case Studies Problem-Based Learning Practical Activities	Classroom Activities Research Reports and Case Studies Active Participation in Discussions Individual or Group Projects
14	6	Learn about the types of case studies	Types of Case Studies	Interactive Lectures Group Discussions Presentations Case Studies Problem-Based Learning Practical Activities	Written Exams (Quizzes and Final Exam) Continuous Assessment through Classroom Activities Research Reports and Case Studies Active Participation in Discussions Individual or Group Projects
15	6	Understand the role of the counselor in different fields	The Counselor	Interactive Lectures Group Discussions Presentations Case Studies Problem-Based Learning Practical Activities	Written Exams (Quizzes and Final Exam) Continuous Assessment through Classroom Activities Research Reports and Case Studies Active Participation in Discussions Individual or Group Projects
16	6	Understand the teacher's role in counseling	The Teacher's Role	Interactive Lectures Group Discussions Presentations Case Studies Problem-Based Learning Practical Activities	Written Exams (Quizzes and Final Exam) Continuous Assessment through Classroom Activities Research Reports and Case Studies Active Participation in Discussions Individual or Group Projects
17	6	Evaluate the student through a mid-term oral exam	Mid-Term Exam	Interactive Lectures Group Discussions Presentations Case Studies	Written Exams (Quizzes and Final Exam) Continuous Assessment through Classroom Activities

				Problem-Based Learning Practical Activities	Research Reports and Case Studies Active Participation in Discussions Individual or Group Projects
18	6	Understand the concept of mental health and its importance in daily life	Mental Health	Interactive Lectures Group Discussions Presentations Case Studies Problem-Based Learning Practical Activities	Written Exams (Quizzes and Final Exam) Continuous Assessment through Classroom Activities Research Reports and Case Studies Active Participation in Discussions Individual or Group Projects
19	6	Define the criteria of normal and abnormal in psychological counseling	Normal and Abnormal	Interactive Lectures Group Discussions Presentations Case Studies Problem-Based Learning Practical Activities	Written Exams (Quizzes and Final Exam) Continuous Assessment through Classroom Activities Research Reports and Case Studies Active Participation in Discussions Individual or Group Projects
20	6	Study mental health curricula	Mental Health Curricula	Interactive Lectures Group Discussions Presentations Case Studies Problem-Based Learning Practical Activities	Written Exams (Quizzes and Final Exam) Continuous Assessment through Classroom Activities Research Reports and Case Studies Active Participation in Discussions Individual or Group Projects
21	6	Study psychological crises and how to handle them	Psychological Crises	Interactive Lectures Group Discussions Presentations Case Studies Problem-	Written Exams (Quizzes and Final Exam) Continuous Assessment through Classroom Activities Research Reports and

				Based Learning Practical Activities	Case Studies Active Participation in Discussions Individual or Group Projects
22	6	Learn about defense mechanisms in psychology	Defense Mechanisms	Interactive Lectures Group Discussions Presentations Case Studies Problem-Based Learning Practical Activities	Written Exams (Quizzes and Final Exam) Continuous Assessment through Classroom Activities Research Reports and Case Studies Active Participation in Discussions Individual or Group Projects
23	2	Understand the concept of psychological adjustment	Psychological Adjustment	Interactive Lectures Group Discussions Presentations Case Studies Problem-Based Learning Practical Activities	Written Exams (Quizzes and Final Exam) Continuous Assessment through Classroom Activities Research Reports and Case Studies Active Participation in Discussions Individual or Group Projects
24	2	Understand the concept of a well-adjusted personality	Well-Adjusted Personality	Interactive Lectures Group Discussions Presentations Case Studies Problem-Based Learning Practical Activities	Written Exams (Quizzes and Final Exam) Continuous Assessment through Classroom Activities Research Reports and Case Studies Active Participation in Discussions Individual or Group Projects
25	2	Study mental health concepts and their relation to daily life	Mental Health	Interactive Lectures Group Discussions Presentations Case Studies Problem-Based	Written Exams (Quizzes and Final Exam) Continuous Assessment through Classroom Activities Research Reports and Case Studies

				Learning Practical Activities	Active Participation in Discussions Individual or Group Projects
26	6	Understand the concept of bullying and how to deal with it	Bullying	Interactive Lectures Group Discussions Presentations Case Studies Problem-Based Learning Practical Activities	Written Exams (Quizzes and Final Exam) Continuous Assessment through Classroom Activities Research Reports and Case Studies Active Participation in Discussions Individual or Group Projects
27	6	Study the concept of spiritual intelligence and its effects on mental health	Spiritual Intelligence	Interactive Lectures Group Discussions Presentations Case Studies Problem-Based Learning Practical Activities	Written Exams (Quizzes and Final Exam) Continuous Assessment through Classroom Activities Research Reports and Case Studies Active Participation in Discussions Individual or Group Projects
28	6	Study the effects of drugs on humans and their psychological and social impact	Drugs and their Effects on Humans	Interactive Lectures Group Discussions Presentations Case Studies Problem-Based Learning Practical Activities	Written Exams (Quizzes and Final Exam) Continuous Assessment through Classroom Activities Research Reports and Case Studies Active Participation in Discussions Individual or Group Projects
29	6	Understand fundamental concepts of educational psychology and their applications Analyze the role of psychological factors in the	Introduction to Educational Psychology Learning Theories and Their Educational Applications Intelligence and	Interactive Lectures Group Discussions Presentations Case Studies Problem-Based Learning	Written Exams (Quizzes and Final Exam) Continuous Assessment through Classroom Activities Research Reports and Case Studies Active Participation in

		learning and teaching process Apply effective teaching strategies based on learning principles Evaluate factors influencing learners' performance and implement appropriate measures Design supportive and motivating learning environments Utilize assessment and measurement techniques to track learners' progress	Individual Differences in Learning Motivation and Engagement in Educational Settings	Practical Activities	Discussions Individual or Group Projects
30	6	Understand fundamental concepts of educational psychology and their applications Analyze the role of psychological factors in the learning and teaching process Apply effective teaching strategies based on learning principles Evaluate factors influencing learners' performance and implement appropriate measures Design supportive and motivating learning environments Utilize assessment and measurement	Learning and Teaching Strategies Psychology of Thinking and Problem-Solving Assessment and Measurement in Education Learning Environment and the Role of the Teacher	Interactive Lectures Group Discussions Presentations Case Studies Problem-Based Learning Practical Activities	Written Exams (Quizzes and Final Exam) Continuous Assessment through Classroom Activities Research Reports and Case Studies Active Participation in Discussions Individual or Group Projects

		techniques to track learners' progress			

11. Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily, oral, monthly, written exams, reports .... etc (40 quest + 60 final)	
12. Learning and Teaching Resources	
Binding Dr. Tamar Mohamed and external sources	(Required textbooks) Methodology, if any
	(Key References) Resources
Fayez Al-Attar – "Psychological Counseling" Dr. Saleh Al-Sharny – "Fundamentals of Psychological Counseling" Dr. Abdulrahman Al-Bassisi – "Concepts of Mental Health" Dr. Fawzi Al-Shawi – "The Counselor: Role and Tasks" Dr. Mustafa Issa – "Counseling Methods in Dealing with Special Needs"	(Recommended books and references) scientific journals, reports…
Electronic References, Websites	
Percentage of Curriculum Update	

Ghada Abdul Aziz Hassan

Name and Signature of Curriculum Administer

Assist. Prof. Dr. Ali A. Alabdali

Name and Signature of Department Head

https://uomosul.edu.iq/en/education/academic-program-description-apd/

Course Description Form

University of Mosul College of Education for Pure Sciences Department of Mathematics

1. Course Name and Stage:
Topology (4^{th} Class)
2. Course Code:
EDMA25F401
3. Semester / Year:
2024−2025
4. Description Preparation Date:
1/9/2024
5. Available Attendance Forms:
Attendance , Classroom
6. Number of Credit Hours (Total) / Number of Units (Total)
2/2 96(48/48)(24 weeks)
7. Course administrator's name (mention all, if more than one name)
1. Name: **Asst. Prof. Dr. Sabih Wadie Askandar** Email: **sabihqaqos@uomosul.edu.iq** 2. Name: Prof. Dr. Amir Abdul-illah Mohammed Email: **amirabdulillah@uomosul.edu.iq** 3. Name: Asst. Prof. Dr. **Beyda S. Abdullah** Email: baedaa419@uomosul.edu.iq
8. Course Objectives

Course Objectiv	**1. The student should define the metric space.** **2. That the student defines the topological space** **3. The student gives examples of topological spaces** **4. The student should define the closed set, the closure, the interior and t exterior of the group** **5. The student defines compact spaces**

	6. The student should link the types of compact spaces and the relationsl between them **7. The student should know differentiation and connection.** **8. The student should know the topological homeomorphisms and continuity in topological spaces.** **9. The student should defines the spaces of the separation axioms.** **10. The student should define the genetic and topological characteristics of the separation axiom spaces.** **11. The student must demonstrate the relationship between spaces, shapes, and various applications.**

9. Teaching and Learning Strategies

Strategy	Theoretical lecture, dialogue and discussions, problem solving, reports and daily assignments

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Metric spaces	Review, various definitions and examples	Lecture	Daily exams, homework, and student discussio
2	4	Topological space	Definition of topological space, various examples, limit points, closed set, examples, theorems	Lecture	Daily exams, homework, and student discussion
3	4	Topological space	Closure, closure axior examples, theorer interior the set, inter	Lecture	Daily exams, homework, and student

			axioms, exampl theorems.		discussion
4	4	Topological space	exterior the set, exter axioms, exampl theorems, set bounda axioms, exampl smoother topology a rough topology	Lecture	Daily exams, homework, and student discussion
5	4	Bases a relative topology	Definition of t topological ba examples, definition relative topolo examples, theorems.	Lecture	Daily exams, homework, and student discussion
6	4	Connectednes	Definition of connectne examples, definition connected grou examples, theorems.	Lecture	Daily exams, homework, and student discussion
7	4	Connectednes	Definition of lo connectected space ,t relationship betwe connected space and lo connected space theorer	Lecture	Daily exams, homework, and student discussion
8	4	Compact spac	Definition of open cov definition of compa cover, definition of gro and compact spa various examples	Lecture	Daily exams, homework, and student discussion
9	4	Compact spac	Heine-Borrell's theore various exampl theorems, definition compounds, exampl theorems	Lecture	Daily exams, homework, and student discussion
10	4	Compact spac	Definition of sequentia compact space, definiti of linearly compact spa definition of loca compact space	Lecture	Daily exams, homework, and student discussion
11	4	Compact spac	Theorems of t relationship betwe types of compact spac with various examples	Lecture	Daily exams, homework, and student discussion

12	4	Continuity topological spaces	Definition of t continuous functi various examples, t theorem of continu equivalents.	Lecture	Daily exams, homework, and student discussion
13	4	Continuity topological spaces	Attributes are conveyed continuity, interconnectedness conveyed by continui compactness is convey by continuity, theorems	Lecture	Daily exams, homework, and student discussion
14	4	Continuity topological spaces	Definition of the pa definition of pa connection, theorer path connection convey by continuity	Lecture	Daily exams, homework, and student discussion
15	4	Continuity topological space, Topological a non-topologica properties s	Attributes that a transferred by addi other conditions continuity, definition the dense set by its theorem, kernel of the s dissipative set, theore Definition of topologi homeomorphism, varic examples	Lecture	Daily exams, homework, and student discussion
16	4	Topological a non-topologica properties	Definition of topologi character, examples topological characteristi Definition of a compl set, the attribute completeness is topological attribute, theorem	Lecture	Daily exams, homework, and student discussion
17	4	Topological a non-topologica properties	The characteristic of lo compactness is topological characteris a theorem, Definition isolated set, exampl theorem, examples of nc topological properties	Lecture	Daily exams, homework, and student discussion

18	4	Genetic a non-genetic properties	Definition of genetic tra definition of dense grou examples, Definition separable space, theore examples,	Lecture	Daily exams, homework, and student discussion
19	4	Genetic a non-genetic properties, Separation axioms	Definition of non-gene trait, theorems, exampl Definition of T0 spa various examples, gene characteristic of T topological characteris of T0, theorem.	Lecture	Daily exams, homework, and student discussion
20	4	Separation axioms	Definition of T1 spa various examples, gene characteristic of T topological characteris of T1, theorem, Definiti of T2 space, varic examples, gene characteristic of T topological characteris of T2, theorem.	Lecture	Daily exams, homework, and student discussion
21	4	Separation axioms	The relationship betwe T0, T1, and T2 spac theorems and examples	Lecture	Daily exams, homework, and student discussion
22	4	Separation axioms	Normal space, definiti examples, theorer regular space, definiti examples, relationships	Lecture	Daily exams, homework, and student discussion
23	4	Separation axioms	T4 space, definiti examples, theorems, space, definiti examples, theorems,	Lecture	Daily exams, homework, and student discussion
24	4	review	Solve various questic and examples about t subject	Lecture	Daily exams, homework, and student discussion

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 GENERAL TOPOLOGY, Samir Bashir Hadid, 1988.
Main references (sources)	• FOUNDATIONS OF GENERAL TOPOLOGY, Pervin, W.J.,1985.
Recommended books and references (scientific journals, reports…)	Topology without tears, Sidney A. Morris, October 14, 2007.
Electronic References, Websites	
Percentage of Curriculum Update	

Assist Prof. Dr. Sabih Wadie Askandar

Name and Signature of Curriculum Administer

Assist. Prof. Dr. Ali A. Alabdali

Name and Signature of Department Head

https://uomosul.edu.iq/en/education/academic-program-description-apd/

Course Description Form

University of Mosul College of Education for Pure Sciences Department of Mathematics

1. Course Name and Stage: Mathematical Statistics(4^{th} Class)
2. Course Code: EDMA25F402
3. Semester / Year: 2024-2025
4. Description Preparation Date:1/9/2024
5. Available Attendance Forms: Classroom
6. Number of Credit Hours (Total) / Number of Units (Total)
8/8
7. Course administrator's name (mention all, if more than one name)
Name: **Dr. Ghanim Mahmood Dhaher** Email: ghanim-hassod@uomosul.edu.iq Name: Najla Sedek Yahya Email: najla.sedek@uomosul.edu.iq
8. Course Objectives

Course Objectives	• Identify about the basic principles of mathematical statistics and the basics of probability. • Probability distribution function for variables. • Univariate distribution, discrete and continuous random variables. • Review of distributions (normal distribution, Poisson distribution, exponent distribution, geometric distribution, Binomial, …etc.) • Transformations of random variables with all types of variables. • The moments generating function for distributions and how to deal with the to find the probability density function. • Point estimation and its properties. • Multivariate analysis with the main concepts of vectors and a description o

	their summary statistics. • Multivariate normal distribution and its properties vs Normal with univariat

9. Teaching and Learning Strategies	
Strategy	Theoretical lecture and Practical (discussions) examples, problem solving , performing practical experiments, homework.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	A review of the principles of mathematical statistics	Principles definitions of Probability Distribution	Theoretical Lecture	Homework
2	4	Probability Distribution function	the basics of probability theory with examples and mathematic formulas for probability	Theoretical Lecture	Homework
3	4	Probability distribution function	Probability Distribution of function of random variables Discrete and continuous random variables	Theoretical Lecture	Homework
4	4	Types of distributions	Univariate distribution Discrete and continuous-type random variables normal, Poisson, exponential , geometric distribution	Discussion	Homework
5	4	Types of distributions	Bernoulli, binomial, negative binomial, uniform, Cauchy distribution, gamma distributio beta distribution	Theoretical Lecture	Homework
6	4	Mathematical expectation	Probability Distribution of function of random variables, Mathematical expectation and moment , mean ,median, mod variance , standard deviation.	Theoretical Lecture	Quizzes

7	4	Definition of Transformation random variabl	Transformation of random variables: And more than discrete variables	Discussion	Homework
8	4	Definition of Transformation random variable	Transformation of random variables: and more than continuous variables	Discussion	Homework
9	4	Moment generating function	Moment generating function random variables Theorems and examples	Theoretical Lecture	Quizzes
10	4	Moment generating function	Moment generating function random variables and with properties Theorems and examples	Theoretical Lecture	Homework
11	4	definition of estimation theory	Point estimation : definition of the best estimator ,	Theoretical Lecture	Homework
12	4	Properties of poi estimation	Properties of point estimation Unbiasedness	Discussion	Homework
13	4	Properties of poi estimation	Properties of point estimation Consistency,	Discussion	Homework
14	4	Properties of point estimation	Properties of point estimation Minimum variance	Theoretical Lecture	Homework
15	4	Properties of point estimation	Minimum variance Black –well theorem	Theoretical Lecture	Homework
16	4	Properties of point estimation	Black –well theorem Rao- inequality	Theoretical Lecture	Homework
17	4	Definition of Multivariate distribution	Definition of Multivariate distribution : Definition of random variables, Discrete an continuous-type random variables	Theoretical Lecture	Homework

18	4	Multivariate Distribution bas properties	Multivariate analysis and basic properties of vectors and matrices for statistical description	Discussio n	Homework
19	4	Multivariate Analysis basic properties	Multivariate Distribution, , joint p.d.f Conditional of p.d.f., Marginal p.m.f	Discussion	Homework
20		Multivariate Analysis basic properties	Joint moment generating function and its properties Properties of distribution using m.g.f	Theoretical Lecture	Homework
21	4	Multivariate distribution	Distribution, , joint p.d.f Conditional of p.d.f., Marginal p.m.f	Theoretical Lecture	Homework
22	4	Multivariate Analysis	Normal Distribution for univariate VS Normal Distribution for bivariate	Discussion	Homework
23	4	Multivariate Analysis	Multivariate analysis with examples and solutions for variance and covariance	Theoretical Lecture	Homework
24	4	Multivariate Analysis	Multivariate analysis with examples and solutions for variance and covariance	Theoretical Lecture	Quizzes

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 (curricu books, if any)	.....
Main references (sources)	5) Introduction to Mathematical Statistics, by R.

	V. Hogg and A. T. Craig. 6) An introduction to multivariate statistical analysis, by Anderson, T.W. 1984
Recommended books and references (scientific journals, reports…)	• مقدمة في الاحصاء الرياضي د .صباح داود سليم • الاحصاء الرياضي امير حنا هرمز ، جامعة الموصل 1990 • الطرق الاحصائية د. صبري رديف العاني • الاحتمالات والمتغيرات العشوائية د. باسل يونس
Percentage of Curriculum Update	•

Dr. Ghanim Mahmood Dhaher

Name and Signature of Curriculum Administer

Assist. Prof. Dr. Ali A. Alabdali

Name and Signature of Department Head

https://uomosul.edu.iq/en/education/academic-program-description-apd/

Course Description Form

University of Mosul College of Education for Pure Sciences Department of Mathematics

1. Course Name and Stage: Optimization(4^{th} Class)

2. Course Code: **EDMA25F403**

3. Semester / Year: 2024-2025

4. Description Preparation Date: 1/9/2024

5. Available Attendance Forms: Laboratory , Classroom

6. Number of Credit Hours (Total) / Number of Units (Total)

360 hour / 16 hour

7. Course administrator's name (mention all, if more than one name)

Name: Assistant Prof. Aseel Muayad Qasim/hiba suker mahmod
aseel.albazaz@uomosul.edu.iq
hiba.sh@uomosul.edu.iq

8. Course Objectives

Course Objectives	**● Knowing the basic principles of Optimization**

9. Teaching and Learning Strategies

Strategy	Practical and theoretical lecture , talk and discussions, problem solving , performing practical experiments , reports and homework

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
first	16	Basic Principles	Introduction To Optimization	Lecture	quizzes

Second	16	Definitions	Local Minima and Maxima	Lecture	quizzes
Third	16	Definitions	Necessary Condition	Lecture	quizzes

Fourth	16	Definitions	Sufficient Conditi	experiment	Quiz, report , homework
Fifth	16	One Dimensional Search Methods	Problem solving	Problem solving	Homework
Sixth	16	One Dimensional Search Methods	Newton Method	experiment	Quiz, report , homework
Seventh	16	One Dimensional Search Methods	Problem solving	Problem solving	Homework
Eighth	16	One Dimensional Search Methods	Bisection Method	experiment	Quiz, report , homework
Ninth	16	One Dimensional Search Methods	Secant Method	Problem solving	Homework
Tenth	16	One Dimensional Search Methods	Fibonacci Search	experiment	Quiz, report homework
Eleventh	16	One Dimensio Search Methods	Golden Section	experiment	Quiz, report homework
Twelfth	16	One Dimensional Search Methods	Problem solving	Problem solving	Homework
Thirteen	16	One Dimensional Search Methods	Quadratic Interpolation	Lecture	Quiz, and homework
Fourteenth	16	One Dimensional Search Methods	Problem solving	Problem solving	Homework
Fifteenth	16	Exam			
Sixteenth	16	One Dimensional Search Methods	Cubic Interpolation	lecture	Quiz, report , homework
Seventeenth	16	One Dimensional Search Methods	Algorithms	lecture	Quizzes
Eighteenth	16	One Dimensional Search Methods	Problem solving	Problem solving	Quiz, and homework
Nineteenth	16	One Dimensional Search Methods	Line Search	Lecture	Quizzes
Twentieth	16	One Dimensional Search Methods	Problem solving	Problem solving	homework
Twenty first	16	Exam		Lecture	Quiz
Twenty second	16	Multidimensional Optimization	**F/R** method	Problem solving	homework

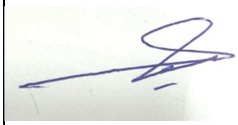
Twenty third	16	Multidimensional Optimization	**H/S** method	Lecture	Quiz
Twenty fourth	16	Multidimensiona l Optimization	Problem solving	Problem solving	homework
Twenty fifth	16	Multidimensional Optimization	**Dixon** method	lecture	Quiz
Twenty sixth	16	Multidimensional Optimization	Problem solving	Problem solving	homework
Twenty seventh	16	Multidimensiona l Optimization	PR method	Lecture	Quiz
Twenty eighth	16	Multidimensiona l Optimization	BA1 method	lecture	Quiz
Twenty nineth	16	Multidimensiona l Optimization	BA2 method	Lecture	Quiz
Thirtieth	16	Exam			

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)	An Introduction to Optimization
Main references (sources)	Optimization Theory And Methods
Recommended books and references (scientific journals, reports...)	Practical Optimization
Electronic References, Websites	Research gate
Percentage of Curriculum Update	



Assistant Prof. Aseel Muayad Qasim

Name and Signature of Curriculum Administer

Assist. Prof. Dr. Ali A. Alabdali

Name and Signature of Department Head

https://uomosul.edu.iq/en/education/academic-program-description-apd/

Course Description Form

University of Mosul College of Education for Pure Sciences Department of Mathematics

1. Course Name and Stage: Fluid Mechanics/ fourth Class(4^{th} Class)
2. Course Code: **EDMA25F404**
3. Semester / Year:2024−2025
4. Description Preparation Date:12/2/2025
5. Available Attendance Forms: Laboratory , Classroom
6. Number of Credit Hours (Total) / Number of Units (Total)

4/4

7. Course administrator's name (mention all, if more than one name)

Name: Prof. Dr. Alaa A. Ahmed
Email: alaahammodat@uomosul.edu.iq
hamsa_dawood@uomosul.edu.iq
Hamsa Dawood Saleem

8. Course Objectives

Course Objectives	***Knowing the basic principles of Fluid Mechanics** ***Know the basic equations that control fluid flow** ***Classification of fluid with respect to flow** *** Classification of fluid with respect to physical properties** ***Sustainable Development and Fluid Mechanics Applicati**

9. Teaching and Learning Strategies

Strategy	Practical and theoretical lecture , talk and discussions, problem solving , performing practical experiments , reports and homework

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
first	2	Introduction to fluid mechanics	Learn about the basic concepts of fluid mechanics	lecture	quizzes
Second	2	Types of fluid	Learn about The types of fluid	lecture	quizzes

Third	2	Classification of fluid flow	Classification of fluid flow	lecture	quizzes
Fourth	2	Classification of Fluid Mechanics with respect to flow and physical properties	Classification of Fluid Mechanics with respect to flow and physical properties	lecture	Quiz, report , homework
Fifth	2	Types of flow	Learn about The types of flow	lecture	Homework
Sixth	2	Units and Dimensions	Units and Dimensions	lecture	Quiz, report , homework
Seventh	2	Discharge	Discharge	lecture	Homework
Eighth	2	Pressure and application	Concept of pressure	lecture	Quiz, report , homework
Nineth	2	Stream function and potential velocity end equipotential line	Concept of Stream function and potential velocity	lecture	Homework
Tenth	2	Relation between stream function and potential velocity	Relation between stream function and potential velocity	lecture	Quiz, report homework
Eleventh	2	Stream line and stream tube	Stream line and stream tube	lecture	Quiz, report homework
Twelfth	2	Derivative of continuity equation in one, two, three dimensions	Concepts of continuity equation in one, two, three dimension	lecture	Homework
Thirteen	2	Method of dimensional Analyses	Method of dimensional Analyses	lecture	Quiz, and homework
Fourteenth	2	Wave equation in one dimension	Wave equation in one dimension	lecture	Homework
Fifteenth	2	Wave equation with homogeneous boundary	Wave equation With Homogeneous boundary	lecture	Quiz
Sixteenth	2	Describe the behavior of liquids and gases under the influence of various forces, such as pressure, viscosity, and gravity, and explain the relationship between the equation and sustainable development, as it contributes to improving techniques for conserving natural resources and reducing environmental impact.	Sustainable development and the momentum equation	lecture	Quiz, report, homework
Seventeenth	2	Arithmetic questions	Applications of sustainable development and the momentum equation	lecture	Quizzes
Eighteenth	2	Sustainable development depends on providing energy efficiently while reducing environmental impact. There are many applications that help measure and analyze energy consumption and efficiency.	Sustainable development and the energy equation	lecture	Quiz, and homework

Nineteenth	2	Arithmetic questions	Applications	lecture	Quizzes
Twentieth	2	Definition of Physical Parameters	Definition of Physical Parameters	lecture	homework
Twenty first	2	Laplace equation in two dimensions	Laplace equation in two dimensions	lecture	Quiz
Twenty second	2	Derivative of continuity equation in polar coordinates	Concepts of continuity equation in polar coordinates	lecture	homework
Twenty third	2	Derivative of motion equation in polar coordinates	Concepts of motion equation in polar coordinates	lecture	Quiz
Twenty fourth	2	Derivative of heat equation in polar coordinates	Concepts of heat equation in polar coordinates	lecture	homework

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)	ميكانيك الموائع 1990 تأليف: هاشم الطحان، دار ابن الاثير للطباعة والنشر
Recommended books and references (scientific journals, reports…)	ميكانيك الموائع 1992 تأليف: كامل الصباغ، جامعة البصرة
Electronic References, Websites	**Fluid Mechanics**
Percentage of Curriculum Update	

Prof. Dr. Alaa A. Ahmed

Name and Signature of Curriculum Administer

Assist. Prof. Dr. Ali A. Alabdali

Name and Signature of Department Head

https://uomosul.edu.iq/en/education/academic-program-description-apd/

Course Description Form

University of Mosul College of Education for Pure Sciences Department of Mathematics

1. Course Name and Stage:
Complex analysis(4^{th} Class)
2. Course Code:
EDMA25F405
3. Semester / Year:
2025 – 2024
4. Description Preparation Date:
12/1/2025
5. Available Attendance Forms:
Attendance , Classroom
6. Number of Credit Hours (Total) / Number of Units (Total)
6/6 144(72/72)(24 weeks)
7. Course administrator's name (mention all, if more than one name)
4. Name: **Asst. Prof. Taghread Hamdoon Shuker** Email: taghread@uomosul.edu.iq 5. Name: Assist Lecturer. Dilshad Qasim Hamza Email: dilshad.hamza@uomosul.edu.iq
8. Course Objectives

Course Objectives	**1. The student knows complex numbers** **2. The student knows their properties and converts complex numbers to polar ones** **3. The student knows about analytical functions** **4. The student knows about derivatives and the theorems related to them** **5. The student knows about analytical functions and their theorems** **6. The student knows about prime, exponential, logarithmic, trigonometric, hyperbolic, and inverse complex functions.** **7. Path-constrained integration11. The student must demonstrate the relations between spaces, shapes, and various applications.**

9. Teaching and Learning Strategies

Strategy	Theoretical lecture, dialogue and discussions, problem solvi

	reports and daily assignments

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Complex analysis	Review,various definitionsand examples	Lecture	Daily exams, homework, and student discussio
2	4	Conjugates of complex number	Properties of absolu value and converti complex numbers polar form	Lecture	Dailyexams, homework,and student discussio
3	4	Angle of complex number	solving exercises	Lecture	Dailyexa homework,and student discussio
4	4	Polar coordinate	solving exercises	Lecture	Dailyexams, homework,and student discussio
5	4	Daily exam	Chapter one	Lecture	Dailyexams, homework,and student discussio
6	4	Analytical functions	Examples of inequal functions and inver functions	Lecture	Dailyexams, homework,and student discussion
7	4	limits and ends	Properties of limits with examples	Lecture	Dailyexams, homework,and student discussio
8	4	derivatives	Theorems with examples	Lecture	Dailyexams, homework,and student discussion
9	4	Anomalous functions	Its properties	Lecture	Dailyexams, homework,and student discussio
10	4	Cauchy-Riemann equation	Its definition a properties	Lecture	Dailyexams, homework,and student discussio

11	4	Analytical equati	solving exercises	Lecture	Dailyexams, homework,and student discussio
12	4	Daily exam	Chapter two	Lecture	Dailyexams, homework,and student discussio
13	4	Inverse functions	Its properties and Functions	Lecture	Dailyexams, homework,and student discussio
14	4	Complex functions	solving exercises	Lecture	Dailyexams, homework,and student discussio
15	4	Harmonic functions	The harmonic conjuga andsolvingthe questions of the seco chapter	Lecture	Dailyexams, homework,and student discussion
16	4	Logarithmic functions, trigonometric functions,	Theirdefinitionand derivativeswith examples, trigonometric functions	Lecture	Dailyexams, homework,and student discussio
17	4	Daily exam	Chapter three	Lecture	Dailyexams, homework,and student discussio
18	4	Complex integration, integration	Definitions of path a closed path, solvi examples and solvi exercises	Lecture	Dailyexams, homework,and student discussio
19	4	Cauchy-Corsa theorem	Generalization Cauchy-Corsa theorem	Lecture	Dailyexams, homework, a student discussio
20	4	Properties Cauchy-Corsa theorem	solving exercises	Lecture	Dailyexams, homework,and student discussio
21	4	Daily exam	Chapter four	Lecture	Dailyexams, homework,and student discussio
22	4	Sequences, solvi examples	Introduction chains	Lecture	Dailyexams, homework,and student discussio
23	4	Tests, strings	Convergence tests, seri forces, a Laurent series	Lecture	Daily exams,homewor andstudent discussion

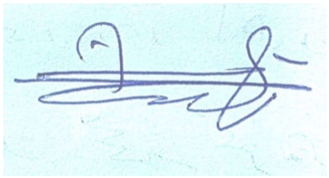
24	4	Chains,forces, Laurent series,types anomalous point	Anomalouspoints, calculating sedimen anomalies and th classification, sedime theorem and resu and solving exercises	Lecture	Dailyexams, homework,and student discussi

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-Complex analysis \Samer Had \university of Mosul\1980. 2-V.Ahlfors, Complex analysis,2nd edition ,Mc Gr Hill Book Comp.,Inc.1966
Main references (sources)	.
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	
Percentage of Curriculum Update	



Asst. Prof. Taghread Hamdoon Shuker

Name and Signature of Curriculum Administer

Assist. Prof. Dr. Ali A. Alabdali

Name and Signature of Department Head

https://uomosul.edu.iq/en/education/academic-program-description-apd/

Course Description Form

University of Mosul College of Education for Pure Sciences Department of Mathematics

1. Course Name and Stage:
Measurement and Evaluation(4^{th} Class)
2. Course Code:
EDMA25F406
3. Semester / Year:
2024−2025
4. Description Preparation Date:
2025−2−13
5. Available Attendance Forms:
In-person + Enriched Learning through Google Classroom (PDF Lectures Educational Videos)
6. Number of Credit Hours (Total) / Number of Units (Total)
Two hours a week
7. Course administrator's name (mention all, if more than one name)
Asst. Prof. Dr. Asim Ahmed Khaleel Al-Shumam Email: asim_alshumam@uomosul.edu.iq
8. Course Objectives

Course Objectives	The course aims to: • Equip students with fundamental concepts of measurement and evaluation. • Differentiate between measurement, assessment, and evaluation. • Introduce types and domains of measurement. • Define and explore testing and evaluation, their domains, and their types. • Understand the relationship between these concepts. • Identify different types of tests, steps in test construction, specifications table, item types, oral tests, written tests, and performance-based assessments. • Examine the characteristics of a good test (validity, reliability, difficulty, ease, and discrimination).

9. Teaching and Learning Strategies	
Strategy	• Advanced Lecture • Inquiry-Based Learning • Discussion • Problem-Solving • Exploration

	• Task Completion • Brainstorming • Peer Learning

10. Course Structure

Week	Hours	Learning Outcomes	Unit/Topic	Learning Method	Assessment Method
1	2	Understanding the importance of measurement and evaluation	Basic Concepts in Measurement and Evaluation	Lecture	Classroom Questions
2	2	Define measurement, its characteristics, and types	Types and Characteristics of Measurement	Advanced Lecture	Discussion, Homework
3	2	Classifying tests and their functions	Test Classification	Inquiry-Based Learning	Classroom Questions
4	2	Understanding evaluation features	Characteristics of the Evaluation Process	Lecture	Reports
5	2	Exploring the relationship between test, measurement, assessment, and evaluation	Relationship Between Measurement, Assessment, Evaluation, and Testing	Lecture, Brainstorming	Daily Quiz
6	2	Identifying various evaluation classifications	Types of Evaluation	Cooperative Learning	Formative Questions
7	2	Steps for constructing cognitive achievement tests	Achievement Test Construction	Discussion	Oral Questions
8	2	Understanding specification tables with examples	Test Blueprint Development	Problem-Solving	Exercises and Training
9	2	Guidelines for formulating behavioral objectives	Writing Educational Objectives	Lecture, Peer Learning	Oral Questions
10	2	Exploring Bloom's Taxonomy (Cognitive, Psychomotor, and Affective Domains)	Classification of Educational Objectives	Lecture, Discussion	Classroom Assignments

11	2	Understanding written tests and their regulations	Written Test Guidelines and Conditions	Exploration	Classroom Assignments
12	2	Constructing test items	Writing and Arranging Questions	Lecture, Discussion	Classroom Assignments
13	2	Types of tests (Completion, True/False, Matching, Multiple Choice)	Oral, Essay, and Objective Tests	Lecture, Inquiry-Based Learning	Reports and Homework
14	2	Understanding face validity and self-validity	Validity: Types and Calculation Methods	Lecture, Problem-Solving	Exercises and Problems
15	2	Examining test item characteristics	Psychometric Properties of a Test	Discussion	Reports
16	2	Practical applications	Test Ease and Difficulty	Active Learning Strategies	Classroom Assignments
17	2	Practical applications	Discrimination Power	Discussion	Classroom Assignments
18	2	Practical applications	Internal Consistency	Inquiry-Based Learning	Classroom Assignments
19	2	Methods for calculating reliability (Retest, Split-Half)	Reliability and Its Types	Lecture, Discussion	Classroom Assignments
20	2	Constructing a good test	Test Quality Criteria (Scoring Guidelines)	Lecture, Discussion	Classroom Assignments

11. Course Evaluation(40 quest + 60 final)

The grading system is based on a total score of 100, distributed as follows:

- 15 marks: Daily quizzes and assignments
- 25 marks: Midterm exam
- 60 marks: Final exam

12. Learning and Teaching Resources	
Required textbooks	Allam, Salah El-Din (2023). *Educational Measurement and Evaluation in the Teaching Process,* 2nd Edition, Dar Al-Maseera.
Main references (sources)	Nabhani, Mousa (2011). *Fundamentals of Measurement and Evaluation in Behavioral Sciences,* 1st Edition, Dar Al-Shorouk Publishing.
Electronic References, Websites	Fundamentals of Measurement in Behavioral Sciences
Percentage of Curriculum Update	

Asst. Prof. Dr. Asim Ahmed Khaleel **Assist. Prof. Dr. Ali A. Alabdali**

Name and Signature of Curriculum Administer **Name and Signature of Department Head**

https://uomosul.edu.iq/en/education/academic-program-description-apd/

Course Description Form

University of Mosul College of Education for Pure Sciences Department of Mathematics

1. Course Name and Stage: **Practical Education Course**(4th Class)
2. Course Code: EDMA25407
3. Semester / Year: 2024-2025
4. Description Preparation Date:1 -9-2024
5. Available Attendance Forms: In-person Attendance
6. Number of Credit Hours (Total) / Number of Units (Total)

The number of hours for all groups per week = 9.....As for the month = 9 * 3 weeks = 27 hours

7. Course administrator's name (mention all, if more than one name)

Name: **Dr. hussein Obaid dahawi**, Email: unmohu@uomosul.edu.iq
Name: Sulaiman Ahmed Yonis, Email: saymola@uomosul.edu.iq

8. Course Objectives

Course Objectives	• **Providing students/practitioners with functional information about practical educa importance, and its divisions.** • **Developing students/practitioners' skills in applying educational, psychologic l, an concepts, principles, and theories accurately during the practical education p riod.** • **Enhancing students/practitioners' skills in using teaching methods, educatio al tec learning laboratories.** • **Developing students/practitioners' skills in applying core teaching skills such as cla management, reinforcement use, etc.** • **Providing students/practitioners with information about the duties and respo sibili and supervisors during the application period in schools.** • **Assisting students in acquiring the attitudes and values associated with the te ching which provide them with stability after graduation and play a significant rol in bu personalities and achieving their integration.** • **Developing students/practitioners' psychological, educational, and professio al cap in teaching profession after graduation.** • **Developing students/practitioners' ability to judge and evaluate in light of sp cific s criteria and providing a precise definition for this purpose**

9. Teaching and Learning Strategies

Strategy	1. Active Learning Strategies 2. Cooperative Learning 3. Kolb's Model 4. Microteaching

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Lea ning met od

3+2+1	**9=3*3**	Equipping students/practitior with information about teaching profession and sch observation.	Teaching Ethics and Principles of Effective Teaching. Classroom Management and Organization, Classroom Questions/Their Importance and Oral Discussions أعلى النموذج Types. Annual and D Lesson Plans. Observat Meaning and Instructi for Students Dur Observation	Oral Discussion
6+5+4	**9=3*3**	Observing examples of teach in schools to identify t strengths and weaknesses benefit from them in indivic application	Practical Observation Schools	
11+10+9+8+7	**12=3*4**	Student/practitioner teaching practice.	Individual Application Practical Exercise Teaching Skills (Bc Usage, Setup and Clos Questioning, Reinforcement, Feedb Stimulus Variation)	
15+14+13+12	**12=3*4**	Additionally	Additionally	
16	**3=3*1**	Written examination. •	Group Application	
22+21+20+19+18+17	**72=12*6**	• Students/practitioners practicing teaching skills in the real field (schools).		
28+27+26+25+24+23	**18=3*6**	• Training students/practitioners to judge and evaluate in light of specific standard criteria.	Discussion of the problems encountered by students/practitioners	

			during the group application period.	
30+29	**6=3*2**	• Written examination.		

11. Course Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Atiya, Mohsen Ali and Al-Hashimi, A Practical Education and its Application Teacher of the Future, 1st ed., Publishing and Distribution, Amman
Main references (sources)	Awad, Husni (2018) Practical Educa Open University, Faculty of Education Affairs.
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	
Percentage of Curriculum Update	

جامعة الموصل
كلية التربية للعلوم الصرفة
رئيس قسم الرياضيات

Dr. Hussein Obaid Dahawi

Name and Signature of Curriculum Administer

Assist. Prof. Dr. Ali A. Alabdali

Name and Signature of Department Head

https://uomosul.edu.iq/en/education/academic-program-description-apd/