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

2024

Academic Program Description Form

University Name: Al-Muthanna University

Faculty/Institute: College of Education for Pure Science

Scientific Department: Department of Mathematics

Academic or Professional Program Name: B.Edu. in Mathematics

Final Certificate Name: B.Edu. in Mathematics

Academic System: Yearly

Description Preparation Date: 11/2/2024

File Completion Date: 20/2/2024

جامعة المثنى
كلية التربية للعلوم الصرفة
قسم الرياضيات

Signature:

Name: Assist. Prof. Dr. Amer Himza Ali

Head of Department

Date: 20/2/2024

Signature:

Name: Assist. Prof. Dr. Hajem Ati Daham

Scientific Associate

Date: 20/2/2024

The file is checked by: Assist. Prof. Dr. Yassir Dakheel Kremsh Al-Asadiy

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date: 20/2/2024

Signature:

جامعة المثنى
كلية التربية للعلوم الصرفة
مكتب العميد

Approval of the Dean

Prof. Dr. Jawad Kadhum Muraih

Date: 10/3/2024

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.

1. Program Vision

The Department of Mathematics aspires to gain global recognition in the fields of scientific research and teaching by achieving academic quality, as well as local recognition in the field of supplying the labor market with highly qualified scientific personnel.

2. Program Mission

Raising the efficiency of mathematicians and mathematical sciences in society and supporting various science specializations with high-level graduates to effectively contribute to the scientific renaissance and developing ways that would build qualified athletes at the highest level in teaching and training to contribute to raising the level of mathematical thought among trainees.

3. Program Objectives

1. Providing students with the knowledge and learning of modern principles and methods in the study of mathematics.
2. Introducing students to the importance of mathematics.
3. Graduating an elite group of students who have the ability to continue graduate studies to support higher education in the future.

4. Program Accreditation

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

Yes, the program has program accreditation from the National Council for Accreditation of Programs of Colleges of the Educational Group.

5. Other external influences

Is there a sponsor for the program?

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

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	10	20	%12	
College Requirements	8	32	%20	
Department Requirements	20	113	%68	
Summer Training	–	–		
Other				

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

7. Program Description

First Year

Course Name	Course Code	Credit Hours		Units
		Theoretical	Practical	
Calculus	Math100	3	2	8
Foundations of Mathematics	Math101	2	2	6
Linear Algebra	Math102	2	2	6
General Physics	Math103	2	-	4
Computer Science	UREQ103	1	-	2
Foundations of Education	CREQ100	2	-	4
Educational Psychology	CREQ101	2	-	4
Arabic Language	UREQ101	1	-	2
English Language	MUR101	1	-	2
Human rights and democracy	UREQ102	1	-	2
Total		17	6	40

Second Year

Course Name	Course Code	Number of Hours		Units
		Theoretical	Practical	
Advanced Calculus	Math200	3	2	8
Group Theory	Math201	2	1	5

Ordinary Differential Equations	Math202	2	2	6
Geometry and Axiomatic Systems	Math203	2	1	5
Computer Sciences	UREQ201	–	2	2
Administration and Supervision	CREQ201	2	-	4
Developmental Psychology	CREQ202	2	-	4
English Language	MUR201	1	-	2
Baath Party Crimes		1	-	2
Total		15	8	38

Third year

Course Name	Course Code	Number of Hours		Units
		Theoretical	Practical	
Mathematical Analysis	Math300	2	2	6
Numerical Analysis	Math301	2	2	6
Probability	Math302	2	2	6
Rings	Math303	2	2	6
Partial Differential Equations	Math304	2	1	5
Philosophy of Scientific Research	Math305	2	–	4
Curricula and Teaching Method	CREQ300	1	2	4
Educational Guidance	CREQ302	2	–	4
English Language	MUR301	1	–	2
Total		16	11	43

Forth year

Course Name	Course Code	Number of Hours		Units
		Theoretical	Practical	
Topology	Math400	2	2	6
Mathematical Statistics	Math401	2	2	6
Complex Analysis	Math402	2	2	6
Operations Research	Math405	2	2	6
Graph Theory	Math407	2	2	6
Graduation Research Work	Math403	–	2	2

Measuring and Amendment	**CREQ401**	–	2	4
English Language	**MUR401**	1	–	2
Professional ethics	**MUR402**	1	–	2
Practical Teaching	**CREQ402**	1	2	4
Total		15	14	44

8. Expected learning outcomes of the program

Knowledge	
A1- Enabling the student to gain an understanding of mathematics. A2- Preparing qualified teachers to teach in educational institutions. A3- Preparing a high-quality mathematics teacher.	
Skills	
B1 - That the student acquires the skill of mathematical operations. B2 - That the student acquires skills in methods of proof and thinking. B3 - The student should be able to link the information.	1. The correct scientific thinking method. 2. Discussion method. 3. Daily, monthly and annual tests.
C1- The method of discussion and dialogue between the student and the professor. C2- Conclusion. C3- Mathematical logic.	1. Through daily and monthly tests. 2. Discussions. 3. Practical and applied tests. 4. By reviewing the experiences of different universities.
Ethics	
D1- Utilizing the acquired information. D2- Personal development through reading and updating knowledge. D3- Engaging in the teaching profession. D4- Participation in seminars, conferences and workshops Specialized.	

9. Teaching and Learning Strategies

Theoretical and practical teaching of mathematics sciences, as well as graduation research and others.

10. Evaluation methods

1. Theoretical and practical tests.
2. Discussions.
3. Final exams.

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Prof. Qays Hatem Imran	Mathematics	Topology			✓	
Assist. Prof. Dr. Amer Himza Ali	Mathematics	Topology			✓	
Assist. Prof. Dr. Hajem Ati Daham	Mathematics	Operations Research			✓	
Assist. Prof. Dr. Ahmed S. Jbara	Physics	Nanotechnology			✓	
Dr. Mustafa Abbas Fadil	Mathematics	Numerical Analysis			✓	
Dr. Ahmed A. Talib	Mathematics	Ordinary Differential			✓	
Dr. Alya'a Abdulkadhim Sabry	Physics	Nuclear Physics			✓	
Amer Khrija Abed	Mathematics	Topology			✓	
Shaker Razag Abd alkareem	Computer	Computer			✓	
Oras Basim Jamil	Mathematics	Numerical Analysis			✓	
Ekram Abd Ali	Mathematics	Dynamical Systems			✓	
Ahmed Salam Razzaq	Mathematics	Numerical Analysis			✓	
Hadeel Hadi Abo-Alsood	Mathematics	Cryptography			✓	
Anwaar Mousa	Computer	Computer			✓	
Marwa Adnan	Arabic	Methods of Teaching			✓	
Sattar Hussein Abed	Physics	Physics			✓	
Nibras Mosafr Shakir	History	Methods of Teaching			✓	
Sarab Kazim Hassan	Mathematics	Dynamical Systems				✓
Dr. Ali Jawad Obada	Arabic	Arabic				✓
Dr. Munthir Shaker	English	English				✓
Dr. Hasan Jumaah Mrayeh	Mechanical Engineering	Refractories				✓

Hussain Ali Hadhood	**Political Science**	**Local governments**				✓
Khaled Saud	**English**	**English**				✓
Shahad Mansoor	**Arabic**	**Arabic**				✓
Ahlam Adnan Jappar	**Arabic**	**Arabic**				✓
Muna kamal Hussein	**History**	**History**				✓

Professional Development

Mentoring new faculty members

New faculty members were directed to complete a teaching suitability test and entered training courses and workshops to develop their skills in teaching and scientific research.

Professional development of faculty members

Introducing faculty members into training courses and workshops to develop their skills in teaching and scientific research.

12. Acceptance Criterion

1- Central admission.
2- Scientific interview.
3- The graduate of the preparatory stage is accepted exclusively in the scientific stream (biology - applied).
4- Medical examination.

13. The most important sources of information about the program

1- Sources approved by the university (sectoral committee).
2- External sources and various books.
3- The Internet.

14. Program Development Plan

1- Many duties that require external information.
2- Many practical applications.

Program Skills Outline																
				Required program Learning outcomes												
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics				
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4	
First Year	Math100	Calculus	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓	
	Math101	Foundations of Mathematics	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓	
	Math102	Linear Algebra	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓	
	Math103	General Physics	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓	
	UREQ103	Computer Science	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓	
	CREQ100	Foundations of Education	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓	
	CREQ101	Educational Psychology	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓	
	UREQ101	Arabic Language	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓	
	MUR101	English Language	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓	
	UREQ102	Human rights and democracy	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓	
Second Year	Math200	Advanced Calculus	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓	
	Math201	Group Theory	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓	

	Math202	Ordinary Differential Equations	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓
	Math203	Geometry and Axiomatic Systems	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓
	UREQ201	Computer Sciences	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓
	CREQ201	Administration and Supervision	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓
	CREQ202	Developmental Psychology	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓
	MUR201	English Language	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓
		Baath Party Crimes	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓
Third year	Math300	Mathematical Analysis	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓
	Math301	Numerical Analysis	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓
	Math302	Probability	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓
	Math303	Rings	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓
	Math304	Partial Differential Equations	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓
	Math305	Philosophy of Scientific Research	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓

	CREQ300	Curricula and Teaching Method	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓
	CREQ302	Educational Guidance	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓
	MUR301	English Language	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓
Forth year	Math400	Topology	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓
	Math401	Mathematical Statistics	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓
	Math402	Complex Analysis	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓
	Math405	Operations Research	optional	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓
	Math407	Graph Theory	optional	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓
	Math403	Graduation Research Work	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓
	CREQ401	Measuring and Amendment	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓
	MUR401	English Language	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓
	MUR402	Professional ethics	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓
	CREQ402	Practical Teaching	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓

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

Course Description Form

1. Course Name:
calculus
2. Course Code:
Math100
3. Semester / Year:
2023/2024
4. Description Preparation Date:
1/2/2024
5. Available Attendance Forms:
Classroom and Google classroom
6. Number of Credit Hours :
(150 hour per year) / Number of Units (8 units)
7. Course administrator's name (mention all, if more than one name)
Name: Assist.Lec. Ekram abd ali Email: ekramalimth@mu.edu.iq
8. Course Objectives

Course Objectives	• **Identify the concept of calculus , set and interval define the function and the types of function ,domain and range the graph of the function ,limit ,continuity, derivative integral, method of find the integral, area under graph ,applicaton of integral, polare coordinate**.

9. Teaching and Learning Strategies	
Strategy	**-Brainstorming** **-Feedback at lecture time** **-Collaboration and feedback series**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	-introduction to sets and interval define the function		**-Deductive** **-Induction** **-Discussion** **-Using Data Show and whiteboard**.	**-Oral discussion** **-Daily exams** **-Monthly exams** **-Homework assignments**.
2	5	**Absoluate value and solve inequilites**		=	=
3	5	Domain and range of the function		=	=

Course Description Form

4	5	Types of function		=	=
5	5	Graph of the function		=	=
6	5	Trigonometric functions		=	=
7	5	Hyporbilic and the invers hyporbilic function		=	=
8	5	Limit definatuin		=	=
9	5	Methodes to solve the limit		=	=
10	5	Continuous definition		=	=
11	5	derivative		=	=
12	5	Derivative of Trigonometric functions		=	=
13	5	Inverse of Trigonometric functions		=	=
14	5	Logarithm function		=	=
15	5	Application of derivative		=	=
16	5	Area under curve		=	=
17	5	Integral		=	=
18	5	Theorem of integral		=	=
19	5	definite integral		=	=
20	5	Properties of integral		=	=
21	5	Fundamental theorem		=	=
22	5	Methods of integral		=	=
23	5	Integral of Trigonometric functions		=	=
24	5	Integral of Logarithm function		=	=
25	5	Integral of Hyperbolic functions		=	=
26	5	Area an volume		=	=
27	5	Polar coordinate		=	=
28	5	Types of polar coordinate		=	=
29	5	Graph of polar coordinate		=	=
30	5	Area of polar coordinate		=	=

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, dailyoral, monthly, or written exams, reports .... etc (40) & (60 final exam)

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	1. calculuce by thomas .
Main references (sources)	التفاضل والتكامل تاليف احمد روحي
Recommended books and references	

Course Description Form

(scientific journals, reports…)	
Electronic References, Websites	موقع رياضيات العراق

Course Description Form

1. Course Name:

Fundamental Mathematics

2. Course Code:

Math101

3. Semester / Year:

Yearly

4. Description Preparation Date:

2023/10/1

5. Available Attendance Forms:

Weekly

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

4/6

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

Name: Prof. Qays Hatem Imran
Email: qays.imran@mu.edu.iq

8. Course Objectives

Course Objectives	Providing students with general information about the basic concepts of fundamental mathematics.

9. Teaching and Learning Strategies

Strategy	

10. Course Structure

Week	Hours	Unit or subject name	Required Learning Outcomes	Learning method	Evaluation method
1	4	**Mathematical logic**			
2	4	**Logical equivalence**			
3	4	**Algebra of statements**			
4	4	**Quantifiers**			

5	4	**Mathematical Proof**			
6	4	**Algebra of Sets**			
7	4	**Complement of a set**			
8	4	**Power Set**			
9	4	**Relations**			
10	4	**Domain and range of a relation**			
11	4	**Composition of relations**			
12	4	**Types of relations**			
13	4	**Equivalence classes**			
14	4	**Partial ordered relations**			
15	4	**Totally ordered sets**			
16	4	**Well ordered sets**			
17	4	**Mappings**			
18	4	**Types of mappings**			
19	4	**Composite mappings**			
20	4	**Inverse mapping**			
21	4	**Direct images under mapping**			
22	4	**The inverse images under mapping**			
23	4	**order preserving mappings and isomorphism**			

Course Description Form

24	4	**Potency of sets**			
25	4	**Arithmetic on cardinal numbers**			
26	4	**Ordinal numbers**			
27	4	**The Natural numbers**			
28	4	**Arithmetic of the natural numbers**			
29	4	**Binary Operations and Semi group**			
30	4	**Groups and Finite groups**			

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)	**أسس الرياضيات الجزئيين الأول والثاني/هادي جابر مصطفى وآخرون / جامعة البصرة – العراق ، 1983**
Main references (sources)	**مقدمة في أسس الرياضيات / عادل غسان نعوم وباسل عطا الهاشمي / جامعة بغداد – العراق ، 2000**
Recommended books and references (scientific journals, reports…)	---
Electronic References, Websites	**Google Scholar**

Course Description Form

1. Course Name:
General Physics
2. Course Code:
3. Semester / Year:
Academic Year (2023-2024)
4. Description Preparation Date:
2/ 2/ 2024
5. Available Attendance Forms:
Attendance lectures
6. Number of Credit Hours (Total) / Number of Units (Total)
(60 Hours) per year/ (4 Units)
7. Course administrator's name (mention all, if more than one name)
Name: Dr. Alya'a Abdulkadhim Sabry Email: alyaa_ros@mu.edu.iq
8. Course Objectives

Course Objectives	**Teaching students information about physics and how to use mathematical laws and employ them in important physical problems, especially in the fields of mechanics, electricity, and magnetism.**

9. Teaching and Learning Strategies

Strategy	**Using various means to deliver the scientific material to the student, including preparing electronic lectures, presenting the scientific material during the lecture, the method of discussion, forming groups to solve the exercises, students participating in the lecture by answering the questions asked, and other methods used.**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
30 weak	**2 hours per weak**		**Study plan attached**	**Various methods**	**Various methods**

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

Grade distribution: (10 marks) First semester exam - (15 marks) Mid-year exam - (10 marks) Second semester exam - (5 marks) Daily, including daily participation, assignments, daily tests and attendance - (60 marks) Final exam.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	**General Physics "Mechanics - Electricity and Magnetism "Solved problems in mechanics, electricity and magnetism"**
Main references (sources)	**Relying mainly on methodological books because they meet the purpose and include all the curriculum components.**
Recommended books and references (scientific journals, reports...)	No thing

Course Description Form

Electronic References, Websites	No thing

Course Description Form

1. Course Name:
General Physics
2. Course Code:
3. Semester / Year:
Academic Year (2023-2024)
4. Description Preparation Date:
2/ 2/ 2024
5. Available Attendance Forms:
Attendance lectures
6. Number of Credit Hours (Total) / Number of Units (Total)
(60 Hours) per year/ (4 Units)
7. Course administrator's name (mention all, if more than one name)
Name: Dr. Alya'a Abdulkadhim Sabry Email: alyaa_ros@mu.edu.iq
8. Course Objectives

Course Objectives	**Teaching students information about physics and how to use mathematical laws and employ them in important physical problems, especially in the fields of mechanics, electricity, and magnetism.**

9. Teaching and Learning Strategies

Strategy	**Using various means to deliver the scientific material to the student, including preparing electronic lectures, presenting the scientific material during the lecture, the method of discussion, forming groups to solve the exercises, students participating in the lecture by answering the questions asked, and other methods used.**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
30 weak	**2 hours per weak**		**Study plan attached**	**Various methods**	**Various methods**

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

Grade distribution: (10 marks) First semester exam - (15 marks) Mid-year exam - (10 marks) Second semester exam - (5 marks) Daily, including daily participation, assignments, daily tests and attendance - (60 marks) Final exam.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	**General Physics "Mechanics - Electricity and Magnetism "Solved problems in mechanics, electricity and magnetism"**
Main references (sources)	**Relying mainly on methodological books because they meet the purpose and include all the curriculum components.**
Recommended books and references (scientific journals, reports...)	No thing

Course Description Form

Electronic References, Websites	No thing

Course Description Form

1. Course Name:
human rights
2. Course Code:
UREQ102
3. Semester / Year:
2023-2024
4. Description Preparation Date:
2023-2024
5. Available Attendance Forms
: Daily attendance
6. Number of Credit Hours (Total) / Number of Units (Total):
2 hours (theoretical)
7. Course administrator's name (mention all, if more than one name)
Name: assistant teacher hussain ali hadhood Email: @mu.edu.iq hussain.hadhood
8. Course Objectives

Course Objectives	The study of man, the subject of truth, in terms of human nature and composition Introduction to it and its most prominent features as well as the types of rights These rights are defined in historical terms, and are of importance stipulated in human rights
9. Teaching and Learning Strategies	
Strategy	1- Lecture, use of the blackboard and presentation 2- Demonstration (using graphs, pictures and educational films using a data projector) 3- Interactive discussion

	4- Self-education

10. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1	**2**	knowledge	Introducing the human being as the subject of truth Manifestations of divine honor for man	-Lecture, use of the blackboard and presentation -Demonstration (using graphs, pictures and educational films using a data projector) -Interactive discussion -Self-education - Open educational classes using the Classroom platform	Theoretical, /oral and written examinations (daily, monthly and midterm exam) and scientific reports
2	**2**	knowledge	Human nature and formation	====	====
3	**2**	knowledge	Definition of the truth	====	====
4	**2**	knowledge	Human rights features	====	====
5	**2**	knowledge	Characteristics of human rights	====	====
6	**2**	knowledge	Types of human rights	====	====
7	**2**	knowledge	Roots of rights Man and its development	====	====

			in human history.		
8	**2**	knowledge	Human rights in ancient civilizations and Islam	====	====
9	**2**	knowledge	International Bill of Human Rights	====	====
10	**2**	knowledge	Human rights resources	====	====
11	**2**	knowledge	International sources	====	====
12	**2**	knowledge	Regional and national sources	====	====
13	**2**	knowledge	International Agreements .	====	====
14	**2**	knowledge	Regional conventions	====	====
15	**2**	knowledge	Human rights in the modern era.	====	====
16	**2**	knowledge	Rights and elections	====	====
17	**2**	knowledge	The concept and definition of elections	====	====
18	**2**	knowledge	The importance of	====	====

			elections		
19	**2**	knowledge	Voting and referendum	====	====
20	**2**	knowledge	Human duties	====	====
21	**2**	knowledge	Restrictions on the exercise of human rights	====	====
22	**2**	knowledge	Democracy Concept	====	====
23	**2**	knowledge	History of democracy	====	====
24	**2**	knowledge	Features of a democratic system	====	====
25	**2**	knowledge	Advantages of democracy	====	====
26	**2**	knowledge	Components of democracy	====	====
27	**2**	knowledge	Constitution and democracy	====	====
28	**2**	knowledge	Civil society and democracy	====	====
29	**2**	knowledge	Contemporary	====	====

			democracy		
30	**2**	knowledge	The relationship between human rights and democracy	====	====

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 40 marks (5 marks for the first monthly exam + 5 marks for the second monthly exam + 15 marks for the midterm exam) + 2 marks for daily preparation and daily tests Practical (5 marks for the first monthly exam + 5 marks for the second monthly exam)+3marks Evaluating absences and activities 60 marks (marks final theoretical exam)	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	human rights
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Websites available on Google Chrome

Course Description Form

1. Course Name:
English Language
2. Course Code:
MUR 101
3. Semester / Year:
2023-2024
4. Description Preparation Date:
2023-2024
5. Available Attendance Forms
Daily attendance
6. Number of Credit Hours (Total) / Number of Units (Total):
1 hour (theoretical)
7. Course administrator's name (mention all, if more than one name)
Name: Assistant Professor Munthir Email: munthirshakir@mu.edu.iq
8. Course Objectives

Course Objectives	The objective is to help students acquire and improve their skills at a beginner level. This includes building vocabulary, improving pronunciation, and developing grammatical understanding.
9. Teaching and Learning Strategies	
Strategy	1. Emphasize interactive and meaningful communication in English. Encourage students to engage in pair work, group discussions, and role-plays to practice their speaking and listening skills. 2- Lecture, use of the blackboard and presentation 3- Demonstration (using graphs, pictures and educational films using a data projector) 4- Interactive discussion 5- Self-education

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	**1**	knowledge	- Introduction to the course and syllabus overview - Greetings and introductions - Numbers, plurals, and basic vocabulary	-Lecture, use of the blackboard and presentation -Demonstration (using graphs,	Theoretical, practical/oral and written examinations (daily,

				pictures and educational films using a data projector) -Interactive discussion -Self-education - Open educational classes using the Classroom platform	monthly and midterm exam) and scientific reports
2	**1**	knowledge	vocabulary related to countries. - Questions and Answers in	====	====
3	**1**	knowledge	- Vocabulary of jobs	====	====
4	**1**	knowledge	- Presenting and practicing - The alphabet	====	====
5	**1**	knowledge	Simple present tense (forms and structures).	====	====
6	**1**	knowledge	Negatives and Questions	====	====
7	**1**	knowledge	Personal information	====	====
8	**1**	knowledge	Social Expressions (I)	====	====
9	**1**	knowledge	Mid-term Exam	====	====
10	**1**	knowledge	' vocabulary related to family and friends	====	====
11	**1**	knowledge	Possessive pronouns (our, their)	====	====
12	**1**	knowledge	Sports/Food/Drinks • PresentSimple-1/you/we/they • a/an	====	====
13	**1**	knowledge	Languages and nationalities • Numbers and prices	====	====
14	**1**	knowledge	The time • Present Simple -- he/she • always/sometimes/never	====	====
15	**1**	knowledge	Words that go together • Days of the week	====	====
16	**1**	knowledge	Exam	====	====
17	**1**	knowledge	this/that •Adjectives • Can I ... '	====	====
18	**1**	knowledge	Question words • me/him/us/them	====	====
19	**1**	knowledge	Directions	====	====
20	**1**	knowledge	Prepositions	====	====
21	**1**	knowledge	- irregular verbs • have/do/go " When's your birthday?	====	====

22	**1**	knowledge	Saying years • was/were born	====	====
23	**1**	knowledge	Past Simple - regular and irregular	====	====
24	**1**	knowledge	• Questions and negatives	====	====
25	**1**	knowledge	• Sport and leisure terms	====	====
26	**1**	knowledge	Adjective+ noun	====	====
27	**1**	knowledge	can/can't Adverbs	====	====
28	**1**	knowledge	I'd like- some/any • In a restaurant • Signs all around	====	====
29	**1**	knowledge	Colours and clothes • Present Continuous	====	====
30	**1**	knowledge	Opposite verbs • What's the matter?	====	====

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 40 marks (5 marks for the first monthly exam + 5 marks for the second monthly exam + 15 marks for the midterm exam) + 2 marks for daily preparation and daily tests Practical (5 marks for the first monthly exam + 5 marks for the second monthly exam)+3marks Evaluating absences and activities 60 marks (marks final theoretical exam)	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Headway for beginners
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Websites available on Google Chrome

Course Description Form

1. Course Name:
Computer
2. Course Code:
UREQ 103
3. Semester / Year:
2023/2024
4. Description Preparation Date:
12/11/2023
5. Available Attendance Forms:
Computer lap and Google classroom
6. Number of Credit Hours :
(60 hour per year) / Number of Units (6 units)
7. Course administrator's name (mention all, if more than one name)
Name: Lec. Shakir Razag aduul kareem Email: shakirmuthana@mu.edu.iq
8. Course Objectives

Course Objectives	• **Identify the concept of Computer Hardware & Software, Numerical, Interpolation, Operating system ,Windows 10**.
9. Teaching and Learning Strategies	
Strategy	**-Brainstorming** **-Feedback at lecture time** **-Collaboration and feedback series**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	**-Student's ability to distinguish and understand cognitively to diagnose Numerical Solutions.** **-Practice different styles of Numerical Methods.** **-Prossessing thinking skills.**	**Introduction to computers**	**-Deductive** **-Induction** **-Discussion** **-Using Data Show and whiteboard**.	**-Oral discussion** **-Daily exams** **-Monthly exams** **-Homework assignments**.
2	2	=	**Introduction to numerical systems and their types**	=	=

Course Description Form

3	4	=	**Conversion between numerical systems**	=	=
4	4	=	**Arithmetic operations on the binary system**	=	=
5	4	=	**Representing signed numbers**	=	=
6	4	=	**Arithmetic operations on signed numbers**	=	=
7	4	=	**Learn about operating systems**	=	=
8	4	=	**Introduction to the Windows 10 operating system**	=	=
9	4	=	**Windows 10 system features**	=	=
10	4	=	**Pop-ups and dialog boxes**	=	=
11	4	=	**Learn about the contents of the desktop screen and the types of icons**	=	=
12	4	=	**desktop screen and the types of icons**	=	=
13	4	=	**Pop-up menu from desktop And commands to modify desktop properties**	=	=
14	4	=	**Modifying computer characteristics and features**	=	=
15	4	=	**Pop-up menus from the This pc icon**	=	=
16	4	=	**Recycle weapon and networks icon**	=	=
17	4	=	**Control and modify computer settings**	=	=
18	4	=	**Modify the taskbar properties**	=	=
19	4	=	**Explanation and application of the start command**	=	=
20	4	=	**Changing settings and properties is a Start command**	=	=
21	4	=	**Managing and modifying the warehouse**	=	=
22	4	=	**Modify desktop**	=	=

Course Description Form

			properties		
23	4	=	**Explanation of the functions of the control panel icon**	=	=
24	4	=	**Change computer properties through the control panel**	=	=
25	4	=	**Window management**	=	=
26	4	=	**Learn about the most important Windows 10 folders**	=	=
27	4	=	**Troubleshoot and correct errors**	=	=
28	4	=	**Ways to delete programs through the control panel**	=	=
29	4	=	**Discuss and explain reports**	=	=
30	4	=	**review**	=	=

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, dailyoral, monthly, or written exams, reports .... etc (40) & (60 final exam)

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	1. لايوجد
Main references (sources)	1 - Windows 10 .
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	-

1. Course Name:
Advanced differentiation
2. Course Code:
200Math
3. Semester / Year:
2024-2023
4. Description Preparation Date:
2024/2/1
5. Available Attendance Forms:
Official working hours in the hall
6. Number of Credit Hours (Total) / Number of Units (Total)
150 hours (90 theoretical + 60 discussion), 6 units
7. Course administrator's name (mention all, if more than one name)
Name: Amer Khrija Abed Email: amer.khrija@mu.edu.iq
8. Course Objectives

Course Objectives	**- For students to recognize sequences and infinite series** **- For students to learn the concept of polar coordinates** **- For students to learn the concept of three-dimensional space and vectors** **- For students to become familiar with the**

	concepts of multivariable functions, objectives, and continuity **- For students to become familiar with partial derivatives, maximum and minimum limits, and the Lacrange operator for calculating limits.** **- That students learn the concept of multiple integration with applications and distinguish themselves from classical integration** **integration, in addition to the theorems related to integration.**

9. Teaching and Learning Strategies

Strategy	- Lectures inside the hall. - Discussion in the classroom. - Directing students to some websites. - Mini discussion sessions for weekly assignments

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Polar coordinates	Converting from Cartesian coordinate to polar coordinate and vice versa and plotting points	Theory through printed lectures from various sources and explaining them on the	- Conducting short and varied daily exams - Conducting monthly examinations - Writing

				blackboard, while assigning students weekly assignments and discussing them.	scientific reports on important topics of the subject
2	5	Drawing circles and straight lines	Drawing circles from polar equations as well as those representing straight lines	=	=
3	5	Draw the shape of the heart and heart diagram	Through polar equations and representing them with points on the bilateral plane, the heart and flower shapes are produced	=	=
4	5	The length of the curve and the area inside Curved	Using integration to calculate the length of the curve and the area of the polar equation	=	=

			curve		
5	5	Vectors	Definitions and general review Intermediate equations	=	=
6	5	Point and cross multiplication	Methods for calculating multiplication of two vectors Applications of point and cross multiplication	=	=
7	5	Straight equation	Extracting the equation of a line from vectors	=	=
8	5	Plane equation	Extracting plane equations from vectors Intersection of levels	=	=
9	5	Multivariable functions	Defining the domain and range of a function with two or three	=	=

			variables Graph the domain of a function in two variables		
10	5	Limits	Definition of the limits of the function, purpose theorems, and examples	=	=
11	5	Continuity	Definition of continuity, theorems and examples	=	=
12	5	Partial and complete derivatives	derived by definition, rules, and examples	=	=
13	5	Vector derivatives	Find the derivative through vectors	=	=
14	5	Chain base	Finding the derivative of the composition of two functions with two	=	=

			variables		
15	5	Exams		=	
16	5	Double integration	Methods of calculating double integrals Calculating areas	=	=
17	5	Integration on the curve formula	Methods of calculating the double integral on a curve Calculating areas	=	=
18	5	Crane's theorem	Text of the theorem with proof and examples	=	=
19	5	Triple integrals	Methods of calculating the triple integral Volume calculation	=	=
20	5	Integration on surfaces	Methods of calculating integration on the surfaces of shapes	=	=

21	5	Sequences	Definition of the sequence, its examples and applications	=	=
22	5	Bounded Sequences	Definition and examples of bounded sequences	=	=
23	5	Monotonic Sequences	Definition and examples of monotonic sequence	=	=
24	5	Convergence of sequences	Definition of convergence and divergence	=	=
25	5	Series	Sequences Definition of series and its examples	=	=
26	5	Convergence and divergence series	Definition of convergent and divergent series, their theorems and examples	=	=
27	5	Convergence tests	Types of series convergence	=	=

			tests		
28	5	Power series	Power series formula Radius of convergence	=	=
29	5	Taylor-Maclaurin series	The general formula for the Taylor-Maclaurin series and its examples	=	=
30	5	Exams			

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

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Introduction to complex analysis , Dr. Atallah Thamer Al-Ani Dr. Ibtisam Kamal Al-Din 1999
Main references (sources)	Complex variables and their applications. Brown R. Churchill 1985 - Complex functions/Schaum's summaries series − Alan Jeffrey, Complex Analysis and Applications,(2006).

Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	www. Freescience.info/math

Course Description Form

1. Course Name:

Ordinary Differential Equations

2. Course Code:

3. Semester / Year:

Academic Year (2023-2024)

4. Description Preparation Date:

2/ 2/ 2024

5. Available Attendance Forms:

Attendance lectures

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

(120 Hours) per year / (6 Units)

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

Name: Dr. Alya'a Abdulkadhim Sabry Email: alyaa_ros@mu.edu.iq

8. Course Objectives

Course Objectives	**Introducing students to the types of equations in general and differential equations in particular, and studying the relationship between differentiation and integration and differential equations, then focusing on ordinary differential equations and studying them in detail by introducing them, methods of solving them, their types, and how to employ them in important issues, especially issues of daily life.**

9. Teaching and Learning Strategies

Strategy	**Using various means to deliver the scientific material to the student, including preparing electronic lectures, presenting the scientific material during the lecture, the method of discussion, forming groups to solve the exercises, students participating in the lecture by answering the questions asked, and other methods used.**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
30 weak	**4 hours per weak**		**Study plan attached**	**Various methods**	**Various methods**

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

Grade distribution: (10 marks) First semester exam - (15 marks) Mid-year exam - (10 marks) Second semester exam - (5 marks) Daily, including daily participation, assignments, daily tests and attendance - (60 marks) Final exam.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Differential Equations - Part One -
Main references (sources)	**Ordinary differential equations solutions and applications** **Al-Murshed to solving ordinary differential equations**

Course Description Form

Recommended books and references (scientific journals, reports...)	No thing
Electronic References, Websites	No thing

Course Description Form

1. Course Name:

Group theory

2. Course Code:

Math201

3. Semester / Year:

2023/2024

4. Description Preparation Date:

5/2/2024

5. Available Attendance Forms:

Classroom and Google classroom

6. Number of Credit Hours :

(90 hour per year) / Number of Units (5 units)

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

Name: Assit. Lec. Oras Basim Jamil
Email: orasbj@mu.edu.iq

8. Course Objectives

Course Objectives	• **Identify the concept of group, its types a applications.**

9. Teaching and Learning Strategies

Strategy	**-Brainstorming** **-Feedback at lecture time** **-Collaboration and feedback series**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3	**-Student's ability to distinguish and understand cognitively to diagnose special theories and principles.** **-Practice different styles of mathematics proofs.** **-Prossessing thinking skills.**	**Definitions of Mathematics system, binary operation, Group and semi group.**	**-Deductive** **-Induction** **-Discussion** **-Using Data Show and whiteboard**.	**-Oral discussion** **-Daily exams** **-Monthly exams** **-Homework assignments**.
2	3	=	**Basic theorems of group**	=	=
3	3	=	**Symmetric group**	=	=
4	3	=	**Group of modulo n**	=	=
5	3	=	**Theorems of group of modulo n**	=	=
6	3	=	**Cyclic group**	=	=

Course Description Form

7	3	=	**Theorems of Cyclic group**	=	=
8	3	=	**Subgroups**	=	=
9	3	=	**Cosets**	=	=
10	3	=	**Lagrange theorem**	=	=
11	3	=	**Normal groups**	=	=
12	3	=	**The normal elements and subgroups**	=	=
13	3	=	**Simple groups**	=	=
14	3	=	**Quotient group**	=	=
15	3	=	**Internal and External direct product**	=	=
16	3	=	**Homomorphism**	=	=
17	3	=	**Theorems of homomorphism**	=	=
18	3	=	**Types of homomorphism**	=	=
19	3	=	**The kernel of homomorphism**	=	=
20	3	=	**Isomorphism**	=	=
21	3	=	**The 1^{st} fundamental theorem of Isomorphism**	=	=
22	3	=	**The 2^{nd} and 3^{rd} fundamental theorem of Isomorphism**	=	=
23	3	=	**Chains**	=	=
24	3	=	**Jorden-Holder theorem**	=	=
25	3	=	**Cayley's theorem**	=	=
26	3	=	**The solvable group**	=	=
27	3	=	**P-group**	=	=
28	3	=	**Sylow theorems**	=	=
29	3	=	**1^{st} Sylow theorem**	=	=
30	3	=	**2^{nd} Sylow theorem**	=	=

11.Course Evaluation

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

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	-
Main references (sources)	**Introduction to modern abstract Algebra by :Dvaid M. Burton**

Course Description Form

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

Course Description Form

1. Course Name:
Geometry
2. Course Code:
Math 203
3. Semester / Year:
Semester 2023-2024
4. Description Preparation Date:
2023/10/1
5. Available Attendance Forms:
6. Number of Credit Hours (Total) / Number of Units (Total)
3 hours per week / 5 units
7. Course administrator's name (mention all, if more than one name)
Name: Hadeel Hadi Abo-Alsood Email: hadeel.hadi@mu.edu.iq

8. Course Objectives

Course Objectives	• **Introducing students to the axiomatic system, the Young and Fano system, and the properties of the axiomatic system.** • **Introducing students to the emergence of non-Euclidean geome (Hathlouli geometry and elliptical geometry).**

9. Teaching and Learning Strategies

Strategy	**Using modern strategies and teaching methods, including brainstorming Quick tests and pausing for a moment to measure comprehension.**

10. Course Structure

Week	Hours	Unit or subject name	Learning method	Evaluation method
1	3 hours	Components of the axiomatic system, axioms of the projective plane	Follow the method of discussion and dialogue	Evaluative questions
2	3 hours	Finished projective levels, damaged lev Corrupted levels finished	Follow the method of discussion and ialogue	Evaluative questions
3	3 hours	**Young** and Fano system	Follow the method of discussion and dialogue	Evaluative questions
4	3 hours	Properties of the axiomatic system (consistency, independence)	Follow the method of discussion and dialogue	Evaluative questions
5	3 hours	Euclid's Critique (definitions, axioms an Euclid's theorems)	Follow the method of discussion and dialogue	Evaluative questions
6	3 hours	Evaluation of Euclid's geometry, axioms incidence and existence, axioms of orde	Follow the method of discussion and dialogue	Evaluative questions
7	3 hours	Pieces	Follow the method of discussion and dialogue	Evaluative questions

Course Description Form

8	3 hours	Bach's axioms, convex sets, inside and outside triangles, angles, convex quadrilaterals.	Follow the method of discussion and dialogue	Evaluative questions
9	3 hours	Match and compare	Follow the method of discussion and dialogue	Evaluative questions
10	3 hours	Match angles and triangles	Follow the method of discussion and dialogue	Evaluative questions
11	3 hours	Adding and subtracting angles, compari angles	Follow the method of discussion and dialogue	Evaluative questions
12	3 hours	Elementary geometry, re-proofs of Euclid's theorems, external angles theorem	Follow the method discussion and dialogue	Evaluative questions
13	3 hours	Right angles and non-right angles	Follow the method of discussion and dialogue	Evaluative questions
14	3 hours	Measurement (measuring a line segment, adding line segments, adding angles)	Follow the method of discussion and dialogue	Evaluative questions
15	3 hours	Non-Euclidean geometry	Follow the method of discussion and dialogue	Evaluative questions
16	3 hours	The axiom of parallelism and some of its equivalents, attempts to prove the axiom of parallelism	Follow the method of discussion and dialogue	Evaluative questions
17	3 hours	Hathluli geometry (the axiom of parallelism for geometry Hathluliyah)	Follow the method of discussion and dialogue	Evaluative questions
18	3 hours	The aligned triangle	Follow the method of discussion and dialogue	Evaluative questions
19	3 hours	Elliptic geometry (the characteristic axiom of elliptical geometry)	Follow the method of discussion and dialogue	Evaluative questions
20	3 hours	Projective geometry (principle of duality, formations)	Follow the method of discussion and dialogue	Evaluative questions
21	3 hours	Fano's axiom, Dizark's axiom, perfect quadrilateral, perfect quadrilateral.	Follow the method of discussion and dialogue	Evaluative questions
22	3 hours	Harmonic Sets	Follow the method of discussion and dialogue	Evaluative questions
23	3 hours	The axioms of separation, the axiom of continuity, perspective and projectivity perspective and projectivity	Follow the method of discussion and dialogue	Evaluative questions
24	3 hours	The analytical projective plane (Euclide model of the projective plane, analytica model). Equations of points and lines	Follow the method of discussion and dialogue	Evaluative questions
25	3 hours	The geometric meaning of linear correlation, engineering applications of linear correlation, transformations on Rn	Follow the method of discussion and dialogue	Evaluative questions
26	3 hours	The coordinate system of the line, changing coordinates	Follow the method of discussion and dialogue	Evaluative questions

Course Description Form

27	3 hours	Reciprocal ratio, group of transformatic group of projective transformations, subgroups	Follow the method of discussion and dialogue	Evaluative questions
28	3 hours	The analytical compositional level, the Euclidean level, and the group of Euclidean transformations	Follow the method of discussion and dialogue	Evaluative questions
29	3 hours	Euclidean level and group of Euclidean transformations	Follow the method of discussion and dialogue	Evaluative questions
30	3 hours	Other partial geometries from projectiv geometry	Follow the method of discussion and dialogue	Evaluative questions

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

1- First month exam / 10 marks.
2- Daily exams / 2 grades.
3- Attendance/3 marks.
4- Mid-year exam / 15 marks.
5- Second month exam / 10 marks.
6- Final exam / 60 marks.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Basic concepts in engineering, written by Dr. Amal Shehab Al-Mukhtar
Main references (sources)	Basic concepts in engineering, written by Dr. Amal Shehab Al-Mukhtar

Course Description Form

1. Course Name:
Computer
2. Course Code:
UREQ 201
3. Semester / Year:
2023/2024
4. Description Preparation Date:
1/10/2023
5. Available Attendance Forms:
Computer lap and Google classroom
6. Number of Credit Hours :
(60 hour per year) / Number of Units (6 units)
7. Course administrator's name (mention all, if more than one name)
Name: Lec. Shakir Razag aduul kareem Email: shakirmuthana@mu.edu.iq
8. Course Objectives

Course Objectives	• **Identify the Microsoft office , word , exsil , algorithm , matlap** .
9. Teaching and Learning Strategies	
Strategy	**-Brainstorming** **-Feedback at lecture time** **-Collaboration and feedback series**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	**-Student's ability to distinguish and understand cognitively to diagnose Numerical Solutions.** **-Practice different styles of Numerical Methods.** **-Prossessing thinking skills.**	**Learn about the interfaces and working of the Word program**	**-Deductive** **-Induction** **-Discussion** **-Using Data Show and whiteboard**.	**-Oral discussion** **-Daily exams** **-Monthly exams** **-Homework assignments**.
2	2	=	**Home tab**	=	=
3	2	=	**Insert tab**	=	=
4	2	=	**Layout tab**	=	=
5	2	=	**File tab**	=	=
6	2	=	**View tab**	=	=

7	2	=	**Design tab**	=	=
8	2	=	**Micro tab**	=	=
9	2	=	**Learn about the interfaces and working of the exsil program**	=	=
10	2	=	**Home tab**	=	=
11	2	=	**Insert tab**	=	=
12	2	=	**Layout tab**	=	=
13	2	=	**File tab**	=	=
14	2	=	**View tab**	=	=
15	2	=	**Design tab**	=	=
16	2	=	**Micro tab**	=	=
17	2	=	Function if , ifs	=	=
18	2	=	Function **count , countif , countifs**	=	=
19	2	=	Function ة sum , sumif , sumifs	=	=
20	2	=	Function **vlookup , hlookup ,**	=	=
21	2	=	Function **average , averageif**	=	=
22	2	=	Function **in exsle**	=	=
23	2	=	**Introduction to algorithms**	=	=
24	2	=	**Explain algorithms for programming sentences**	=	=
25	2	=	**algorithms** of if , for	=	=
26	2	=	**An introduction to MATLAB and its most important features**	=	=
27	2	=	**the main screens of the MATLAB program**	=	=
28	2	=	**writing variables and arithmetic operations in MATLAB**	=	=
29	2	=	**Writing programs mathematics functions in MATLAB**	=	=
30	2	=	**review**	=	=

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, dailyoral, monthly, or written exams, reports .... etc (40) & (60 final

Course Description Form

exam)	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	1. لايوجد
Main references (sources)	**1 - مقدمة في الماتلاب** **2 - الخوارزميات** **3 - شرح الاكسل خطوة بخطوة** **4 - شرح الورد خطوة بخطوة**
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	-

Course Description Form

1. Course Name:

Developmental Psychology

2. Course Code:

CREQ 201

3. Semester / Year:

2023–2024

4. Description Preparation Date:

2023/10/1

5. Available Attendance Forms:

Came

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

60 hours annually
4 units per week

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

Name: shahad mansoor majeed
Email: shahad.mansoor@mu.edu.iq

8. Course Objectives

Course Objectives Identify developmental psycholo its stages, theories a manifestations	….. • **Understand the general meaning of developme psychology** ….. • **Identify the most important principles and laws growth** ….. • **Knowledge of theories of growth and division**

9. Teaching and Learning Strategies

Strategy	Discussion method, group participation, student self-activity by collecting information about the material and presenting it in the classroom

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
30 weeks	Two hours			Miscellaneo methods	Miscellaneo methods

Course Description Form

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)	The psychology of growth in childho and adolescence
Main references (sources)	Fundamentals of childhood a adolescence psychology
Recommended books and references (scientific journals, reports…)	No
Electronic References, Websites	No

Course Description Form

1. Course Name:

Secondary education and educational administration

2. Course Code:

CREQ 202

3. Semester / Year:

Academic yearn (2023 −2024)

4. Description Preparation Date:

2024/2/5

5. Available Attendance Forms:

Attendance lectures

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

(60 Hours)per year / (4 Units)

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

Name: Ahlam Adnan Jabbar
Email: ahlam.adnan@mu.edu.iq

8. Course Objectives

Course Objectives	**Helping students to identify the components of the school and institutional system, possessing teaching and management skills, and the process of educational supervision, providing students with theoretical experience of secondary education systems, developing the skills of lesson planning and organization, and applying scientific steps within the educational institution.**

9. Teaching and Learning Strategies

Strategy	Using various means to deliver scientific material to the student, prepare and present lectures, lecture method, group participation, and student self-activity by collecting the information provided to be presented in the classroom.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

30weak	2 hours per weak		Study plan attached	Various methods	Various methods

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
Grade distribution: (10 marks) First semester exam- (15 marks) mid-year- (10 marks) second semester exam –(5 marks) Daily , including daily participation assignments, daily tests and attendance –(60 marks) Final exam .

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures on secondary education and educational administration by Dr. Mijbal Alwan Machi
Main references (sources)	Hamed Zahran. Developmental Psychology Youssef Qahtan .secondary education Youssef Yacoub and Ali Al-Hattab .Secondary Education and Administration 2015
Recommended books and references (scientific journals, reports…)	Educational administration and educational Supervision a. Muhammad Khaled azzam
Electronic References, Websites	**www.feedo.net lRaising children** **www.aricles.Islam** **www.happy family** **www.acofps** **www.mesoport.com** **www.uobabylon.edu.iq**

	Scientific material	Theoretical material	date	week
		Definition of management in general		.1
		Classroom, school and educational management		.2
		Time management and scheduling of lectures or lessons		.3
		Human Resource Management		.4
		A contemporary vision of educational administration		.5
		Techniques adopted in modern management		.6
		Levels of educational administration		.7
		Developing the concept of educational administration across the ages		.8
		Management between science, art and profession		.9
		Educational administration operations		.10
		Educational leadership		.11
		The importance and necessity of leadership		.12
		Leadership and management		.13
		Leadership characteristics, styles and theories		.14
		Leadership characteristics, styles and theories		.15

Lesson schedule - for the second semester

	Scientific material	Theoretical material	date	week
		The relationship of educational administration to successful administratior		16

		Features and characteristics of successful educational administration		17
		School administration, its goals and importance		18
		Administrative personal qualities		19
		Characteristics of classroom management and its importance		20
		Teaching skills and classroom management capabilities		21
		Methods of dealing with classroom problems and the influencing factor		22
		Important directions in the field of classroom management		23
		Educational and scientific planning		24
		Educational development and planning		25
		The concept of total quality management and quality education		26
		Quality indicators in education		27
		The concept of educational supervision		28
		Functions of educational supervision and its methods		29
		Types of educational supervision, its tools and problems		30

نموذج وصف المقرر

1. اسم المقرر:	
لغة انكليزية	
2. رمز المقرر:	
MUR201	
3. الفصل / السنة: السنوي	
السنوي	
4. تاريخ إعداد هذا الوصف :	
2023/10/1	
5. أشكال الحضور المتاحة :	
حضوري فقط	
6. عدد الساعات الدراسية (الكلي)/ عدد الوحدات (الكلي):	
ساعة واحدة بالاسبوع	
7. اسم مسؤول المقرر الدراسي (اذا اكثر من اسم يذكر)	
الاسم: م..م. خالد سعود جايد الآيميل : Khaled.saud@mu.edu.iq	
8. اهداف المقرر	
تعريف الطالب بقواعد اللغة الانكليزية وبالخصوص الازمنة وتصريفات الافعال وتدريبه على معرفة نوع الزمن للجمل والكتابة الصحيحة وطريقة الاستماع الصحيحة.	● ..... ● ..... ● .....
9. استراتيجيات التعليم والتعلم	
الاستراتيجية	1-استراتيجية التعليم تخطيط المفهوم التعاوني. 2-استراتيجية التعليم العصف الذهني. 3-استراتيجية التعليم سلسلة الملاحظات
10. بنية المقرر	

الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	طريقة التقييم

1	1		Getting to know you part 1	3- ربط الأفكار النقدية المشهورة مع اراء النقدية للطلبة 2- استخدام الوسائل الحديثة والتقليدية لتوصيل الفكرة الى الطالب باي طريقة ممكنة .	الامتحانات الأسبوعية والشهرية واليومية والتحريرية وامتحان نهاية السنة.
2	1		Getting to know you part2		
3	1		The way we live part 1		
4	1		The way we live part 2		
5	1		It all went wrong part 1		
6	1		It all went wrong part 2		
7	1		Let's go shopping part1		
8	1		Let's go shopping part2		
9	1		Activities and examples		
10	1		What do you want to do part1		
11	1		What do you want to do part2		
12	1		Tell me what's it like part 1		
13	1		Tell me what's it like part 2		
14	1		Famous couples part 1		
15	1		Famous couples part 2		
16	1		Do's and don'ts part 1		
17	1		Do's and don'ts part 2		
18	1		Quiz		
19	1		Going places part 1		
20	1		Going places part 2		
21	1		Assignment		
22	1		Scared to death part 1		
23	1		Scared to death part 2		
24	1		Things that changed the world part 1		
25	1		Things that changed the world part 2		
26	1		Dreams and reality part 1		
27	1		Dreams and reality part 2		
28	1		Earning a living part 1		
29	1		Earning a living part 2		
30	1		Love you and leave you part 1		
			Love you and leave you part 2		
			Review		

11. تقييم المقرر	
12. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	
المراجع الرئيسة (المصادر)	

الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير....)	Bristow, J. (Ed.). (2000). The Cambridge companion to Victorian poetry. Cambridge University Press Cronin, R. (2012). Reading Victorian Poetry ..(Vol. 5). John Wiley & Sons
المراجع الإلكترونية ، مواقع الانترنيت	https://zlibrary-asia.se/ https://www.researchgate.net/

Course Description Form

1. Course Name:
جرائم حزب البعث
2. Course Code:
3. Semester / Year:
2023-2024
4. Description Preparation Date:
2023-2024
5. Available Attendance Forms
: Daily attendance
6. Number of Credit Hours (Total) / Number of Units (Total):
2 hours (theoretical)
7. Course administrator's name (mention all, if more than one name)
Name: assistant teacher hussain ali hadhood Email: hussain.hadhood @mu.edu.iq
8. Course Objectives

Course Objectives	The course aims to identify the crime in terms of its definition and language Terminologically, as well as the sections and types of crimes, the most prominent decisions of the Iraqi Supreme Criminal Court, what are the social and psychological crimes, and the most prominent Its effects. Learn about environmental crimes and mass grave crimes

9. Teaching and Learning Strategies	
Strategy	1- Lecture, use of the blackboard and presentation 2- Demonstration (using graphs, pictures and educational films using a data projector) 3- Interactive discussion 4- Self-education

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	knowledge	Baath crimes according to documentation by the Iraqi Supreme Criminal Court in 2005	-Lecture, use of the blackboard and presentation -Demonstration (using graphs, pictures and educational films using a data projector) -Interactive discussion -Self-education - Open educational classes using the Classroom platform	Theoretical, /oral and written examinations (daily, monthly and midterm exam) and scientific reports
2	2	knowledge	Concept of crimes	====	====
3	2	knowledge	Definition of crimes	====	====
4	2	knowledge	Crime departments	====	====
5	2	knowledge	Types of international crimes	====	====
6	2	knowledge	Genocide crimes	====	====
7	2	knowledge	crimes against humanity	====	====
8	2	knowledge	War crimes	====	====
9	2	knowledge	Decisions of the Iraqi Supreme Criminal Court	====	====
10	2	knowledge	Social crimes	====	====
11	2	knowledge	Social effects of crimes	====	====
12	2	knowledge	Psychological crimes	====	====

13	2	knowledge	Psychological effects of crimes	====	====
14	2	knowledge	Violating Iraqi laws	====	====
15	2	knowledge	Prison and detention places of the Baath regime	====	====
16	2	knowledge	The political and military decisions of the Baath regime	====	====
17	2	knowledge	Environmental crimes of the Baath regime in Iraq	====	====
18	2	knowledge	Environmental crimes in Basra Governorate	====	====
19	2	knowledge	Genocide crimes and the use of chemical weapons in Halabja	====	====
20	2	knowledge	Military and radioactive contamination and mine explosions.	====	====
21	2	knowledge	Destruction of cities (scorched earth policy)	====	====
22	2	knowledge	The policy of draining and burning the marshes by the Baathist regime	====	====
23	2	knowledge	Destruction of orchards, forests and trees by the Baathist regime	====	====
24	2	knowledge	Mass grave crimes	====	====

25	2	knowledge	Chronological classification of genocide graves in Iraq from (1963-1978)	====	====
26	2	knowledge	Graves of genocide committed by the defunct Baath regime for the period 1979-2003	====	====
27	2	knowledge	Mass graves related to the Iran-Iraq War (1980-1988)	====	====
28	2	knowledge	Graves of the Barzanian Kurdish genocide of 1983	====	====
29	2	knowledge	Genocide graves for victims of the Anfal massacre for the period 1987-1988	====	====
30	2	knowledge	Extermination cemeteries Collective Victims of the Shaabani Uprising of 1991	====	====

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 40 marks (5 marks for the first monthly exam + 5 marks for the second monthly exam + 15 marks for the midterm exam) + 2 marks for daily preparation and daily tests Practical (5 marks for the first monthly exam + 5 marks for the second monthly exam)+3marks Evaluating absences and activities 60 marks (marks final theoretical exam)
12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	The Baath Party's crimes platform
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Websites available on Google Chrome

Course Description Form

1. Course Name:

Mathematical Analysis

2. Course Code:

Math 300

3. Semester / Year:

Year 2023−2024

4. Description Preparation Date:

1/10/2023

5. Available Attendance Forms:

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

4 hours per week (120 hours per year) / 6 units

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

Name: Asst. Prof. Dr. Amer Himza
Email: amerhimzi@mu.edu.iq

8. Course Objectives

Course Objectives	On completion of this course; the student will be abl understand fundamentals and concepts of Sequences series then study the convergence. Also, study the Rim and Lubuge Integral

9. Teaching and Learning Strategies

Strategy	We use examples and explain writing on board and so use discuses for more understand. So we give homeworks and discuses it.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4		**Ordered Sets**		quiz
2	4		**Dense of Rational numbers**		quiz
3	4		**Sequences of real numbers**		quiz
4	4		**Sequences of cauchy**		quiz
5	4		**Convergent sequences**		quiz
6	4		**Test of convergence**		quiz
7	4		**Metric Spaces**		quiz

Course Description Form

8	4		**Example for Metric spaces**		quiz
9	4		**Accumulation Points**		quiz
10	4		**Open and Closed Sets**		quiz
11	4		**Compact Sets**		quiz
12	4		**Bouneded Sets**		quiz
13	4		**Tests**		quiz
14	4		**Continuity**		quiz
15	4		**Continuity**		quiz
16	4		**Compact and Continuity**		quiz
17	4		**Convergence and Continuity**		quiz
18	4		**Uniform continuous**		quiz
19	4		**Partition**		quiz
20	4		**Riemman Integral**		quiz
21	4		**Properties of Rimman Integral**		quiz
22	4		**Rimman Stlijest**		quiz
23	4		**Measure of Bouneded Sets**		quiz
24	4		**Measure of unbounded Sets**		quiz
25	4		**Measureable function**		quiz
26	4		**UnMeasurable**		quiz
27	4		**Lesbuqe**		quiz
28	4		**Properties of Lesbuqe**		quiz
29	4		**Theorems**		quiz
30	4		**Examples**		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)	مقدمة بالتحليل الرياضي (د. عادل غسان)
Main references (sources)	مبادئ التحليل الرياضي (وولتر رودن ترجمة د. عبد السميع عبد الرزاق)
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

Course Description Form

Course Description Form

1. Course Name:

Numerical Analysis

2. Course Code:

Math301

3. Semester / Year:

2023/2024

4. Description Preparation Date:

19/2/2024

5. Available Attendance Forms:

Classroom and Google classroom

6. Number of Credit Hours :

(120 hour per year) / Number of Units (6 units)

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

Name: Lec. Dr. Mustafa Abbas Fadhel
Email: mustafa@mu.edu.iq

8. Course Objectives

Course Objectives	• **Identify the concept of Numerical Solutions, Iterative methods, Interpolation, Numerical Integration, Numerical Solutions of differential Equations, its types and applications.**

9. Teaching and Learning Strategies

Strategy	**-Brainstorming** **-Feedback at lecture time** **-Collaboration and feedback series**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	**-Student's ability to distinguish and understand cognitively to diagnose Numerical Solutions.** **-Practice different styles of Numerical Methods.** **-Prossessing thinking skills.**	**Introduction (What is numerical analysis?, Direct or iterative methods, Floating-point arithmetic, Fixed-point numbers)**	**-Deductive** **-Induction** **-Discussion** **-Using Data Show and whiteboard.**	**-Oral discussion** **-Daily exams** **-Monthly exams** **-Homework assignments.**
2	4	=	**Introduction (Floating-point numbers, Significant figures, Rounding error, Loss**	=	=

Course Description Form

			of significance)		
3	4	=	**Nonlinear Equations (Bisection method)**	=	=
4	4	=	**Nonlinear Equations (False position methods)**	=	=
5	4	=	**Nonlinear Equations (Secant methods)**	=	=
6	4	=	**Nonlinear Equations (Newton-Raphson method)**	=	=
7	4	=	**Nonlinear equations (Simple fixed-point iteration)**	=	=
8	4	=	**Polynomial Interpolation (Polynomial interpolation, Taylor series)**	=	=
9	4	=	**Polynomial Interpolation (Lagrange form, Newton/divided-difference form)**	=	=
10	4	=	**Polynomial Interpolation (Inverse interpolation, Interpolation error)**	=	=
11	4	=	**Polynomial Interpolation (Convergence and the Chebyshev nodes, Derivative conditions)**	=	=
12	4	=	**Linear Equations (Gaussian elimination, Triangular systems)**	=	=
13	4	=	**Linear Equations (LU factorization, Cholesky factorization)**	=	=
14	4	=	**Linear Equations (Pivoting, Vector norms, Matrix norms, Condition Number and Conditioning)**	=	=
15	4	=	**Linear Equations (Basic iterative methods, Jacobi method, Gauss-Seidel method)**	=	=
16	4	=	**Numerical Integration (Newton-Cotes formula)**	=	=
17	4	=	**Numerical Integration (The Trapezoidal rule, Error of the Trapezoidal rule)**	=	=
18	4	=	**Numerical Integration (Simpson's rules, Composite Simpson's rule)**	=	=
19	4	=	**Numerical Integration**	=	=

Course Description Form

			(Higher-Order Newton-Cotes formulas)		
20	4	=	**Numerical Integration (Romberg integration)**	=	=
21	4	=	**Numerical Integration (Gaussian quadrature formulas)**	=	=
22	4	=	**Numerical Differentiation (High-accuracy differentiation formulas, Richardson extrapolation)**	=	=
23	4	=	**Numerical Differentiation (Taylor series methods)**	=	=
24	4	=	**Numerical Differentiation (Euler's method)**	=	=
25	4	=	**Numerical Differentiation (Improvements of Euler's method)**	=	=
26	4	=	**Numerical Differentiation (Taylor series method of higher order)**	=	=
27	4	=	**Numerical Differentiation (Second-order Runge-Kutta methods)**	=	=
28	4	=	**Numerical Differentiation (Fourth-order Runge-Kutta method)**	=	=
29	4	=	**Numerical Differentiation (First-order system)**	=	=
30	4	=	**Numerical Differentiation (Higher-order system)**	=	=

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, dailyoral, monthly, or written exams, reports .... etc (40) & (60 final exam)

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	1. مقدمة في التحليل العددي، تأليف الدكتور احمد صالح الالوسي و عادل زينل البياتي. 2. مبادئ التحليل العددي، تأليف الدكتور علي صادق سيفي و الدكتوره ابتسام كمال الدين.
Main references (sources)	1. Conte, S.D. and De Boor, C., 2017. Elementary numerical analysis: an algorithmic approach. Society for Industrial and Applied Mathematics. 2. Isaacson, E. and Keller, H.B., 2012. Analysis of numerical methods. Courier Corporation.

Course Description Form

Recommended books and references (scientific journals, reports…)	MATLAB provides a great environment for such courses.
Electronic References, Websites	-

Course Description Form

Course Description Form

1. Course Name:

Sarab kazim hassan

2. Course Code:

Math 302

3. Semester / Year:

2024-2023

4. Description Preparation Date:

27/2/2024

5. Available Attendance Forms:

6. Number of Credit Hours (4) / Number of Units (6)

4/6

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

Name: Assis. Sarab kazim Hassan
Email: sarab.kadhim@mu.edu.iq

8. Course Objectives

Course Objectives	**-The student learns the method of collecting, tabulating, processing and analyzing data** **-Understanding some statistical indicators and using them in the applid side** **-Getting to know the theory of probability, and some distributions**

9. Teaching and Learning Strategies

Strategy	**Introduction to statistics, data organization, probability, and mathematical prediction Functions, joint distributions, and discrete and continuous probability distribution**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	statistics and its types	statistics and its types	deductive	Oral discussion
2	4	Population and sample	Population and sample	Induction	Daily exams
3	4	Types of variables	Types of variables	Discussion	Monthly exam
4	4	Data organization	Data organization	Use of colored pens and whiteboar	Homework assignment
5	4	Organize and	Organize and		

Course Description Form

		display metadata	display metadata		
6	4	Organizing and presenting quantitative data	Organizing and presenting quantitative data		
7	4	Iterative distributions conyinuous variables	Iterative distributions conyinuous variables		
8	4	Accumulative distributions	Accumulative distributions		
9	4	Digital descriptive scales	Digital descriptive scales		
10	4	The calculation of arithmetic medium	The calculation of arithmetic medium		
11	4	The loom	The loom		
12	4	Dispersion measures	Dispersion measures		
13	4	probability	probability		
14	4	Counting rules	Counting rules		
15	Exam				
16	4	The Conditional possibility	The Conditional possibility		
17	4	Random variables	Random variables		
18	4	Mass and probabi density functions	Mass and probabi density functions		
19	4	Sports expectation	Sports expectation		
20	4	Characteristics of Mathematical expectation	Characteristics of Mathematical expectation		
21	4	Sports prediction Applications	Sports prediction Applications		
22	4	Average and contrast	Average and contrast		
23	4	The resolt-Generating functions	The resolt-Generating functions		
24	4	decentralized decentrating functions	decentralized decentrating functions		
25	4	Common distributions	Common distributions		
26	4	Common distributive functions	Common distributive functions		
27	4	Marginal distribution	Marginal distribution		
28	4	Intermittent Probability distributions	Intermittent Probability distributions		

Course Description Form

29	4	Normal distribution	Normal distribution		
30	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)	1-المشهداني,محمود حسن وهرمز,أمير حنا"الإحصاء" العراق/جامعة بغداد 1989 الغرابي,سليم إسماعيل وسيفي,علي محمد صادق"مبادئ الإحصاء" العراق/جامعة بغداد 1985
Main references (sources)	R.Hoggand A.Grage "Introduction to mathemati statistics" NEW YORK 1974
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

Course Description Form

Course Description Form

1. Course Name:
Ring theory
2. Course Code:
Math303
3. Semester / Year:
2023/2024
4. Description Preparation Date:
5/2/2024
5. Available Attendance Forms:
Classroom and Google classroom
6. Number of Credit Hours :
(120 hour per year) / Number of Units (6 units)
7. Course administrator's name (mention all, if more than one name)
Name: Assit. Lec. Oras Basim Jamil Email: orasbj@mu.edu.iq
8. Course Objectives

Course Objectives	• **Identify the concept Ring,Modulo,Representation, its types a applications.**

9. Teaching and Learning Strategies	
Strategy	**-Brainstorming** **-Feedback at lecture time** **-Collaboration and feedback series**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	**-Student's ability to distinguish and understand cognitively to diagnose special theories and principles.** **-Practice different styles of mathematics proofs.** **-Prossessing thinking skills.**	**Definitions of Ring, commutative ring and ring with identity.**	**-Deductive** **-Induction** **-Discussion** **-Using Data Show and whiteboard**.	**-Oral discussion** **-Daily exams** **-Monthly exams** **-Homework assignments**.
2	4	=	**Divisors of zero,Integral domain**	=	=
3	4	=	**Subring,Field,Field of divisors**	=	=
4	4	=	**Ideals,Trivial and proper,Intersection**	=	=
5	4	=	**The center and**	=	=

Course Description Form

			characteristic of ring		
6	4	=	**The principal ideal**	=	=
7	4	=	**The smallest ideal, The principal ideal ring**	=	=
8	4	=	**The maximal ideal-Zorn's lemma**	=	=
9	4	=	**Cosets, Quotient ring**	=	=
10	4	=	**The prime ideal**	=	=
11	4	=	**The principal ideal domain**	=	=
12	4	=	**The idempotent element, Boolean ring**	=	=
13	4	=	**Nilpotent element, Primary ideal**	=	=
14	4	=	**Ring homomorphism**	=	=
15	4	=	**Theorems of the ring homomorphism, Kernel of homomorphism**	=	=
16	4	=	**Theorems of kernel of homomorphism, Image and types of homomorphism**	=	=
17	4	=	**The Natural mapping, Isomorphism and the 1st fundamental theorem**	=	=
18	4	=	**The 2nd and 3rd fundamental theorem of Isomorphism**	=	=
19	4	=	**The division ring (Skew field)**	=	=
20	4	=	**Radical ideal**	=	=
21	4	=	**Nil-radical ring**	=	=
22	4	=	**Polynomials, Sum, Product, types of Polynomials**	=	=
23	4	=	**Polynomials ring**	=	=
24	4	=	**Polynomials field, Division algorithm**	=	=
25	4	=	**Remainder and Factorization theorems, roots of**	=	=

Course Description Form

			Polynomials		
26	4	=	**Reducible& irreducible Polynomials**	=	=
27	4	=	**Modules and submodules**	=	=
28	4	=	**Modules homomorphism**	=	=
29	4	=	**Representation, some types**	=	=
30	4	=	**Group repersentation**	=	=

11.Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, dailyoral, monthly, or written exams, reports .... etc (40) & (60 final exam)

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	-
Main references (sources)	**Introduction to modern abstract Algebra by :Dvaid M. Burton**
Recommended books and references (scientific journals, reports...)	-
Electronic References, Websites	-

Course Description Form

Course Description Form

1. Course Name:
Partial differential equations
2. Course Code:
Math 304
3. Semester / Year:
2024-2023
4. Description Preparation Date:
27/2/2024
5. Available Attendance Forms:
6. Number of Credit Hours (4) / Number of Units (6)
4/6
7. Course administrator's name (mention all, if more than one name)
Name: Assis. Sarab kazim Hassan Email: sarab.kadhim@mu.edu.iq
8. Course Objectives

Course Objectives	**The student understands the concept of partial differential equation and is able to find general solutions hat is specific to it depends on the rank, degree, and standard form it possesses**

9. Teaching and Learning Strategies	
Strategy	**Solving partial differential equations, finding the partial differential equation from complete or general solution.** **Some methods for solving first-order partial differential equations,** **Linear partial differential equations, inverse partial differential effects, Fourier serie** **Wave equation in one dimension.**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	A general introduct and some basic Definitions and concepts examples	A general introduct and some basic Definitions and concepts examples	deductive	Oral discussio
2	4	Discussion	Discussion	Induction	Daily exams
3	4	Solving partial differen equations	Solving partial differen equations	Discussion	Monthly exam

Course Description Form

4	4	Discussion	Discussion	Use of colored pens and whiteboar	Homework assignment
5	4	Finding the partial differential equation from complete or general solution	Finding the partial differential equation from complete or general solution		
6	4	Discussion	Discussion		
7	4	Some methods solving first-order partial differential equations	Some methods solving first-order partial differential equations		
8	4	Discussion	Discussion		
9	4	Some special cases solving first-order nonlinear partial differential equations	Some special cases solving first-order nonlinear partial differential equations		
10	4	Discussion	Discussion		
11	4	Linear partial differential equations	Linear partial differential equations		
12	4	Discussion	Discussion		
13	4	The inverse of the partial differential operator	The inverse of the partial differential operator		
14	4	Discussion	Discussion		
15	Exam				
16	4	Homogeneous linear equation with fixed confficients of higher order	Homogeneous linear equation with fixed confficients of higher order		
17	4	Discussion	Discussion		
18	4	Fourier series	Fourier series		
19	4	Discussion	Discussion		
20	4	Fourier integrals	Fourier integrals		
21	4	Discussion	Discussion		
22	4	Fourier integrals of half tha range	Fourier integrals of half tha range		
23	4	Discussion	Discussion		
24	4	Applications to partial differential equations	Applications to partial differential equations		

Course Description Form

25	4	Wave equation in one dimension	Wave equation in one dimension		
26	4	Discussion	Discussion		
27	4	Heat equation	Heat equation		
28	4	Discussion	Discussion		
29	4	Discussion	Discussion		
30	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)	
Main references (sources)	1- Partial differential equation for scientific and engineering faculties/translated by Dr. Atallah Thamer AlAni 1989 2- Partial differential equation/ Dr. Atallah Thamer AlAni 3- Introduction to partial differential equation/ Dr. Atallah Thamer AlAni **4- Partial differential Equations / Jhon.F.**
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

Course Description Form

Course Description Form

1. Course Name:

Scientific Research Methodology

2. Course Code:

MATH305

3. Semester / Year:

2023−2024

4. Description Preparation Date:

2023/10/1

5. Available Attendance Forms:

Came

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

60 hours annually
4 units per week

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

Name: shahad mansoor majeed
Email: :shahad.mansoor@mu.edu.iq

8. Course Objectives

Course Objectives	**. • Understand the meaning of scientific research and patterns**….
Teaching students how to wr scientific research and the stude can write the research problem a write the source	….. **• How to choose the research topic and identify research problem** ….. **• Knowledge of Scientific Research Methods a How to Collect Information**

9. Teaching and Learning Strategies

Strategy	Discussion method, group participation, student self-activity collecting information about the material and presenting it the classroom

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
r	Two hours			Miscellaneo methods	Miscellaneo methods

Course Description Form

thirty week					

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)	Principles of Scientific Research
Main references (sources)	Scientific Research Method Mathematics
Recommended books and references (scientific journals, reports…)	no
Electronic References, Websites	no

Course Description Form

نموذج وصف المقرر

1. اسم المقرر:	
لغة انكليزية	
2. رمز المقرر:	
MUR301	
3. الفصل / السنة: السنوي	
السنوي	
4. تاريخ إعداد هذا الوصف:	
1/10/2023	
5. أشكال الحضور المتاحة :	
حضوري فقط	
6. عدد الساعات الدراسية (الكلي)/ عدد الوحدات (الكلي):	
ساعة واحدة بالاسبوع	
7. اسم مسؤول المقرر الدراسي (اذا اكثر من اسم يذكر)	
الاسم: م.م. خالد سعود جايد الآيميل : Khaled.saud@mu.edu.iq	
8. اهداف المقرر	
تعريف الطالب بقواعد اللغة الانكليزية وبالخصوص الازمنة وتصريفات الافعال وتدريبه على معرفة نوع الزمن للجمل والكتابة الصحيحة وطريقة الاستماع الصحيحة.	● ..... ● ..... ● .....
9. استراتيجيات التعليم والتعلم	
الاستراتيجية	-1استراتيجية التعليم تخطيط المفهوم التعاوني. -2استراتيجية التعليم العصف الذهني. -3استراتيجية التعليم سلسلة الملاحظات
10. بنية المقرر	

الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	طريقة التقييم
1	1		How to write a latter	3- ربط الأفكار النقدية المشهورة مع اراء النقدية للطلبة 2- استخدام الوسائل الحديثة والتقليدية لتوصيل الفكرة الى الطالب باي طريقة ممكنة .	الامتحانات الأسبوعية والشهرية واليومية والتحريرية وامتحان نهاية السنة.
2	1		Activities		
3	1		w do I write an email to your boss,		
4	1		teacher, family, etc.		
5	1		Activities		
6	1		Present Tenses in English!		
7	1		=		
8	1		Present indefinite Tense		
9	1		Present continuous Tense		
10	1		Quiz		
11	1		Present Perfect Tense		
12	1		Present Perfect Continuous Tense		
13	1		Past Tenses in English		
14	1		Past indefinite Tense		
15	1		Past continuous Tense		
16	1		Past Perfect Tense		
17	1		Past Perfect Continuous Tense		
18	1		Future Tenses in English!		
19	1		=		
20	1		Activities and examples		
21	1		Future indefinite Tense-1		
22	1		Future continuous Tense-2		
23	1		Future Perfect Tense-3		
24	1		Future Perfect Continuous Tense-4		
25	1		Activities		
26	1		Assignment		
27	1		ɒgraphics (Tenses in English with Examples)		
28	1		Activities and examples		
29	1		Tenses Formula		
30	1		Regular and Irregular verbs		
			Examples and Activities		
			Quiz		
			General revision		

11. تقييم المقرر

12. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	
المراجع الرئيسة (المصادر)	
الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير....)	Bristow, J. (Ed.). (2000). The Cambridge companion to Victorian poetry. Cambridge University Press Cronin, R. (2012). Reading Victorian Poetry ..(Vol. 5). John Wiley & Sons
المراجع الإلكترونية ، مواقع الانترنيت	https://zlibrary-asia.se/ https://www.researchgate.net/

Course Description Form

1. Course Name:
Psychological painting
2. Course Code:
CREQ302
3. Semester / Year:
Academic year 2023–2024
4. Description Preparation Date:
1/10/2023
5. Available Attendance Forms:
In-person lectures
6. Number of Credit Hours (Total) / Number of Units (Total)
(60) annual hours, (4) units
7. Course administrator's name (mention all, if more than one name)
Name: M.M Mona Kamal Hussein Email: muna.ajalale@mu.edu.iq

8. Course Objectives	
Course Objectives	**Helping the student to solve his psychological, social and educational problems, facilitating aspects of the individual's natural growth and meeting his requirements to help him achieve the highest levels of social and psychological maturity.**

9. Teaching and Learning Strategies	
Strategy	Using various means to deliver scientific material to the student, preparing lectures and presenting them during the lecture, discussion method, group participation, and student self-activity by collecting the information provided to be presented in the classroom.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

Course Description Form

30 weeks	Two hours a week		**Study plan attached**	Various methods	Various methods

11. Course Evaluation

Grade distribution: (10 marks) First semester exam- (15 marks) mid-year- (10 marks) second semester exam –(5 marks) Daily , including daily participation assignments, daily tests and attendance –(60 marks) Final exam

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Psychological and educational guidance, Fatima Abdel Rahim
Main references (sources)	- Contemporary educational guidance and counselling, Dr. Awatif Mahmoud - Supervision in educational psychological counseling, Dr. Saleh Hassan - Principles of educational guidance and counselling, Dr. Abdullah Tarwanah
Recommended books and references (scientific journals, reports…)	Psychological guidance and counselli Dr. Suhair Kamel Ahmed
Electronic References, Websites	www.uobabylon.edu.iq www.moj.gov.iq www.researchgate.net

Course Description Form

Course Description Form

1. Course Name:

Topology

2. Course Code:

Math400

3. Semester / Year:

Yearly

4. Description Preparation Date:

2023/10/1

5. Available Attendance Forms:

Weekly

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

4/6

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

Name: Prof. Qays Hatem Imran
Email: qays.imran@mu.edu.iq

8. Course Objectives

Course Objectives	Providing students with general information about the basic concepts of general topology.

9. Teaching and Learning Strategies

Strategy	

10. Course Structure

Week	Hours	Unit or subject name	Required Learning Outcomes	Learning method	Evaluation method
1	4	**Topological Spaces**			
2	4	**Metric topologies**			
3	4	**Neighbourhoods**			
4	4	**Local base**			

5	4	**A base for a topology**			
6	4	**Derived sets**			
7	4	**Closure**			
8	4	**Interior of a set**			
9	4	**Exterior of a set**			
10	4	**Relative topology**			
11	4	**Continuity**			
12	4	**Closed and Open Functions**			
13	4	**Homeomorphism**			
14	4	**Separated Sets**			
15	4	**Connectedness**			
16	4	**Totally disconnected Spaces**			
17	4	**Compactness**			
18	4	**Locally compact spaces**			
19	4	**Lindelof space**			
20	4	**Viewing and Application**			
21	4	**Viewing and Application**			
22	4	**Viewing and Application**			
23	4	**Viewing and Application**			
24	4	**Viewing and Application**			

Course Description Form

25	4	**Viewing and Application**			
26	4	**T0-space, T1-space**			
27	4	**Hausdorff space or T2-space**			
28	4	**Regular space**			
29	4	**Normal space**			
30	4	**Product Topology**			

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)	التبولوجيا العامة (د.سمير بشير الحديد)، التبولوجيا العامة (د.عريبي الزوبعي وعطاالله ثامر العاني)
Main references (sources)	general topology by Willard- introduction to general topology by Ho
Recommended books and references (scientific journals, reports…)	---------
Electronic References, Websites	**Google Scholar**

Course Description Form

1. Course Name:
Mathematical Statistics
2. Course Code:
Math401
3. Semester / Year:
2023/2024
4. Description Preparation Date:
19/2/2024
5. Available Attendance Forms:
Classroom and Google classroom
6. Number of Credit Hours :
(120 hour per year) / Number of Units (6 units)
7. Course administrator's name (mention all, if more than one name)
Name: Lec. Dr. Mustafa Abbas Fadhel Email: mustafa@mu.edu.iq
8. Course Objectives

Course Objectives	**Identify the concept of Mathematical Statistics, , its types and distributions .**

9. Teaching and Learning Strategies	
Strategy	**-Brainstorming** **-Feedback at lecture time** **-Collaboration and feedback series**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	**-Student's ability to distinguish and understand cognitively to diagnose Statistics distributions.** **-Practice different styles of distributions .** **-Prossessing thinking skills.**	مقدمة في الإحصاء	**-Deductive** **-Induction** **-Discussion** **-Using Data Show and whiteboard.**	**-Oral discussion** **-Daily exams** **-Monthly exams** **-Homework assignments.**
2	4	=	التوزيعات الاحتمالية	=	=
3	4	=	الدالة المولدة للعزوم	=	=
4	4	=	طريقة التحويلات	=	=
5	4	=	طريقة دالة التوزيع	=	=

Course Description Form

6	4	=	الإحصاءات المرتبة	=	=
7	4	=	السلوك التقارب	=	=
8	4	=	الاعداد الكبيرة	=	=
9	4	=	نظرية الغاية المركزية	=	=
10	4	=	التوزيعات المقيدة	=	=
11	4	=	التوزيع ثنائي الحدين	=	=
12	4	=	توزيع برنولي	=	=
13	4	=	توزيع كاما	=	=
14	4	=	توزيع الفا	=	=
15	4	=	مراجعة	=	=
16	4	=	تطبيق	=	=
17	4	=	تطبيق	=	=
18	4	=	تطبيق	=	=
19	4	=	تطبيق	=	=
20	4	=	تطبيق	=	=
21	4	=	تطبيق	=	=
22	4	=	تطبيق	=	=
23	4	=	تطبيق	=	=
24	4	=	متباينة Cheb	=	=
25	4	=	التوزيع الطبيعي	=	=
26	4	=	توزيع مربع كاي	=	=
27	4	=	توزيع T	=	=
28	4	=	توزيع F	=	=
29	4	=	الفرضيات الاحصائية	=	=
30	4	=	نظرية لتقدير	=	=

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, dailyoral, monthly, or written exams, reports .... etc (40) & (60 final exam)

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	1. الاحصاء الرياضي تأليف امير حنا هرمز
Main references (sources)	1. Fundamentals of applied statistics Sultan chand&sons
Recommended books and references (scientific journals, reports…)	

Course Description Form

Electronic References, Websites	-

Course Description Form

1. Course Name:
Complex analysis
2. Course Code:
402Math
3. Semester / Year:
2024-2023
4. Description Preparation Date:
2024/2/1
5. Available Attendance Forms:
Official working hours in the hall
6. Number of Credit Hours (Total) / Number of Units (Total)
120 hours (60 theoretical + 60 discussion), 6 units
7. Course administrator's name (mention all, if more than one name)
Name: Amer Khrija Abed Email: amer.khrija@mu.edu.iq
8. Course Objectives

Course Objectives	**Students know complex numbers and their properties and convert complex numbers to polar ones** **- For students to become familiar with analytical functions and what is related to them in terms of purpose, continuity, and derivation.** **- To become familiar with the Cauchy-Riemann equations, their sufficient conditions, and harmonic functions.** **- For the student to become familiar with elementary functions: exponential, logarithmic, trigonometric, hyperbolic trigonometric, and inverse functions.** **- The student will be familiar with definite integration and linear**

	integration, in addition to the theorems related to integration.

9. Teaching and Learning Strategies

Strategy	

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	The Complex number	Definition of complex numbers and their algebraic properties	Theory through printed lectures from various sources and explaining them on the blackboard, while assigning students weekly assignments and discussing them.	- Conducting short and varied daily exams - Conducting monthly examinations - Writing scientific reports on important topics of the subject
2	4	Geometric representation	Representing a number on the coordinate plane and determining the angle of the number	=	=
3	4	Polar representation	Expressing a complex number	=	=

			using trigonometric functions		
4	4	Exponential representation	Representing a complex number using the exponential function	=	=
5	4	Forces and rots	De Movier's theorem, its result, and some examples	=	=
6	4	Areas in the nodal plane	Some topological properties of complex numbers	=	=
7	4	Complex functions	Inequality, universal, inverse functions and transformations	=	=
8	4	Exponential functions, trigonometric functions	Characteristics of complex exponential functions and trigonometric functions	=	=
9	4	Limits, continuity	Definition of limits and continuity, their properties and theorems	=	=
10	4	Derivative, rules of derivation	Definition of the derivative and theorems of the rules of derivation with examples	=	=
11	4	Cauchy-Riemann equations	The text of the theorem, its proof	=	=

			and applications		
12	4	Analytical functions	Definition of the analytical function, its properties, and its relationship to derivation	=	=
13	4	Harmonic functions	Definition of harmonic conjugates and Laplace equations	=	=
14	4	Complex integration	Definition of complex integral, types of curves and examples	=	=
15	4	Exams		=	
16	4	Cauchy-Corsa theorem	Text of the theory and its proof with applied examples	=	=
17	4	Cauchy's integral formula	Text of the formula, its generalization and applications	=	=
18	4	Liouville's theorem, Maurer's theorem	Text of theorems with proof and application in trigonometry	=	=
19	4	application			
20	4	application			
21	4	application			
22	4	application			
23	4	application			

24	4	application			
25	4	Sequences and series	Review with definitions and some examples	=	=
26	4	Power series	definitions and methods of convergence tests	=	=
27	4	Poles and residuals,	abnormal points and their details, with solutions to examples and theorems	=	=
28	4	Calculating residuals	methods of calculating the residuals of a function, its theorems, and examples	=	=
29	4	Applications of angle preservatives,	theorems with examples	=	=
30	4	Exams			

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

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Introduction to complex analysis , Dr. Atallah Thamer Al-Ani Dr. Ibtisam Kamal Al-Din 1999
Main references (sources)	Complex variables and their applications. Brown R. Churchill 1985 - Complex functions/Schaum's summaries

	series – Alan Jeffrey, Complex Analysis and Applications,(2006).
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	www. Freescience.info/math

Course Description Form

1. Course Name:

Graph theory

2. Course Code:

Math 407

3. Semester / Year:

2023-2024

4. Description Preparation Date:

1/10/2023

5. Available Attendance Forms:

6. Number of Credit Hours (4 houre) / Number of Units (6 unite)

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

Name: Ekram abd ali
Email: ekramalimth@mu.edu.iq

8. Course Objectives

Course Objectives	• **Defin the graph the degree …..** • **..types of graph…** • **..generated topology from graph…**

9. Teaching and Learning Strategies

Strategy	Use definitions and graphs with theorems to arrive the ideas For the students and we disuse with student to arrive the ideas students

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Introduction to graph	Introduction to gra	**Deductive -Induction -Discussion -Using Data Show and whiteboard.**	**Oral discussion -Daily exams -Monthly exams -Homework assignment**
2	4	Definition of graph	Definition of graph		
3	4	Subgraph	Subgraph		
4	4	Isomorphisim	Isomorphisim		
5	4	Types of graph	Types of graph		
6	=	Operation on a graph	Operation on a gra		
7	=	Path and walk	Path and walk		

Course Description Form

8		Connected	Connected		
9	=	Accentricity radius	Accentricity radius		
10	=	Matrix	Matrix		
11	=	Types of matrix	Types of matrix		
12	=	Tree	Tree		
13	=	Properities of tree	Properities of tree		
14	=	Number of tree	Number of tree		
15	=	Sequence of tree	Sequence of tree		
16	=	Euler graph	Euler graph		
17	=	Hamlton graph	Hamlton graph		
18	=	Weight of graph	Weight of graph		
19	=	Diameter of graph	Diameter of graph		
20	=	Cut vertex	Cut vertex		
21	=	Set of cut edge	Set of cut edge		
22	=	Directed graph	Directed graph		
23	=	Types of directed graph	Types of directed graph		
24	=	Basices Theorems	Basices Theorems		
25	=	Fary theorem	Fary theorem		
26	=	Jordan theorem	Jordan theorem		
27	=	Euler theorem	Euler theorem		
28	=	Structure of topological	Structure of topological		
29	=	First method	First method		
30	=	Second method	Second method		
		Third method	Third method		

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

Course Description Form

Required textbooks (curricular books, if any)	
Main references (sources)	Graph theory Harrary F
Recommended books and references (scientific journals, reports…)	Iraqi journal of science
Electronic References, Websites	Note on graph theory , http://stackexchange.com

1. Course Name:

Operational Research

2. Course Code:

Math405

3. Semester / Year:

2023/2024

4. Description Preparation Date:

1/10/2023

5. Available Attendance Forms:

Present at Class

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

4 Hours per week, 6 Units

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

Name: **Ass. Prof. Dr. Hajem Ati Daham**
Email: **hajem.daham@mu.edu.iq**

8. Course Objectives

Course Objectives	▪ **Clarify and explain the Linear Programming and teaching students t formulate and solve Linear Programming models.** ▪ **Teaching students formulating and solving Transportation and Assignment Problems.** ▪ **Teaching students formulating and solving Network problems and Game theory.**

9. Teaching and Learning Strategies

Strategy	- **A theoretical class lectures** - **A discussion lectures to solve examples and answering students questions** - **Electronic Classes and Lectures**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	By the end of the year, Students will be expected to be able to: Formulate and solve; small linear programming models, transportation and assignment problems, network and game theory	Introduction to Operational Research	A theoretical class lectures, A discussion lectures to solv examples and answering students questions and Electronic Classes and Lectures	Monthly exams, homework and quizzes
2	4		Linear Programming		=
3	4		Graph Method		=
4	4		Special Cases in OR		=
5	4		Simplex Method		=
6	4		Monthly Exam		=
7	4		Duality		=
8	4		Transportation Problems		=
9	4		North West Corner Method		=
10	4		Least Cost Method		=
11	4		Vogel Method		=
12	4		Assignment Problems		=
13	4		Hungarian Method		=
14	4		Transshipment Problems		=
15	4		Networks		=
16	4		Critical Path Method		=
17	4		Forward/Backward Pass Method		=
18	4		PERT Method		=
19	4		Game Theory		=

20	**4**		**Principle of Dominance**		**=**
21	**4**		**Games with Saddle Point**		**=**
22	**4**		**Graphical Method**		**=**

11. Course Evaluation

The score out of 100 is distributed as follows: 60 cores for final exam, 40 scores for the collected yearly scores for student (10 scores for first course exam, 15 scores for half year exam, 10 scores for second course exam, 5 cores for quiz and homework and student attendance.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	**Wayne L. Winston, Operations Research: Applications and Algorithms (2004)**
Main references (sources)	**Operational Research Books available at Library**
Recommended books and references (scientific journals, reports…)	**Operational Research Books available at Internet**
Electronic References, Websites	**YouTube, Google**

Course Description Form

1. Course Name:	
Professional ethics	
2. Course Code:	
MVRU402	
3. Semester / Year:	
2023-2024	
4. Description Preparation Date:	
2023-2024	
5. Available Attendance Forms	
: Daily attendance	
6. Number of Credit Hours (Total) / Number of Units (Total):	
4 hours (theoretical)	
7. Course administrator's name (mention all, if more than one name)	
Name: assistant teacher hussain ali hadhood Email: hussain.hadhood @mu.edu.iq	
8. Course Objectives	
Course Objectives	Identifying ethics in terms of concept origin and schools Which dealt with this concept, the sources of ethics, and theories of moral education Ethics of the teaching profession in terms of the concept of the profession and its importance How to consolidate and develop the teaching profession among students
9. Teaching and Learning Strategies	
Strategy	1- Lecture, use of the blackboard and presentation 2- Demonstration (using graphs, pictures and educational films using a data projector) 3- Interactive discussion 4- Self-education

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	**4**	knowledge	The concept of ethics	-Lecture, use of the blackboard and presentation -Demonstration (using graphs, pictures and educational films using a data projector) -Interactive discussion -Self-education - Open educational classes using the Classroom platform	Theoretical, /oral and written examinations (daily, monthly and midterm exam) and scientific reports
2	**4**	knowledge	Definition of ethics	====	====
3	**4**	knowledge	Conditions for congenital action	====	====
4	**4**	knowledge	The origins and development of ethics	====	====
5	**4**	knowledge	The stages that the science of ethics passed through	====	====
6	**4**	knowledge	Formation of ethics	====	====
7	**4**	knowledge	Sources of ethics	====	====
8	**4**	knowledge	Theories affecting professional ethics	====	====
9	**4**	knowledge	Ethics of the teaching profession	====	====
10	**4**	knowledge	The importance of ethics in the education profession	====	====
11	**4**	knowledge	Sources of professional ethics	====	====
12	**4**	knowledge	Ethics that must be possessed by the teaching	====	====

			profession		
13	**4**	knowledge	Responsibilities of the teaching profession	====	====
14	**4**	knowledge	Types of responsibilities	====	====
15	**4**	knowledge	Determinants of the teaching profession	====	====
16	**4**	knowledge	Developing and consolidating the ethics of the teaching profession	====	====
17	**4**	knowledge	Objectives of educational policy	====	====
18	**4**	knowledge	The school principal is a role model for teachers and students	====	====
19	**4**	knowledge	The manager is a leader and administrator	====	====
20	**4**	knowledge	The school principal is a supervisor and trainer	====	====
21	**4**	knowledge	The teacher has a message	====	====
22	**4**	knowledge	The teacher and his position in the educational process	====	====
23	**4**	knowledge	The skills of a school principal and a successful team	====	====
24	**4**	knowledge	Field study	====	====
25	**4**	knowledge	The problem of the study and its importance	====	====
26	**4**	knowledge	Absenteeism and dropping out of school	====	====
27	**4**	knowledge	Absenteeism and dropping out of school	====	====
28	**4**	knowledge	Reasons leading to school absence	====	====
29	**4**	knowledge	Aggressive employee behavior in the educational environment	====	====
30	**4**	knowledge	The problem of poor	====	====

			academic achievement		

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 40 marks (5 marks for the first monthly exam + 5 marks for the second monthly exam + 15 marks for the midterm exam) + 2 marks for daily preparation and daily tests Practical (5 marks for the first monthly exam + 5 marks for the second monthly exam)+3marks Evaluating absences and activities 60 marks (marks final theoretical exam)	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Professional ethics
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Websites available on Google Chrome

Course Description Form

1. Course Name:
English Language
2. Course Code:
ENGLISH – BIO 4th
3. Semester / Year:
2023-2024/ second stage
4. Description Preparation Date:
2023-2024
5. Available Attendance Forms
: 2 hours per week
6. Number of Credit Hours (Total) / Number of Units (Total):
64 hours
7. Course administrator's name (mention all, if more than one name)
Name: Dr. Hasan Jumaah Mrayeh Email: hasan.mrayeh@mu.edu.iq
8. Course Objectives

Course Objectives	• Introducing the student to the rules of the English language, especially nouns, and irregular and irregular verb conjugations, and training them to know possessive nouns and their types, converting nouns into adjectives, as well as countable and uncountable nouns, and knowing ways to solve questions related to these topics. To navigate the internet, search for information, and communicate through email and web pages to learn more about English skills.
9. Teaching and Learning Strategies	
Strategy	• Direct Instruction: Involves the teacher providing guidance, transferring knowledge and concepts, presenting information clearly, and guiding discussions and learning activities. • Blended Learning: Aims to integrate traditional and electronic elements in the learning process. Modern technology and electronic tools are used alongside traditional methods such as face-to-face lessons and printed books. • Collaboration and Interaction: Encourages collaboration between learners and between the teacher and students, including group work, discussions, and interactive learning. • Active Learning: Encourages students to actively participate in the learning process, including engaging in hands-on activities and practical application of concepts. • Problem-Based Learning: Focuses on solving real problems and challenges that students face. This includes problem analysis and application of strategies to solve them.

10. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
First	2		**Present Tenses in English!**	**In Class (Datashow)**	
Second	**2**		**Present tense**	In Class (Datashow)	
Third	**2**		**Present Tense types**	In Class (Datashow)	
Fourth	**2**		**Past Tense**	In Class (Datashow)	
Fifth	**2**		**Past Tense types**	In Class (Datashow)	
Sixth	**2**		**Future Tense**	In Class (Datashow)	
Seventh	**2**		**Future Tense Types**	In Class (Datashow)	
Eighth	**2**		**Like & Would Like**	In Class (Datashow)	
Ninth	**2**		**Solve some examples**	In Class (Datashow)	
Tenth	**2**		**Nouns**	In Class (Datashow)	
Eleventh	**2**		**Regular Plural Nouns**	In Class (Datashow)	
Twelfth	**2**		**Irregular Plural Nouns**	In Class (Datashow)	
Thirteenth	**2**		**Possessive Nouns**	In Class (Datashow)	
Fourteenth	**2**		**Nouns as Adjective**	In Class (Datashow)	
Fifteenth	**2**		**(Much/many – some/any – a few/a little/ a lot of)**	In Class (Datashow)	
Sixteenth	**2**		**Compound nouns**	In Class (Datashow)	
Seventeenth	**2**				
Eighteenth	**2**		**Practices by Solving Some Examples**	In Class (Datashow)	
Nineteenth	**2**		**Practices by Solving Some Examples**	In Class (Datashow)	
Twentieth	**2**		**How to write a letter?**	In Class (Datashow)	
Twenty-first	**2**		**Solve some examples from the text book**	In Class (Datashow)	
Twenty-second	**2**				

Twenty-third	**2**				
Twenty-fourth	**2**				
Twenty-fifth	**2**				
Twenty-sixth	**2**				
Twenty-seventh	**2**				
Twenty-eighth	**2**				
Twenty-ninth	**2**				
Thirtieth	**2**				

11. Course Evaluation	
• Monthly tests for academic subjects. • Daily tests with multiple-choice questions for academic subjects. • Oral assessment through engaging students in discussions. • Practical exams.	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Yes
Main references (sources)	Yes
Recommended books and references (scientific journals, reports...)	Yes
Electronic References, Websites	Yes