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

Academic Program and Course Description Guide

2025 – 2026

Introduction:

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

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

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

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

Concepts and terminology:

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

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

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

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

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

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

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

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

Academic Program Description Form

University Name: Al-Furat Al-Awsat Technical University
Institute: Babylon Technical Institute
Scientific Department: Department of Mechanical Technologies
Academic or Professional Program Name: Diploma in Mechanical Technology
Final Certificate Name: Technical diploma in mechanics
Academic System: annual
Description Preparation Date: 18 / 11 / 2025
File Completion Date: 23 / 11/ 2025

Signature
Head of Department:
Assist.Prof .Dr. Zaher Hassan Abdulla
Date: 5 / 1 /2026

Signature
Scientific Associate Name :
Assist.Prof .Dr. Oras Khudhayer Obayes
Date: 5 / 1 / 2026

The file is checked by:
Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department: Assist.Prof .Khansaa Azeez Obayes
Date: 5 / 1 /2026
Signature

Approval of the Dean
Asst. Prof. Dr.
Ali Najah Kadhim
Dean of Babylon Technical Institute

1. Program Vision

Program vision The Babylon Technical Institute aspires, through existing educational programs, to create a technical educational system based on the requirements and needs of society and service facilities related to the specialty in a way that serves the required civil development is written here as stated in the university's catalogue and website.

2. Program Mission

Program mission is written here as stated in the university's catalogue and website. The oath, which is considered one of the basic and important departments in all the formations of Al-Furat Al-Awsat Technical University, carries out a sublime message, as it works to achieve the goals and aspirations of the students by creating an appropriate educational environment and providing all the material and human requirements necessary to achieve this. And work to graduate groups capable of serving society in providing scientific and technical competence through technical education in accordance with internationally approved quality standards.

3. Program Objectives

General statements desk* Cognitive skills: Providing basic knowledge in production principles along with the knowledge necessary to support mathematics, computer, and engineering basics.

* Technical skills: developing basic skills in mechanical sciences, especially plumbing, turning, welding, carpentry, and filing workshops, in addition to other information about the computer.

communication skills :*

Developing the ability to organize information, whether orally, written, or graphically,

in matters such as teamwork, leadership, occupational safety, ethics, service, economics, etc.

*Preparation for the profession: Providing a broad appreciation of the problems that arise in professional practice, including ribbing what the program or institution intends to achieve.

4. Program Accreditation

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

5. Other external influences

Summer training for all, in addition to holding awareness seminars for students

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Second mechanic	8	16	16%	All courses are core
College Requirements	3	24	24%	
Department Requirements	9	60	60%	
Summer Training	–	Without units	–	
Other	–	–	–	

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

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
first Mechanics	MET101-24-YM	Manufacturing processes	2	2
	MET102-24-YM	Material properties	2	0
	MET103-24-YM	Work Shops	0	8
	MET104-24-YM	Mechanical	2	3
	MET105-24-YM	Mathematics	2	0
	MET106-24-YM	Engineering Drawing	0	3
	MET107-24-YM	Electricity Technology	1	2
	ATU1015-24-YM	Rights and Democracy	1	0
	ATU1016 -24-YM	English Language	1	0
	ATU1017-24-YM	Arabic Language	1	0
	ATU108-24-YM	Computer and Artificial Intelligence	1	0
Second Mechanics	MET201-24-YM	Machine parts Technology	3	0
	MET202-24-YM	Manufacturing processes	2	2
	MET203-24-YM	Metallurgy	2	2
	MET204-24-YM	Work Shops	0	8
	MET205-24-YM	project	0	2
	MET206-24-YM	Drawing industrial	0	3
	MET207-24-YM	Industrial management	2	0
	ATU2012-24-YM	Baath Party Crimes	1	0
	ATU2013-24-YM	Arabic Language	1	0
	ATU2014-24-YM	English language	1	0
	ATU2015-24-YM	Computer and Artificial Intelligence	1	0

8. Expected learning outcomes of the program

Knowledge

Learning Outcomes Statement: Preparing technical staff to be the link between the specialized engineer and the skilled worker. The department prepares the graduate and provides him with theoretical, applied and practical information to enable him to carry out the work available to him in his general field of specialization.	1-Apply modern knowledge, skills and tools to carry out precise engineering activities. 2- Apply knowledge in mathematics, engineering, technology and other sciences. 3- Solving engineering problems that require their own applications. 4- Carrying out maintenance work and diagnosing mechanical faults for various machines and laboratory equipment.
Skills	
Learning Outcomes Statement: 1: Preparing human cadres with technical qualifications in various mechanical sciences and specializations. 2: Implementing automated production techniques according to the latest mechanisms and methods.. 3:-Using the computer to draw geometric shapes, machine parts, and maintenance operations on them.	1- Conducts measurements and all tests on various mechanical parts and draws them using a computer.. 2- Conducts engineering experiments, analyzes and interprets their results. 3- Operates machines and testing and measuring devices (hardness measuring devices, durability measuring devices, tensile measuring devices, etc.). 4- Identifies, analyzes and solves limited technical problems.
Ethics	
Learning Outcomes Statement: 1:Knowing the emotional and value goals. 2:The student listens carefully to the teacher's explanation.	1- Engages in self-directed continuing professional development. 2- Understands and is committed to addressing professional and ethical responsibilities through the use of appropriate technical literature. 3- Familiarity with and commitment to occupational safety rules. 4- Working as a team in laboratories and workshops.

9. Teaching and Learning Strategies
Teaching and learning strat 1- Training the student on the latest devices. 2- Preparing technical staff capable of work and maintenance. 3- The student studies the computer subject (the Internet and its accessories).egies and methods adopted in the implementation of the program in general.

10. Evaluation methods
1- Listen to the student's solution. 2- Answering questions using paper and the blackboard.at all stages of the program in general.

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
	Mechanical	Nuclear			1	
Assistant Professor	Industrial Engineering	Industrial Engineering			1	
	Production and	Production and				

Lecturer	Materials Engineering	Materials Engineering				
	Applied Mechanics	Metallurgical Engineering			**4**	
	Materials Engineering	Materials Engineering				
	Metallurgical Engineering	Materials Engineering				
Assistant Lecturer	general mechanic	Refractories			**6**	
	Agricultural machinery and equipment engineering sciences	Agricultural machinery and equipment engineering sciences				
	Capacity engineering	Electrical capacity				
	Computer Engineering	Software				
	Materials Engineering	Polymer				
	Materials Engineering	Polymer				

Professional Development nuclear
Mentoring new faculty members
The head of the department greeted the appointees and welcomed them, and they noticed that they were heading towards their workplaces in the department, each according to his specialization and academic achievement, in order to carry out the work of others in it in a good manner, in order to continue the scientific and educational progress and its correct condition, including the maid of the department and the institution in general.
Professional development of faculty members

12. **Acceptance Criterion**
Enrollment in the institute takes place through the central admission system in general, and affiliation to the Department of Mechanical Technology is achieved through differentiation between students' grades according to the regulations established by the Ministry of Higher Education and Scientific Research.

13. **The most important sources of information about the program**
State briefly the sources of information about the program. 1- Methodical books 2- Supplies prepared by the teachers 3- Modern sources from the Internet.

14 .Program Development Plan
Medium-term future development plans were developed by a special committee for the department. These include developing curricula to keep pace with rapid

progress in the world of technology and using modern devices and tools .

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 production	MET101−24−YM	Manufacturing processes	Basic	√	√	√	√	√	√	√		√	√	√	√
	MET102-24-YM	Material properties	Basic	√		√		√		√		√		√	
First production	MET104-24-YM	Engineering Mechanics	Assistant	√	√	√		√	√	√	√	√	√	√	√
	MET107−24−YM	Electricity Technology	Assistant		√		√		√		√			√	
	MET105-24-YM	Mathematics	Assistant	√	√		√	√		√	√	√		√	
First production	MET106-24-YM	Engineering Drawing	Assistant	√	√		√	√			√	√			√
	ATU108-24-YM	Computer and Artificial	Assistant	√			√	√			√			√	√

		Intelligence													
First production	MET103-24-YM	Work Shop	Basic	√	√		√	√	√	√		√		√	√
	ATU1015-24-YM	Rights and Democracy	general									√		√	
First production	ATU1016 -24-YM	English language	general									√		√	
First production	ATU1017-24-YM	Arabic language	general									√		√	
Second Production	MET201-24-YM	Machine parts Technology	Basic	√	√		√	√	√	√	√	√			
Second Production	MET202-24-YM	Manufacturing processes	Basic	√	√	√	√	√	√	√	√	√			
Second Production	MET203-24-YM	Metallurgy	Basic	√	√		√	√	√	√	√				
Second Production	MET204-24-YM	Work Shop	Basic	√		√	√	√	√	√				√	
Second Production	MET206-24-YM	Industrial Drawing	Basic	√	√	√	√		√	√	√			√	√

Second Production	MET207-24-YM	Industrial Management	Assistant			√	√			√	√			√	√
Second Production	MET205-24-YM	Project	Basic	√		√	√	√	√	√	√	√	√		√
Second Production	ATU2015-24-YM	Computer and Artificial Intelligence	Assistant	√				√			√			√	√
Second Production	ATU2014-24-YM	English language	general										√		
Second Production	ATU2012-24-YM	Arabic language	general									√		√	
Second Production	ATU2012-24-YM	Baath Party crimes	general									√		√	

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

Course Description Form

1. Course Name: Rights and Democracy
2. Course Code: ATU1015-24-YM
3. Semester / Year: First/annual
4. Description Preparation Date: 18/ 11/ 2025
5. Available Attendance Forms: In-person
6. Number of Credit Hours (Total) / Number of Units (Total) : 30 hour , 2 units
7. Course administrator's name (mention all, if more than one name)
Name: A.L. Mustafa Mohammed Email: mustafa.mohammed.iba4@atu.edu.iq
8. Course Objectives

Objectives	1- Introducing the student to human rights a democracy and how to deal with people wit the framework of human rights and democra and teaching him respect Human rights and openness to all sects society 2- Introducing the student and informing him the cultures of other peoples and countries a linking them with the culture of his surroundir to produce the best results……

9. Teaching and Learning Strategies	
Strategy	1- Defining the student's role as a human being with rights and duties 2- Understanding the culture of his country and his environment and the ability to develop it 3- Understand the meaning of democracy correctly, away from chaos and chaos in the name of democracy 4- Applying the foundations of correct democracy in various aspects of life

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1	1. The student will be able to understand the concept and objectives of human rights.	Human rights, their definition, and goals The roots of human rights and their development in human history: human rights in ancient and medieval times	lectures theoretical	Theory exams
2	1	1. The student will be able to learn about the civilizations of Mesopotamia and other civilizations. 2. The student will be able to learn about other civilizations.	Human rights in ancient civilizations, especially the Mesopotamian civilization	lectures theoretical	Theory exams
3	1	1. The student will learn about the Abrahamic religions.	Human rights in the Middle Ages: hun rights in political doctrines, schools theories, human rights in companies their declarations, revolutions constitutions (English docume American Revolution, French Revoluti Russian Revolution) Human rights in contemporary and modern history: international recognition of human rights since World War I and the League of Nations	lectures theoretical	Theory exams
4	1	1. The student will learn about Western	Regional recognition of human rights: European Convention on Human	lectures theoretical	Theory exams

		civilizations. 2. The student will study Western cultures.	Rights 1950 American Convention on Human Rights 1969 African Charter on Human Rights 1981 Arab Charter on Human Rights 1994		
5	1	1. Testing the student's ability to understand and comprehend.	Non-governmental organizations and human rights (International Committee of the Red Cross, Amnesty International, Human Rights Watch) National human rights organizations	lectures theoretical	Theory exams
6	1	1. Able to understand the historical sequence of the emergence of social theories that govern relationships between people.	Human rights in Iraqi constitutions between theory and reality	lectures theoretical	Theory exams
7	1	1. Recognize social theories.	The relationship between human rights a public freedoms: 1- In the Universal Declaration of Hun Rights In regional charters and national constitutions	lectures theoretical	Theory exams
8	1	1. Recognize social theories.	Necessary human rights and collective human rights	lectures theoretical	Theory exams
9	1	1. To be able to understand administrative and financial laws	Economic, social and cultural human rig and civil and political human rights Modern human rights: facts in development, the right to a clean environment, the right to solidarity, the right to religion	lectures theoretical	Theory exams
10	1	1. To identify types of administrative corruption	Guarantees of respect and protection human rights at the national le guarantees in the constitution and la guarantees in the principle of the rule law. Guarantees in constitutional oversight, guarantees in freedom of the press and public opinion, the role of non-governmental organizations in respecting and protecting human rights.	lectures theoretical	Theory exams
11	1	1. To identify types of corruption	Guarantees, respect and protection human rights at the international level: - The role of the United Nations and specialized agencies in provid guarantees - The role of regional organizations (Arab League, the European Union, African Union, the Organization American States, the ASE	lectures theoretical	Theory exams

			Organization) - The role of international non-governmental organizations and public opinion in respecting and protecting human rights		
12	1	1. To be able to understand the consequences of administrative corruption	The general theory of freedoms: the ori of rights and freedoms, the proje position on declared rights and freedo the use of the term general freedoms. The functional nature of the concept of public freedoms: philosophical considerations of the functional right, structural considerations of the positive right, economic considerations and public freedoms.	lectures theoretical	Theory exams
13	1	1. To identify the bodies responsible for combating corruption	The legal rule of the state of law Regulation of public freedoms by pul authorities Non-judicial litigation or grievance Judicial appeal, determining the state's responsibility for its legitimate actions	lectures theoretical	Theory exams
14	1	1. The student should be able to conduct a seminar to discuss a specific case.	The impact of double judiciary on pul freedoms - Public freedoms under administrat jurisprudence Equality: The historical development of the concept of equality	lectures theoretical	Theory exams
15	1	1. The student should be able to understand the presented material.	The modern development of the idea equality -gender equality - Equality between individuals according to their beliefs and race	lectures theoretical	Theory exams
16	1	1. The student should be familiar with human rights organizations. 2. The student should be familiar with economic and social councils.	The concept of freedoms, classification public freedoms Fundamental freedoms, intellectual freedoms, economic and social freedoms	lectures theoretical	Theory exams
17	1	1. The student should be familiar with human rights organizations	Freedom, security and feeling reassurance Freedom to come and go	lectures theoretical	Theory exams
18	1	1. To be aware of human rights. 2. To be able to defend one's legitimate human rights.	Intellectual freedoms: freedom of opini freedom of belief Freedom of education	lectures theoretical	Theory exams

19	1	1. To be familiar with the principles of human rights organizations.	Freedom of the press Freedom of society	lectures theoretical	Theory exams
20	1	To be familiar with the teachings of the human rights organization	Anti-sabotage law Freedom of association	lectures theoretical	Theory exams
21	1	To be familiar with the teachings of the human rights organization	Freedoms with economic and so content Freedom of action	lectures theoretical	Theory exams
22	1	To be familiar with the teachings of the human rights organization	The right to own property	lectures theoretical	Theory exams
23	1	To be familiar with the teachings of the human rights organization	Freedom of trade and industry	lectures theoretical	Theory exams
24	1	The student should be able to understand the material presented.	women freedom	lectures theoretical	Theory exams
25	1	The student should be able to identify the most important European human rights conventions.	Political parties and public freedoms	lectures theoretical	Theory exams
26	1	The student should be able to identify the most important Arab human rights charters.	Public freedoms in the world	lectures theoretical	Theory exams
27	1	The student should be able to identify the most important Arab human rights charters.	Scientific and technical progress and public freedoms	lectures theoretical	Theory exams
28	1	The student should be a to identify the m important Arab hun rights charters.	The future of public freedoms	lectures theoretical	Theory exams
29	1	Understanding the role of Red Cross in protect human rights.	Democracy, its definition, types Concepts of democracy Democracy in the Third World	lectures theoretical	Theory exams
30	1	Learning about organizati that provide relief refugees.	Democratic systems in the world	lectures theoretical	Theory exams

11. Course Evaluation	
The degree is distributed 1- 20 marks for the first semester for practical. 2- 20 marks for the second semester for practical 3 - 10 marks for student activities 4 - 50 marks final exam	
12. Learning and Teaching Resources	
Required textbo (curricular books, any)	Lectures are given to students and on chairs, and there is prescribed methodological book
Main (sources) references	- Human rights: their concept and goals - Mesopotamian civilization, human rights in Greek civilization - The position of divine laws on human rights
Recommended books and references (scientific journals, reports…)	Theoretical lectures
Electronic References, Websites	Not found

Course Description Form

1.Course Name: Electricity Technology
2. Course Code: MET107−24−YM
3. Semester / Year: First/annual
4. Description Preparation Date: 18/ 11/ 2025
5.Available Attendance Forms: In-person

6.Number of Credit Hours (Total) / Number of Units (Total) : 30 hour , 6 unit

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

Name: A.L. Abbas Fakhry
Email: abbas.alrubayie@atu.edu.iq

8.Course Objectives

Course Objectives	1-Knowing the basic electric energy, its expected generation and distribution 2-Knowledge of the known global systems f energy transmission and generation 3- Knowing the electrical influence systems and calculating the losses from them 4- Performance by studying the lines of control over transactions 5- Knowledge of magnetic systems and principles of electric motors

9.Teaching and Learning Strategies

Strategy	1- Building experience in the foundations of electrical power 2- Building experience in operating electric motors 3- Building experience in examining faults in electrical stations a laboratories.

10.Course Structure

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

1	1n + 2p	1. The student should able to recognize symbols used in electri circuits.	Electrical units and symbols, micro wattage, dc current, emf	lectures theoretical and practical	Theoretical, practical ,surprise exa and reports
2	1n + 2p	1. The student should familiar with Ohm's Law 2. The student should familiar with methods electrical connection.	Potential difference, Ohm's law, methods of connecting resistors (series, parallel, compound)	lectures theoretical and practical	Theoretical, practical ,surprise exa and reports
3	1n + 2p	1. The student should able to connect electri circuits.	Potential difference, Ohm's law, methods of connecting resistors (series, parallel, compound)	lectures theoretical and practical	Theoretical, practical ,surprise exa and reports
4	1n + 2p	1. The student should be a to identify the types methods of current flow.	Methods of obtaining alternating current, types of electric po plants	lectures theoretical and practical	Theoretical, practical ,surprise exa and reports
5	1n + 2p	1. To be able to distingu between different types currents	Sine wave, current waveform with time and frequency, definition of the effective value of alternating current and voltage	lectures theoretical and practical	Theoretical, practical ,surprise exa and reports
6	1n + 2p	2. To be able to cond laboratory experiments	Knowledge of power factors and operations, applications and examples of the use of alternating current in practical life	lectures theoretical and practical	Theoretical, practical ,surprise exa and reports
7	1n + 2p	3. To be able to identify properties and types magnetic materials	Magnetic field, field properties, properties of magnetism, types of magnetic materials	lectures theoretical and practical	Theoretical, practical ,surprise exa and reports
8	1n + 2p	1. To be able to utilize property of magn attraction.	The magnetic effect of electric current. Applications on the use of the property of magnetic force of attraction	lectures theoretical and practical	Theoretical, practical ,surprise exa and reports
9	1n + 2p	1. To be able to distingu between the phases alternating current.	Single-phase alternating current, three-phase alternating current, phase recognition method	lectures theoretical and practical	Theoretical, practical ,surprise exa and reports
10	1n + 2p	1. To be familiar w connection methods.	Star (Y) conduction method, face current and line current of star, face voltage and line volta of star	lectures theoretical and practical	Theoretical, practical ,surprise exa and reports
11	1n + 2p	1. To identify connect methods. 2. To compare connect methods.	Delta (Δ) connection method, f current and line current in the cas delta, face voltage and line volta power, applications and example star and delta connection.	lectures theoretical and practical	Theoretical, practical ,surprise exa and reports

		3. To identify types electrical transformers.			
12	1n + 2p	1- Identifying types of moto	Types of motors, three-phase induction motors, their types, uses.	lectures theoretical and practical	Theoretical, practical ,surprise exa and reports
13	1n + 2p	1- Identifying induction motors 2- Understanding the operating principle of moto	Installation of impact motors (tri-phase), principle of rotary magnet theory, principle of motor operation theory.	lectures theoretical and practical	Theoretical, practical ,surprise exa and reports
14	1n + 2p	1- Identifying induction motors	Methods of starting movement in three-phase induction motors	lectures theoretical and practical	Theoretical, practical ,surprise exa and reports
15	1n + 2p	1. Be able to understand control methods and procedures. 2. Know the types and spee of induction motors.	Methods of control and control in changing the speed of three-phas induction motors (changing poles changing source voltage, changir oscillation, changing	lectures theoretical and practical	Theoretical, practical ,surprise exa and reports
16	1n + 2p	1. Identify single-phase induction motors.	Impact motors are one-sided, their types, installation, uses, and reverse cycles.	lectures theoretical and practical	Theoretical, practical ,surprise exa and reports
17	1n + 2p	1. Identify single-phase capacitor-type motors.	Single-unit capacitor-start impact motors, their installation and uses	lectures theoretical and practical	Theoretical, practical ,surprise exa and reports
18	1n + 2p	1. Identify split-phase induction motors.	Unilateral split-face motors, their installation and uses	lectures theoretical and practical	Theoretical, practical ,surprise exa and reports
19	1n + 2p	1- Identifying types of fuses	Fuses, their types, melting coeffic	lectures theoretical and practical	Theoretical, practical ,surprise exa and reports
20	1n + 2p	1- Identifying circuit breake	Cycle breakers, thermal monitor against overload.	lectures theoretical and practical	Theoretical, practical ,surprise exa and reports
21	1n + 2p	1- Identifying methods troubleshooting faults	Methods used to ider malfunctions: The engine is una to rotate, the engine is rotating at a speed less than its ideal speed.	lectures theoretical and practical	Theoretical, practical ,surprise exa and reports
22	1n + 2p	1- The student should be a to identify the causes of mo overheating during operatic 2- Identifying the causes noisy operation	The engine temperature rises during rotation, the engine rota noisily.	lectures theoretical and practical	Theoretical, practical ,surprise exa and reports

23	1n + 2p	. 1- To learn how to troublesh faults	How to treat and repair each of the previous malfunctions	lectures theoretical and practical	Theoretical, practical ,surprise exa and reports
24	1n + 2p	1- To understand control circu 2- To learn operating method	Command and control circuits use to operate engines manually and automatically.	lectures theoretical and practical	Theoretical, practical ,surprise exa and reports
25	1n + 2p	1- For the student to be able to maintain motors	Engine maintenance metho necessary time periods, and type maintenance	lectures theoretical and practical	Periodic repo on maintenan
26	1n + 2p	1- To learn about rou maintenance methods	Oiling, lubricating, cleaning, axle bearings.	lectures theoretical and practical	Periodic repo on maintenan
27	1n + 2p	1- Identifying the m important occupational saf procedures	Industrial security, occupatio safety during the maintenance process.	lectures theoretical and practical	Periodic repo on maintenan
28	1n + 2p	1- Identifying the m important occupational saf procedures	Study of the ohmmeter (AVO) how to use it to measure elec current, potential difference and resistance	lectures theoretical and practical	Periodic repo on maintenan
29	1n + 2p	1- Identifying the m important occupational saf procedures	Recognizing the terminology of the color resistance system	lectures theoretical and practical	Periodic repo on maintenan
30	1n + 2p	1- Identifying the m important occupational saf procedures	Connect resistors in series and parallel in an electrical circuit and find the equivalent resistance for the measurement	lectures theoretical and practical	Periodic repo on maintenan

11.Course Evaluation :

The degree is distributed
1- 20 marks for the first semester for practical.
2- 20 marks for the second semester for practical
3 - 10 marks for student activities
4 - 50 marks final exam

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	- Basics of electricity, electrical units and symbols - Potential difference, Ohm's law, electromotive force, direct and alternating current
Main references (sources)	Lectures by the subject teacher, and there is prescribed textbook. Sources are books and Internet sources
Recommended books and references (scientific	Electrical technology panel reports

journals, reports…)	
Electronic References, Websites	Not found

Course Description Form

1.Course Name: Engineering Mechanics	
2.Course Code: MET104-24-YM	
3.Semester / Year: First/annual	
4.Description Preparation Date: 18/ 11/ 2025	
5.Available Attendance Forms: In-person	
6.Number of Credit Hours (Total) / Number of Units (Total) : 150 hour , 10 unit	
7.Course administrator's name (mention all, if more than one name)	
Name: A.L. Zahra Hamoud Email: inb.zhr2@atu.edu.iq	
8.Course Objectives :	
Course Objectives	Introducing the student to the theoretical basics statics, dynamics, and material resistance, which makes h more capable and skilled in dealing in the field mechanical techniques.
9.Teaching and Learning Strategies	

Strategy	1-Calculate the resultant forces acting on the bodies 2-There is the center of gravity of different objects and shapes 3-Calculate the moment of inertia for different shapes 4- Applies the laws of motion to objects

10.Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2n + 3p	1. The student will understand the concept of rest. 2. The student will learn abou vectors...	1-Static, fundamental concept Force , Scalars and , Vectors , U , Force polygon , Cartes Compouents .	lectures theoretical and practic	Daily exams
2	2n + 3p	1. The student will be able analyze forces	Analysis of Forces	lectures theoretical and practic	Daily exams
3	2n + 3p	1. The student will learn ab systems of simultaneous forces	Resultant of Concrrent , Coplan Force system (2-D)	lectures theoretical and practic	Daily exams
4	2n + 3p	1. The student will learn abou types of moments.	Moments	lectures theoretical and practic	Daily exams
5	2n + 3p	1. The student will learn abou types of forces.	Couples , transformation of the Couple and the force	lectures theoretical and practic	Daily exams
6	2n + 3p	1. The student will learn about resultant forces.	Resultant of non –Concurrent , Coplanar force system (3-D)	lectures theoretical and practic	Daily exams
7	2n + 3p	1- Identifying the free body diagr	Equillibrium , free body diagram (F.B.D.)	lectures theoretical and practic	Pop quizzes discussion
8	2n + 3p	1- Identifying equilibrium conditions	Equillibrium Conditions (2-D)	lectures theoretical and practic	Pop quizzes discussion
9	2n + 3p	1- Identifying equilibrium condition	Equillibrium Conditions (3-D)	lectures theoretical and practic	Pop quizzes discussion
10	2n + 3p	1- The student should be able to understand the concept of friction	Friction, Dry Friction	lectures theoretical and practic	Pop quizzes discussion
11	2n + 3p	1- Identifying the concept of the center of gravity	Center of Gravity, Centriod (length, area), Centriod of Simple area	lectures theoretical and practic	Pop quizzes discussion
12	2n + 3p	1- Identifying centers of gravity	Centroids of Composite areas.	lectures	Pop quizzes

				theoretical and practic	discussion
13	2n + 3p	1- Understanding the concept of moment of inertia	Moment of inertia (Simple and Composite areas).	lectures theoretical and practic	Pop quizzes a discussion
14	2n + 3p	1- Understanding the types of dynamic motion	2-Dynamics type of motion ,Linear motion with constant sp .	lectures theoretical and practic	Pop quizzes a discussion
15	2n + 3p	1- Understanding linear motion	Linear motion with Constant acceleration .	lectures theoretical and practic	Pop quizzes a discussion
16	2n + 3p	1- Understanding Newton's law	Newton's Second Law	lectures theoretical and practic	Pop quizzes a discussion
17	2n + 3p	1- Understanding Newton's law	Curvilinear motion	lectures theoretical and practic	Pop quizzes a discussion
18	2n + 3p	1. Understanding angular motion 2. Understanding the concept of relative motion	Angular motion , Relative Motic	lectures theoretical and practic	Pop quizzes a discussion
19	2n + 3p	1. Studying energy and power	Work , Energy, Power	lectures theoretical and practic	Daily exams
20	2n + 3p	1. Being able to understand the concept of material resistance an its types	3-Strength of material :Fundamantal concept,Loads , Stress , Strain , Eelasticity , Plasticity, Deformation .	lectures theoretical and practic	Daily exams
21	2n + 3p	1. Defining Hooke's Law	Hook's Law , Stress -strain curve type of stress .	lectures theoretical and practic	Daily exams
22	2n + 3p	1. Studying the types of normal stress	Shear force (S.F.) & bending moment (B.M.) of cantilever be under an –axial load .	lectures theoretical and practic	Daily exams
23	2n + 3p	1- Identifying shear stress	Shear force (S.F.) & bending moment (B.M.) of cantilever be under uniform distributed Load	lectures theoretical and practic	Daily exams
24	2n + 3p	1- Identifying torsional stress	Torsional Stress	lectures theoretical and practic	Daily exams
25	2n + 3p	1- Identifying thermal stress	Thermal Stress	lectures theoretical and practic	Daily exams
26	2n + 3p	1- Identifying types of beams	Beams , types of loads , types c	lectures	Daily exams

			beams .	theoretical and practic	
27	2n + 3p	1- Identifying bending moment	Shear force (S.F.) & bending moment (B.M.) of Simple supported beam under an –axial load .	lectures theoretical and practic	Daily exams
28	2n + 3p	1- Understanding the concepts of shear force and bending moment	Shear force (S.F.) & bending moment (B.M.) of Simple supported beam under uniform distributed Load .	lectures theoretical and practic	Daily exams
29	2n + 3p	1- Understanding the concepts of shear force and bending moment	Shear force (S.F.) & bending moment (B.M.) of cantilever be under an –axial load .	lectures theoretical and practic	Daily exams
30	2n + 3p	1- Understanding the concepts of shear force and bending moment	Shear force (S.F.) & bending moment (B.M.) of cantilever be under uniform distributed Load	lectures theoretical and practic	Daily exams

11.Course Evaluation

The degree is distributed
1- 20 marks for the first semester for practical.
2- 20 marks for the second semester for practical
3 - 10 marks for student activities
4 - 50 marks final exam

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures by the subject teacher, and there no prescribed textbook. Sources are books and Internet sources
Main references (sources)	Electronic scientific websites .
Recommended books and references (scientific journals, reports…)	Engineering mechanics magazines various sites and entities .
Electronic References, Websites	Not found

Course Description Form

1.Course Name: Engineering Drawing
2.Course Code: MET106−24−YM

3.Semester / Year: First/annual
4.Description Preparation Date: 18/ 11/ 2025
5.Available Attendance Forms: In-person
6.Number of Credit Hours (Total) / Number of Units (Total) : 90 hour , 6 unit
7.Course administrator's name (mention all, if more than one name)
Name: A.L. Nawal Abd Allah Omran Email: nawal-omran@atu.edu.iq

8.Course Objectives	
Course Objectives	Teaching and training students on methods of entering coordinates in different ways and drawing using AUTOCAD in two-dimensional space.

9.Teaching and Learning Strategies	
Strategy	1- The skill of entering data using relative, polar, and absolute methods 2- Helping him draw accurately with the possibility of choosing drawing paper 3- Learn and understand how to draw using different drawing commands 4- Learn and understand how to draw with different modificatic commands 5- Learn and understand how to draw using two-dimensio space

10.Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3	The student will understand the importance of engineering drawing in manufacturing.	The importance of engineering drawing, the importance of using a computer to implement engineering drawing, standard drawing board sizes, an overview of the AutoCAD program.	lectures practical	Practical exams
2	3	The student will be able to draw geometric shapes using a computer.	Preparing computer draw Title Block	lectures practical	Practical exams
3	3	The student will be able to use drawing commands.	Drawing geometric shapes using the compute	lectures practical	Practical exams
4−5	3	The student will be able to use editing commands.	Graphic modifications, computer drawing aids	lectures practical	Practical exams
6−7−8	3	The student will be able to use editing commands.	Types of lines for engineering drawing, engineering operations, dimensioning	lectures practical	Practical exams

9	3	The student should be able to draw geometric perspectives.	Perspective drawing, a perspective drawing containing a circle represented by an ellipse	lectures practical	Practical exams
10−11	3	Understand the concept of projection theory.	Projection theory, drawing simplified projections	lectures practical	Practical exams
12−13−14−15	3	The student should be able to draw projections using angles	Main projections, even angles, drawing according to the theory of the first even angle of projection, drawing according to the theory of the third even angle of projection.	lectures practical	Practical exams
16−17	3	The student should be able to draw projections using angles	Draw the three main projections a even angles and note the difference between them	lectures practical	Practical exams
18−19	3	The student should be able to deduce the three projections	Conclusion of the third project from the two projects	lectures practical	Practical exams
20−21	3	The student should be able to deduce the three projections	Inferring perspective from two or three projections	lectures practical	Practical exams
22−23	3	The student should be able to deduce the three projections	Cutting theory, cutting shapes and lines according to the type of material, drawing cut plots	lectures practical	Practical exams

24-25	3	The student should be able to draw the projections of the cut parts.	Drawing projections cut from one specific projection	lectures practical	Practical exams
26−27	3	Identifying the types of lines used in drawing	Partially cropped project drawing	lectures practical	Practical exams
28−29−30	3	The student should be able to draw the sections.	Drawing a half-cut projection, drawing winding sections	lectures practical	Practical exams

11.Course Evaluation
The degree is distributed 1- 15 marks for the first semester for practical. 2- 10 marks for student activities 3- 15 marks for the second semester for practical 3- 10 marks for student activities 4- Total annual effort 50 4 - 50 marks final exam

12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Lectures by the subject teacher, and there is no prescribed textbook. Source are books and Internet sources
Main references (sources)	Electronic scientific websites
Recommended books and references (scientific journals, reports…)	Scientific journals examining the top of drawing and engineering designs
Electronic References, Websites	1-Scientific sources 2- Websites

Course Description Form

1.Course Name: work shops
2.Course Code : MET103−24−YM

3.Semester / Year: First/annual

4.Description Preparation Date: 18/ 11/ 2025

5.Available Attendance Forms**:** In-person

6.Number of Credit Hours (Total) / Number of Units (Total) 240 hour , 16 unit

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

Name: En. Slam Hamad Hamza
Email: sala60521@gmail.com

8.Course Objectives

Course Objectives	Discussing the practical side of the Mechanics Department/Product Branch and introducing the student to the most important mechani workshops and learning about their many different types and t technological methods used in arranging the lines of each worksh according to the sequence of steps in making the works for ea workshop.

9.Teaching and Learning Strategies

Strateg	**1-** Introducing the student in general to the practical side of the Mechanical Technologies Department **2-** Introducing the student to the mechanical workshops in his surroundings and knowing their types **3-** Introducing the student to the types of machines present in each workshop according to the sequence of their importance in producing various artifacts **4-** The student will be able to stand on the machine, manage it successfully, and learn about ways to maintain it **5-** The student is able to know the problems that occur in the production proce and how to find logical solutions to them.

10.Course Structure

Week	Hours	Required Learning	Unit or subject name	Learning	Evaluation

		Outcomes		method	method
1	8	The student should be able to identify the types of wood used in carpentry and the types of tools and equipment needed for carpentry work.	1-The basic principles of model carpentry, definition of types of wood and their uses, types of models, their carpentry and their uses in plumbing. 2- Correcting the model, the conditions that must be met in correcting the model, the shrinkage factor, an exercise on the executive drawing of simple models with one separator term and without a box. 3- The equipment used, the hand tools and the mechanical equipment used, the thickening machine, the tray saw, the band saw, the raking machine, the sanding machine, the converter. 4-Practical training for attaching parts according to the operational drawing on the marks.	Practical	Practical tests every week
2	8	The student should be able to execute specific types of carpentry work.	Completing the training, finishing the parts of the model, methods of assembling it, and its final dimensions.	Practical	Practical tests every week
3	8	The student should be able to create complex woodworking designs.	Complex models: explanation of multiple dividing boundaries and internal spaces.	Practical	Practical tests every week
4	8	The student should be able to identify the most important metals used in plumbing and plumbing methods.	2- Metal Plumbing (6 weeks) - Metal casting and its importance, the purpose of using castings in industry, contents of the casting unit, industrial safety precautions in casting, forming a sand mold for a one-piece model in front of the students, sand for molds and cores, their types	Practical	Practical tests every week

			and sources, properties of additives, mixing processes and controlling quantities, use of a sand mixer, sand treatment. - Forming sand molds using manual methods for a one-piece model to form a sand mold.		
5	8	Learning the steps for casting a single-piece sand mold.	Sand mold for a one-piece model with identification of castings and risers, melting metal and pouring it into a mold, extracting and cleaning the castings.	Practical	Practical tests every week
6	8	Learning the steps for casting and cleaning a sand mold after the casting process.	Forming a sand mold as before, melting the metal, pouring it into a mold, taking out the casting and cleaning it. .	Practical	Practical tests every week
7	8	The student should be able to cast multi-piece molds.	Casting sand molds in a productive manner, training on the use of plumbing plates that contain more than one piece in one mold and with cores, methods of cleaning castings with brushes, files, grinding stones, steel balls, compressed air, rotating machines, reviewing and examining castings, identifying visible defects and their causes, Review the dimensions of the castings, and ensure that they match the required dimensions.	Practical	Practical tests every week
8	8	Understanding the meaning of "core" (or "core").	Casting sand molds for moving and compound models with a core. These exercises are among the exercises that the student will perform to complete their operation in other laboratories	Practical	Practical tests every week
9	8	Identifying the furnaces used	Metal smelting furnaces, their	Practical	Practical tests

		in the casting process.	types, characteristics, uses, rotary, stirrer, and stationary furnaces.		every week
10	8	The student should be able to recognize the importance of metalworking and the necessary equipment and tools.	Refrigeration and maintenance (6 weeks) 1- Industrial development and the role of the refrigerator in it. 2- The veneer foot, its types, measurement methods, how to make a veneer that reads the depth gauge, and the calipers. 3-The Shankara process 4- Foundation surfaces, tools used, display materials, impact fork, straight calipers, chisel calipers, tailbone and tailbone, right angles, chisel flowers, regular and sensitive chinks, altimeter, universal protractor and angle measurement, 5- A practical exercise that combines chicane operations. 6- Files and cold process 7-Types of files and their specifications, components and their types, and methods of attaching the crafts and their	Practical	Practical tests every week
11	8	The student should be able to use the tools and equipment in a metalworking shop. .	1- Uses of files, how to clean files, the process of filing, practice on a hook and a simple file. 2- Cutting with a saw 3- The hand saw, the saw weapon, installing the saw weapon, the conditions that must be met in sawing, an exercise in the saw cutting process.	Practical	Practical tests every week
		They should be able to identify the most important tools used in metalworking	1-Gerification process Types of embryos, tooting and maintenance of embryos, types of manual hammer heads, method of installing	Practical	Practical tests every week

12	8		the hammer head, exercise on the embryo process. 2-The process of drilling and glazing Types of drills, types of primers, types of reamers, how to perform the drilling and grinding process, training on manual and mechanical drilling and grinding operations after performing the shredding operations. 3-Al-Qalawz Types of screws, internal and external dental tables, training on performing different		
13	8	The student should be able to execute an engineering model using the necessary tools and equipment.	Various training exercises on the previously mentioned filing work.	Practical	Practical tests every week
14	8	The student should be able to perform maintenance on tools and equipment.	The importance of maintenance for machines and equipment, clarification of periodic and comprehensive maintenance operations, and how to prepare maintenance reports.	Practical	Practical tests every week
15	8	The student should understand the importance of filing in manufacturing processes.	1-Types of gaskets and sealants, their uses, methods of installing and removing them, and reviewing their operation 2-Types of valves, methods of operation, inspection and repair.	Practical	Practical tests every week
16	8	The student should be able to understand safety procedures when performing welding operations.	- Occupational safety and security precautions: gas welding, the equipment used and how to install and adjust it, other auxiliary tools and gases used and their specifications, welding wires, their types and measurements, other auxiliary materials, welding equipment, types of flames and the method of igniting and adjusting the required flame, artifacts, rinsing and cleaning the edges	Practical	Practical tests every week

			to be welded.		
17	8	They should be familiar with the types of welding used in the workshop.	Practical exercises: Welding opposite surfaces, perpendicular surfaces, inclined surfaces, circle welding, longitudinal and transverse cutting Welding equipment, practical training on the use of electric arc in welding various surfaces,	Practical	Practical tests every week
18	8	They should be familiar with the most important types and methods of welding.	Equipment used, electrodes and how to install them, practical training.	Practical	Practical tests every week
19	8	Understanding gas welding processes with practical exercises.	Welding using CO2 gas and gas cutting operations, equipment used and precautions to be taken Performing exercises on welding artifacts using CO2 gas	Practical	Practical tests every week
20	8	The student should be able to create metal models.	Training in gas-shielded arc welding (Tig, Mig).	Practical	Practical tests every week
21	8	Cutting Operations Training	Assembly exercises using various cutting and welding processes.	Practical	Practical tests every week
22	8	The student should be able to identify the sheet metal work process.	5-Plumbing and blacksmithing (3 weeks) Equipment for cutting and bending billets, rolling machine, grooving machine and manual tools, using and bending the billet manually, regular thruster, list and drawing method, simple discretization, calculating the individual cut and missing actuators.	Practical	Practical tests every week
23	8	The student should be able to perform calculations for workpieces to perform sheet metal work.	Training on calculating the individual intersecting works, performing an exercise for two intersecting cylinders.	Practical	Practical tests every week
24	8	The student must be able to perform calculations for workpieces to carry out sheet	Singular cones and conic ellipses.	Practical	Practical tests every week

		metal work.			
25	8	The student must be able to use a lathe. 6- Lathe Operation (6 weeks)	The lathe, its specifications, uses, accessories, installation methods, operating the lathe, types of lathe pens using each of them.		
26	8	. Understanding types and methods of turning.	Lathing operations: Plane lathe, tool, center work, simple step drill, use of measuring tools	Practical	Practical tests every week
27	8	Practicing exercises using a lathe.	Mapping the external looting in different ways, explaining the laws for each method, and doing an exercise specifically for the external looting.	Practical	Practical tests every week
28	8	Practicing exercises for dental work.	1- Externally working on the different teeth (the triangle). Doing an exercise that includes the triangle tooth 2- Make the tooth an outer square and make an exercise.	Practical	Practical tests every week
29	8	Understanding cutting speeds.	Cutting speeds, selecting them, and using their tables.	Practical	Practical tests every week
30	8	Using a centerless lathe.	Implementing training on decentralized turning and using quadrilateral sampling.	Practical	Practical tests every week

11.Course Evaluation:

Continuing education during the academic year (6 workshops required of students of the Mechanical Technology Department, each workshop is evaluated out of 100 points distributed as follows: 60 speed and accuracy in completing the exercise 20 professional behavior 20 activity total 100. The workshop scores are added together and divided by their number to obtain the final score out of 100.

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Customized curricula for the laboratory unit

Main references (sources)	References and sources for each workshop
Recommended books and references (scientific journals, reports…)	Periodic reports and field visits to laborator and factories
Electronic References, Websites	Various internet sites

Course Description Form

1.Course Name: Manufacturing Processes	
2.Course Code: MET101-24-YM	
3.Semester / Year: First/annual	
4.Description Preparation Date: 18/ 11/ 2025	
5.Available Attendance Forms: In-person	
6.Number of Credit Hours (Total) / Number of Units (Total) : 120 hour , 8 unit	
7.Course administrator's name (mention all, if more than one name)	
Name: Name: A.T Zainab Jawad Kazim Zainab.kadhim.iba104@atu.edu.iq	
8.Course Objectives	
	The student understands the processes and how to use measur

Course Objective	devices and tools (such as a perforator, micrometer, and ruler), well as devices for measuring permeability, humidity, durabil hardness, and adjustments for all metals. The student learns how use these devices in practical life.

9.Teaching and Learning Strategies

Strategy	1- The skill of using the measurement process, a veneer, and a ruler 2- Use humidity and permeability measuring devices and plumbing devices 3- How to use and understand hardness and durability measuring developing .

10.Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2n + 2p	1. The student should be familiar with units of measurement. 2. The student should understand the concept of measurement and methods of measurement.	Definition of measurement and units of measurement, error and its causes, methods of measuring main dimensions, simple conveyor measuring devices.	lectures theoretical and practical	Snap tests
2	2n + 2p	1. The student should be familiar with measuring instruments.	Measuring feet (probes), their parts, uses, and types.	lectures theoretical and practical	Snap tests
3	2n + 2p	1. The student should be familiar with the micrometer and how to use it.	Micrometers, their types, uses, parts, and the idea of how a micrometer works.	lectures theoretical and practical	Snap tests
4	2n + 2p	1. The student should be familiar with measuring tools, including measuring blocks, their types, and how to use them.	Measuring molds and their uses, types, and how to use them.	lectures theoretical and practical	Snap tests
5	2n + 2p	1. The student will learn about angle	Measuring angles and side shapes, tools for	lectures theoretical	Snap tests

		measuring tools using measuring instruments.	measuring angles and measuring cups (debar) and their types	and practical	
6	2n + 2p	1. The student will learn about mechanical comparison devices.	Method of measuring screw elements, external and internal diameters, measuring step and step diameter, electronic mechanical comparison devices.	lectures theoretical and practical	Snap tests
7	2n + 2p	1. The student will learn about angle measuring devices, including projectors.	Optical device, some modern measurement methods (acoustic frequency measuring devices, digital optical).	lectures theoretical and practical	Snap tests
8	2n + 2p	1. The student should be familiar with the most important manufacturing processes, including shaping processes.	Files and their role in industrial development, the chipping process, the tools used and the processes involved in the filing process, the files used and their specifications, the machines and their types and methods of attaching crafts to them, the uses of files, the method of cleaning files.	lectures theoretical and practical	nap tests
9	2n + 2p	2. The student should be able to use the tools used in filing processes.	Cutting with a saw, the conditions that must be met in the sawing process, the saw weapon, the crowns and their types, the teeth, the method of sharpening and maintaining them, the types of manual hammer heads and the method of installing them.	lectures theoretical and practical	Snap tests
10	2n + 2p	3. The student should be familiar with drilling tools, their types, and how to use	Drilling and grinding, types of drills, types of primers, types of primers, how to	lectures theoretical and practical	Discussion in class

		them.	perform the drilling and grinding process.		
11	2n + 2p	4. The student should be aware of the importance of carpentry and the most important types of wood used in it.	Models, their types, wood used in their manufacture, and the conditions that must be met in the model.	lectures theoretical and practical	Discussion in class
12	2n + 2p	1. The student should be able to identify the tools and equipment used in carpentry.	Tools and devices used in making the model, box molds, and how to design a simple model.	lectures theoretical and practical	Discussion in class
13	2n + 2p	2. The student should be familiar with the most important shaping processes.	Plumbing, historical overview, main methods of plumbing (cast casting, sand casting, metal mold casting, other methods of plumbing) Advantages of the plumbing process.	lectures theoretical and practical	Discussion in class
14	2n + 2p	1. The student will learn about plumbing processes and their types.	Plumbing sand, plumbing sand specifications, components, plumbing sand, devices used and additives to plumbing sand.	lectures theoretical and practical	Discussion in class
15	2n + 2p	1. The student will be able to perform various types of plumbing work.	Dumps and tools used in preparing sand molds, the process of molding a simple and final model, the parasitic molds and the model molds used.	lectures theoretical and practical	Discussion in class
16	2n + 2p	1. The student will learn about the steps involved in plumbing.	Pulp, its types, pulp sand, mixture ratios and materials added to it, stages of its work (mixing and preparing sand, making balls, drying it), the benefit of the drying process, ovens or methods of drying balls and their equipment.	lectures theoretical and practical	Discussion in class

17	2n + 2p	1. The student will learn about the most important types of plumbing.	Casting with metal molds, its types, centrifugal casting, and its types.	lectures theoretical and practical	Discussion in class
18	2n + 2p	1. The student will learn about the most important types of plumbing.	Lost wax plumbing, continuous plumbing, shell plumbing.	lectures theoretical and practical	Discussion in class
19	2n + 2p	1. The student should be able to identify the most important types of metals used in casting and the types of furnaces used.	Metal smelting and its foundations, types of smelting furnaces, blast furnace, main dimensions and method of operation, blast furnace, electric arc furnace, reflector furnace, rotary furnace.	lectures theoretical and practical	Discussion in class
20	2n + 2p	1. The student should be able to perform cleaning operations on castings after the casting process.	Casting of castings, its equipment and foundations, cleaning of castings, casting defects, inspection of castings.	lectures theoretical and practical	Discussion in class
21	2n + 2p	1. The student should have knowledge of the importance of welding in industries and welding methods.	Welding, foundations of metal welding, clarification of the main methods of welding (pressure welding, electric arc fusion welding, other methods of fusion welding, flash welding and caustic welding), types of welding joints.	lectures theoretical and practical	Discussion in class
22	2n + 2p	1. The student will learn about the different types of welding.	Hot pressure welding, including (electrical resistance welding, including spot and line welding, flash welding), cold pressure welding, pressure welding using explosives, and pressure welding using ultrasonic waves.	lectures theoretical and practical	Discussion in class
23	2n + 2p	1. The student will learn about the different types of	Fusion welding and gas welding, oxy-hydrogen welding and oxy-	lectures theoretical and practical	Discussion in class

		welding.	acetylene welding, types of flame, right-hand welding and left-hand welding, cutting with oxy-acetylene.		
24	2n + 2p	1. The student will learn about the different types of welding.	Arc welding, welding current, direct and reverse polarity method, types of electrodes, packaging of metal electrodes and their types.	lectures theoretical and practical	Discussion in class
25	2n + 2p	1. The student will learn about the different types of welding.	Electrode movement, methods of isolating electrodes and the welding area, electric arc welding using protective gases (carbon dioxide welding, acorn tig welding, brazing welding)	lectures theoretical and practical	Discussion in class
26	2n + 2p	1. The student will learn about the different types of welding.	Atomic hydrogen arc welding, arc welding, fusion welding.	lectures theoretical and practical	Discussion in class
27	2n + 2p	1. The student will learn about the different types of welding.	Temperature welding, caustic welding (mortar welding, plumbing welding) and some modern types of welding (laser welding, electron beam welding).	lectures theoretical and practical	Discussion in class
28	2n + 2p	1. The student should be able to distinguish between the types of defects that can occur in metal parts during welding.	Welding defects, welding tests.	lectures theoretical and practical	Discussion in class
29	2n + 2p	1. The student should be able to distinguish between hot forming and cold forming processes.	Metal forming, the theory of forming, the foundations of cold and hot forging, blacksmithing, the foundations of	lectures theoretical and practical	Discussion in class

			blacksmithing and its methods (manual, mechanical), blacksmithing equipment, manual and mechanical, blacksmithing elements.		
30	2n + 2p	1. The student should be able to produce a part using the forging process**.**	Special blacksmithing methods, blacksmithing molds and their manufacture, effective force, explanation of the different blacksmithing operations (contact, methods of different geometric sections in cutting operations, making simple steps, forming various artifacts).	lectures theoretical and practical	Discussion in class

11.Course Evaluation

The degree is distributed

1- 20 marks for the first semester for practical.

2- 20 marks for the second semester for practical

3 - 10 marks for student activities

4 - 50 marks final exam

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures by the subject teacher, and there i no prescribed textbook. Sources are books and Internet sources .
Main references (sources)	Electronic scientific websites
Recommended books and references (scientific journals, reports…)	Weekly reports submitted by students.
Electronic References, Websites	Not found

Course Description Form

1.Course Name: Mathematics
2.Course Code: MET105-24-YM
3.Semester / Year: First/annual
4.Description Preparation Date: 18/ 11/ 2025
5.Available Attendance Forms: In-person
6.Number of Credit Hours (Total) / Number of Units (Total) : 60 hour , 4 unit
7.Course administrator's name (mention all, if more than one name)
Name: L. Najlaa Shaker Aziz Email: najlaa.shemery@atu.edu.iq
8.Course Objectives

Course Objectives	How to use mathematical functions and their scope application, in addition to how to analyze, conclu tabulate and organize data into frequency tables and h to display them in graphical charts, in addition to study probability to reach the best decision.

9.Teaching and Learning Strategies	
Strategy	1- The skill of using mathematical functions in applied aspects 2- The skill of organizing and tabulating data into tables, analyzin it, and putting it into graphs 3- Using probability to reach the optimal solution

Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
the first and the second	2	1. The student should be able to solve simultaneous equations using determinants and understand their properties.	Determinants and their properties, solving simultaneous equations using the determinant method (Cramer).	lectures theoretical	Homework surprise exams
Third, fourth and fifth	2	1. The student should be able to solve derivatives and trigonometric functions.	, differentiation, algebra of derivatives, multiple functions	lectures theoretical	Homework surprise exams
Sixth, seventh and eighth	2	1. The student should be able to solve logarithms.	Trigonometric, logarithmic and exponential functions and their derivatives and implicit functions, the chain rule.	Lectures theoretical	Homework surprise exams
The ninth, tenth, and eleventh	2	1. The student should be able to graph trigonometric functions.	drawing of functions, drawing of the trigonometric function, and maximum and minimum limits.	lectures theoretical	Homework surprise exams
Twelfth and thirteenth	2	1. The student should understand geometric	: Physical differential	lectures theoretical	Homework surprise exams

		applications.	applications, velocity and acceleration, and geometric differential applications.		
Fourteenth and fifteenth:	2	1. The student should know the laws of integration.	Integration, laws, and its relationship to differentiation, definite and indefinite integration.	lectures theoretical	Homework surprise exams
Sixth, seventh, eighth, and nineteenth	2	1. The student should be able to solve mathematical problems.	: Implicit integration, geometric applications of integration (areas and volumes) and physics.	Lectures theoretical	Homework surprise exams
Twenty and twenty-first	2	1. The student should know the general methods of integration.	general methods integration, substitution partial integrati and the use exponential logarithmic par fractions.	lectures theoretical	Homework surprise exams
The third, fourth, fifth, and twenty-sixth,	2	1. To understand differential equations	discrete, homogeneous, and linear differential equations with their various applications.	Lectures theoretical	Homework surprise exams
Twenty-seventh and twenty-eighth:	2	1. To understand vectors	Vectors (direct and quantitative multiplication and calculating angles between vectors.	lectures theoretical	Homework surprise exams
Twenty-nine and thirty	2	1. To have a basic understanding of statistics	Statistics (principles) and probability theory	lectures theoretical	Homework surprise exams
11.Course Evaluation					

The degree is distributed 1- 20 marks for the first semester for practical. 2- 20 marks for the second semester for practical 3 - 10 marks for student activities 4 - 50 marks final exam	
12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Subject teacher's lectures are printed Mathematics- Dr. Qasim's assistant book and inter sources .
Main references (sources)	Electronic scientific websites
Recommended books and references (scientific journals, reports...)	Providing various examples and questions students in the form of reports
Electronic References, Websites	Not found

Course Description Form

1.Course Name: Computer and Artificial Intelligence
2.Course Code: ATU108-24-YM
3.Semester / Year: First/annual
4.Description Preparation Date: 18/ 11/ 2025
5.Available Attendance Forms: In-person
6.Number of Credit Hours (Total) / Number of Units (Total) : 30 hour , 2 unit
7.Course administrator's name (mention all, if more than one name)
Name: A.L. Zinab Abd Al Abbas Email: : zainabalnamey68@gmail.com

8.Course Objectives	
Course Objectives	Introducing students to the most important types of compu and their parts, the concept of computing and information communications technology, types of operating systems word processing.

9.Teaching and Learning Strategies	
Strategy	- Stimulate student thinking through quick, unexpected questions. - Quick review of material covered during the lecture. - Ask questions about the previous lecture. - Conduct exam during the lecture.

10.Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1(TH)	1. The student should be able to understand the importance of computers and the types of software used on them.	Computer Basics. Introduction to Computer: Concepts of Hardware and Software with their compo ends.	lectures Theoretical	Surpris actical ex
2	1(TH)	2. The student should understand the concept of computer hardware.	Main types of computers. Introduction to Computer (CONT):CONCENT OF Computing, Data and information; Application of information; Connecting input/output devices, a peripherals to CPU.	lectures Theoretical	Surpris practical exams
3	1(TH)	3. The student should be familiar with computers.	Computing Basics. Computer components: Computer Portions on Hardware Parts, I/O Units.	lectures Theoretical	Surpris practical exams
4	1(TH)	4. The student should be familiar with information and communication systems.	Applications of communications technology.Computer Components (Cont.):HNOLOGY Memory Types: Volatile and Non-Volatile Memory, Secondary	lectures Theoretical	Surpris practical exams

			Storage.		
5	1(TH)	1. The student should be able to identify device connection methods.	Connecting devices and peripherals Computer component (cont,) CPU Compute: Control Unit (CU), Arithmetic Logic Unit (ALU) and Registers	lectures Theoretical	Surpris practical exams
6	1(TH)	1. The student should be familiar with the inputs and outputs of the processing unit.	Central Processing Unit Computer Components (Cont.): Computer Ports, Persona compute (Features and Types)	lectures Theoretical	Surpris practical exams
7	1(TH)	1. The student should be able to identify computer parts and components.	Computer Components Operating System and Graphical User Interface GUL: Operating System ;Basic of Common operating systems; the interface; Using Mouse Techniques	lectures Theoretical	Surpris practical exams
8	1(TH)	1. The student should be able to identify input and output devices.	Computer Operating Systems Operating System and Graphical User Interface GUL(cont.,): use common Icons bar; Using Menu and Menu-selection	lectures Theoretical	Surpris practical exams
9	1(TH)	1. The student should be able to identify memory types.	CPU Components Operating System and Graphical User Interface GUL(cont.):concept of folders and directories, opening and closing of different windows ; creating short cuts	lectures Theoretical	Surpris practical exams
10	1(TH)	1. The student should be able to identify computer ports.	Features and types of personal computers. Operating System and Graphical User Interface GUL(cont.): customization and personalization of GUIS, Accessibility features in GUIS, user experience (ux)	lectures Theoretical	Surpris practical exams
11	1(TH)	1. The student should be familiar with the operating system.	Types of operating systems and interfaces. Word processing: word processing basics ; basic features of word processors , opening and closing of documents	lectures Theoretical	Surpris practical exams
12	1(TH)	1. The student should be familiar with common operating systems.	Basics of operating systems.Word processing (Cont.): Text creation and Manipulation; Formatting Text	lectures Theoretical	Surpris practical exams

			and Paragraphs, using Templates for Document Creation.		
13	1(th)	1. The student should be able to use a mouse.	Advanced mouse use. Word Processing (Cont.): Creating and Managing Tables, Utilizing Styles and Themes	lectures Theoretical	Surpris practical exams
14	1(TH)	1. The student should be familiar with the menus in each program.	Playlist concepts. Word Processing (Cont.: Spell Check Gramma Tools, Using Headers and Footers.	lectures Theoretical	Surpris practical exams
15	1(TH)	1. The student should be able to create folders.	Spread Sheet: introduction to Spreadsheet softwere Creating and Formatting Worksheets.	lectures Theoretical	Surpris practical exams
16	1(TH)	1. The student should be able to create folders.	Operating system objectives, classification of operating systems Spread Sheet (Cont.): Sorting and Filtering Data, Using Formulas and Functions.	lectures Theoretical	Surpris practical exams
17	1(TH)	1. The student should be able to open and close documents.	Examples of some operating systems Spread Sheet (Cont.): Using Formulas and Functions, Using Pivot Tables for Data Analysis.	lectures Theoretical	Surpris practical exams
18	1(TH)	1. The student should be able to create tables.	Windows 7 operating system, installation requirements Spread sheet (Cont.): Data Validation and Error Checking, Data Visualization: Retreating charts and Graghs	lectures Theoretical	Surpris practical exams
19	1(TH)	1. The student should be able to create tables.	Features of Windows 7, desktop components Presentation Software: Introduction to Presentation Software, Overview of Popular Presentation Tools, Creating a New Presentation.	lectures Theoretical	Surpris practical exams
20	1(TH)	1- The student should be able to create presentations	Start menu, taskbar, notification area Presentation Software:(CONT):Using themes; inserting and Formatting Templates text and Images, Transition and Animation	lectures Theoretical	Surpris practical exams
21	1(TH)	1- The student should be able to create presentations	Folders, files, icons Presentation Software:(CONT):Using speaker notes and timers, Advanced Features: Hyperlinks and Action BUTTONS ;	lectures Theoretical	Surpris practical exams
	1(TH)	1- The student should	Window operations, desktop	lectures	Surpris

22		be able to create presentations	wallpapers Presentation Software:(CONT):Troubleshooting Common Presentation Issues, Future Trends in presentation Technology.	Theoretical	practical exams
23	1(TH)	1- The student should be able to create presentations	Control panel, auxiliary instructions Introduction to internet and web browsers : computer networks basis; LAN,WAN	lectures Theoretical	Surpris practical exams
24	1(TH)	1- The student should be able to create presentations	Some common situations and settings in the computer Introduction to internet Introduction to internet and web browsers : concept of internet and its applications; connecting to internet	lectures Theoretical	Surpris practical exams
25	1(TH)	1. The student should learn the basics of computer networks.	Microsoft Word operating system Introduction to internet and web browsers :world wide web; web browsing software's; search engines	lectures Theoretical	Surpris practical exams
26	1(TH)	1. The student should learn the basics of computer networks.	Microsoft Word interface, menus Introduction to internet and web browsers :understanding URL; Domain name; IB address	lectures Theoretical	Surpris practical exams
27	1(TH)	1. The student should be able to use search engines.	Rosters Communications and emails: basics of electronic mail; getting on email account; sending and receiving emails; accessing sent emails; using emails; document collaboration	lectures Theoretical	Surpris practical exams
28	1(TH)	1. The student should be able to use search engines.	PowerPoint system Communications and emails(cont.): sending and receiving emails ; accessing sent emails; using emails; document collaboration	lectures Theoretical	Surpris practical exams
29	1(TH)	The student should be able to troubleshoot computer errors.	Introduction to cloud computing and services : definition of cloud computing and its concept, cloud-based office suites(office365 and google works pace)	lectures Theoretical	Surpris practical exams
30	1(TH)	The student should be able to troubleshoot computer errors.	Concepts of hardware and soft ware with their components, Applications of information. Introduction to cloud computing and services(cont):google works base: google docs google sheets,	lectures Theoretical	Surpris practical exams

			google drive, google meet		

Course Evaluation	
The degree is distributed 1- 20 marks for the first semester for practical. 2- 20 marks for the second semester for practical 3 - 10 marks for student activities 4 - 50 marks final exam	
Learning and Teaching Resources	
Required textbooks (curricular books, if any)	: Computer Basics and its Office Applications (Part O and Two) - Prof. Dr. Ghassan Hamid Abdel Majeed a others, Ministry of Higher Education and Scientific Research – Iraq .
Main references (sources)	Electronic scientific websites
Recommended books and references (scientific journals, reports...)	Preparing reports on the representation of geom shapes .
Electronic References, Websites	Not found

Course Description Form

Course Name: Material Properties
Course Code: MET102−24−YM
Semester / Year: First/annual
Description Preparation Date: 18/ 11/ 2025
Available Attendance Forms: In-person
Number of Credit Hours (Total) / Number of Units (Total) : 60hour , 4 unit
Course administrator's name (mention all, if more than one name)
Name: A. L. Mohammed Ali Jabir Email: mohammed.dakhil@atu.edu.iq

Course Objectives	
Course Objectives	Teaching and training students to recognize physical a mechanical properties, how to conduct tests using Bru and impact tests, stresses on metals, and the use chemical paint for metals.

Teaching and Learning Strategies	
Strategy	1- Identify the physical properties of metals 2- Identify the mechanical properties of metals 3-How to use chemical paint for metals 4-How to conduct tests for metals .

Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	1- Identifying engineering materials	Definition of engineering materials. .Properties of metals	lectures Theoretical	Weekly surprise tests
2	2	1- Identifying elements	Atom, element, types of bonds in engineering materials. Properties of metals	lectures Theoretical	Weekly surprise tests
3	2	1- Identifying crystalline materials	Crystalline and amorphous materials.Properties of metals	lectures Theoretical	Weekly surprise tests
4	2	1- Identifying crystalline structures	Crystal forms: H.C.P, F.C.C, and B.C.C. Properties of metals	lectures Theoretical	Weekly surprise tests
5	2	1- Identifying mechanical properties	Mechanical properties of materials: Stress, strain, stress-strain curve, ductility, and failure .Properties of metals	lectures Theoretical	Weekly surprise tests
6	2	1-Understanding the methods and types of tests	Hardness, hardness test.Properties of metals	lectures Theoretical	Weekly surprise tests
7	2	1-Understanding the methods and types of	Complement.Properties of metals	lectures Theoretical	Weekly surprise tests

		tests			
8	2	1-Understanding the methods and types of tests	Toughness and toughness test Properties of metals	lectures Theoretical	Weekly surprise tests
9	2	1- Identifying the thermal properties	Thermal properties of materials: Thermal expansion and thermal conductivity.Properties of metals	lectures Theoretical	Weekly surprise tests
10	2	1- Identifying the electrical properties of materials	Electrical properties of materials: Ionic materials, insulating materials, metallic materials, and factors affecting conductivity. Properties of metals	lectures Theoretical	Weekly surprise tests
11	2	1- Identifying the magnetic properties	Magnetic properties of materials: Ferromagnetic materials, paramagnetic materials, diamagnetic materials, magnetic retardation, and factors affecting magnetism. Methods of manufacturing metals and alloys	lectures Theoretical	Weekly surprise tests
12	2	1- Identifying the chemical properties of materials	Chemical properties of materials: Corrosion, electrochemical series, and oxidation. Methods of manufacturing metals and alloys	lectures Theoretical	Weekly surprise tests
13	2	1- Identifying the metal iron and its properties	Iron, its most important ores, extraction, blast furnace, and transformers.Methods of manufacturing metals and alloys	lectures Theoretical	Weekly surprise tests
14	2	1- Identifying carbon steel and its types	Carbon steel, its most important types, properties, and uses.Methods of manufacturing metals and alloys	lectures Theoretical	Weekly surprise tests
15	2	1- Identifying alloy steel and its types	Alloy steel, its most important types, properties, and	lectures Theoretical	Weekly surprise tests

			uses.Methods of manufacturing metals and alloys		
16	2	1- Identifying cast iron and its types	Cast iron, its types, properties, and uses.Properties of steel	lectures Theoretical	Weekly surprise tests
17	2	1- Identifying cast iron and its types	Complement.Properties of steel	lectures Theoretical	Weekly surprise tests
18	2	1- Identifying copper and its alloys	Copper, its alloys, properties, and uses.Properties of steel	lectures Theoretical	Weekly surprise tests
19	2	1- Identifying aluminum	Aluminum, its alloys, properties, and uses.Properties of steel	lectures Theoretical	Weekly surprise tests
20	2	1- Identifying nickel and its alloys	Nickel, its alloys, properties, and uses.Properties of steel	lectures Theoretical	Weekly surprise tests
21	2	1- Identifying tin	Tin, its alloys, properties, and uses. Zinc, its alloys, properties, and uses. Manganese, its alloys, properties, and uses.Properties of steel	lectures Theoretical	Weekly surprise tests
22	2	1- Understanding the control panel	Chemical properties of materials: Corrosion, electrochemical series, and oxidation. Properties of steel	lectures Theoretical	Weekly surprise tests
23	2	1- Understanding powder pressing	Powder metallurgy: Methods of obtaining metal powders, mechanical methods, physical and chemical methods, natural, mechanical and chemical properties of powders.Properties of steel	lectures Theoretical	Weekly surprise tests

24	2	1- Understanding ceramic materials	Powder pressing and sintering process.Properties of steel	lectures Theoretical	Weekly surprise tests
25	2	1- Understanding glass and its types	Ceramic materials. Properties of steel	lectures Theoretical	Weekly surprise tests
26	2	1- Understanding concrete	Glass, its types, manufacture, and uses.Properties of steel	lectures Theoretical	Weekly surprise tests
27	2	1- Understanding polymers	Concrete, its industrial uses.Properties of steel	lectures Theoretical	Weekly surprise tests
28	2	1- Understanding the properties and uses of plastics	Polymers, polymer molecules, and types of polymers.Properties of steel	lectures Theoretical	Weekly surprise tests
29	2	11- Identifying polymers	Properties and uses of plastics.Properties of steel	lectures Theoretical	Weekly surprise tests
30	2	2- Identifying the properties and uses of plastics	Plastics Complement.Properties of steel	lectures Theoretical	Weekly surprise tests

Course Evaluation

The degree is distributed
1- 20 marks for the first semester for practical.
2- 20 marks for the second semester for practical
3 - 10 marks for student activities
4 - 50 marks final exam

Learning and Teaching Resources

Required textbooks (curricular books, if any)	Subject teacher lectures
Main references (sources)	Electronic scientific websites
Recommended books and references (scientific journals, reports…)	Weekly reports submitted by students
Electronic References, Websites	Not found

Course Description Form

1.Course Name: English Language
2.Course Code: ATU1016 −24−YM
3.Semester / Year: First/annual
4.Description Preparation Date: 18/ 11/ 2025
5.Available Attendance Forms: In-person
6.Number of Credit Hours (Total) / Number of Units (Total) : 30hour , 2 unit
7.Course administrator's name (mention all, if more than one name)
Name: A.L Mukhallad Murad Obied Email: mukhallad.murad.iku@atu.edu.iq

8.Course Objectives	
Course Objective	Teaching and training the student to recognize t basics of the English language : 1 − Learn about composition writing skills . 2− Mastering the skill of conversation .

9.Teaching and Learning Strategies	
Strategy	1-Recognize welcome phrases 2- Identify the conversation 3-How to use verb tenses 4- How to differentiate between adjectives, nouns and verbs .

10.Course Structure

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

	urs				
1-2	1	1-The student should learn how to introduce themselves use everyday vocabulary greetings.	Introductions, am, is, are, vocabulary, everyday English (good morning), Don't forget	lectures Theoretical	Test at the end each lecture
3-4	1	1- The student should le about countries and nationalit Adjectives and reading pract daily vocabulary and numbers	Countries, Listening, Questions, Adjectives, Reading, Everyday English (numbers 11-30), Don't forget	lectures Theoretical	Test at the end each lecture
5-6	1	1-The student will learn ab functions, form questions negations, and use every vocabulary.	Jobs, Questions and Negatives (i isn't, are/ aren't, am/ am not) Listening, Everyday English (Social expressions), Don't forge	lectures Theoretical	Test at the end each lecture
7-8	1	1-The student will learn ab pronouns, possessive artic listening and reading skills, everyday vocabulary.	Possessives (Possessive 's my/our/her), Vocabulary, have, h Listening, Reading, Pronunciatio Everyday English (the alphabet, the phone), Don't forget	lectures Theoretical	Test at the end each lecture
9-10	1	1- The student should learn vocabulary related to sports, food, drink, the present continuous tense, things they li the present simple tense (I, you they), listening comprehension vocabulary (languages and nationalities), everyday Englis (how much does it cost?), and remembering to...	Sports/ food/ drink, Thing I Like Present Simple (I, you, they), Listening, Vocabulary (Languag and nationalities), Everyday English (How much is it?), Don' forget	lectures Theoretical	Test at the end each lecture
11-12	1	1- The student should become familiar with Time, the simple present tense (he, she), does, does, I, it, they, prepositions (in/on/at), vocabulary (words t connect with each other), readi everyday English (days of the week), don't forgety	The time, Present Simple (he, sh do, does, am, is, are, Prepositions(in/on/at), Vocabula (Words that go together), Readin Everyday English (Days of the week), Don't forget	lectures Theoretical	Test at the end each lecture
13-14	1	1- The student should become familiar with questions (questionnaire, interrogative words like why, because), pronouns and possessives (I/he/mine/his), that/this, vocabulary (adjectives), daily l	Questions (A questionnaire, Question words why, because), Pronouns and possessives (me/ him/my/ his) that/this, Vocabula (Adjectives), Everyday English (Can I …?), Don't forget	lectures Theoretical	Test at the end each lecture
15-16	1	1- The student should learn the vocabulary for house and furniture: there, prepositions (c under/beside), vocabulary	Rooms and furniture, there is, the are, Prepositions (on, under/ nex to), Vocabulary (Revision Vancouver), Everyday (Direction	lectures Theoretical	Test at the end each lecture

		(Vancouver review), every day (directions), reading (Vancouv Canada), don't forget	Reading (Vancouver Canada), Don’t forget		
17-18	1	1- The student should learn about years, was, were (born/questions/negatives), reading (Jackson Pollock), the simple past (irregular verbs), vocabulary (have/do/go), everyday English (months and dates).	Saying years, was, were (was bor Questions/ Negatives), Reading (Jackson pollock), Past Simple (Irregular verbs), Vocabulary (have/ do/ go), Everyday English (Months and dates), Don’t forget	lectures Theoretical	Test at the end each lecture
19-20	1	1- The student should become familiar with Simple past tense (regular verbs), questions and negation, conducting a conversation (Was it appropriate?), vocabulary (spo and recreation), everyday Engl (going sightseeing)	Past Simple (regular verbs), Questions and negatives, making conversation (Was it a good match?), Vocabulary (Sport and leisure), Everyday English (Goin sightseeing), Don’t forget	lectures Theoretical	Test at the end each lecture
21-22	1	1- The student should be able t recognize can/cannot (short/negative questions and answers), pronunciation (can a cannot), adverbs (very good, absolutely), requests and offers reading (Internet), vocabulary (adjective + noun), everyday English (everyday problems).	Can/ can’t (Questions and short answers/ Negatives), Pronunciati (can and can’t), Adverbs (very well, not at all), Requests and offers, Reading (the Internet), Vocabulary (Adjective+ noun), Everyday English (Everyday problems), Don’t forget	lectures Theoretical	Test at the end each lecture
23-24	1	1- The student should learn the vocabulary words "any", "some and "I would like" to present things	Some/any(question s), I’d like (I’ like a …../ I’d like to…), Offerin things (what would you like?), L and would like, Vocabulary (In a restaurant), Reading (What’s on your plate?), Don’t forget	lectures Theoretical	Test at the end each lecture
25-26	1	1- The student should learn vocabulary words "any", "som and "I would like" to pres things	Colours and clothes, present Continuous (positives, Question Negatives), Reading (the secret millionaire), Vocabulary (Oppos verbs), Everyday English (What’ the matter?), Don’t forget	lectures Theoretical	Test at the end each lecture
27-28	1	1- The student should learn ho to plan for the future and revie tenses and social expressions.	Future plans, Grammar revision (tenses), Every English (Social expressions), Don’t forget	lectures Theoretical	Test at the end each lecture
29-30	1	1- The student should review previous lessons	Review: Conduct a comprehensiv review	lectures Theoretical	Test at the end each lecture
11.Course Evaluation					
The degree is distributed					

1- 20 marks for the first semester for practical. 2- 20 marks for the second semester for practical 3 - 10 marks for student activities 4 - 50 marks final exam .	
12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Subject teacher lectures + Head way book
Main references (sources)	1- New Headway Book 2- Beginner Students Book
Recommended books and references (scientific journals, reports…)	English-language magazines that effectively supp the curriculum .
Electronic References, Websites	Not found

Course Description Form

1.Course Name: Arabic Language
2.Course Code: ATU1017-24-YM
3.Semester / Year: First/annual
4.Description Preparation Date: 18/ 11/ 2025
5.Available Attendance Forms: In-person
6.Number of Credit Hours (Total) / Number of Units (Total) : 30hour , 2 unit

7.Course administrator's name (mention all, if more than one name)	
Name: A.L . Noor AYYED ABDULLAH Email: noor.serkal.iba14@atu.edu.iq	
8.Course Objectives	
Course Objective	- The student should grow up loving the Arabic language, the language of the Holy Quran. -To recognize the beauty of the Arabic language and its literature, and for the student to acquire the ability to study the branches of the Arabic language. -The student should avoid grammatical, spelling and linguistic errors in writing and in administrative correspondence.
9.Teaching and Learning Strategies	
Strategy	1-Develop the student's ability and spelling and writing skills. 2- Develop the student's literary taste so that he can realize the aesthetic aspects of speech styles, meanings and images. 3- Help the student understand complex structures and ambiguous styles and enable him to think accurately.

10.Course Structure

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

1	1	1. The student learns the corr- pronunciation of the words of Holy Quran.	The Holy Quran The Prophet's Hadith Surah Al-Baqarah, verses (260-263) Prophetic Hadith (Noble Mor	lectures Theoretical	Test at the en each lecture
2	1	2. The student becomes fami with the historical heritage Arabic poetry.	Arabic Literatur Pre-Islamic Era - The Mu'alla Poem of Antarah ibn Shaddac	lectures Theoretical	Test at the en each lecture
3	1	The student learns the origins of Arabic grammar rules.	Fundamentals of Morpholog Morphological Balance	lectures Theoretical	Test at the en each lectu
4	1	1. The student learns the rules Arabic grammar.	Arabic Grammar Rules Plural Nouns in Arabic.	lectures Theoretical	Test at the en each lecture
5	1	1. The student learns how and wh to conjugate verbs with pronouns	Arabic grammar Assigning verbs to pronouns.	lectures Theoretical	Test at the en each lecture
6	1	1- learns the rules of the Ara language	Arabic grammar. Verb conjugation by: soundness an weakness.	lectures Theoretical	Test at the en each lecture
7	1	1- learns the rules of the Ara language	Arabic grammar. Verb conjugation by: abstract and augmented	lectures Theoretical	Test at the en each lecture
8	1	1- learns the rules of the Ara language	Arabic grammar. Verb conjugation by: derivatives.	lectures Theoretical	Test at the en each lecture
9	1	1- learns the rules of the Ara language	Language skills. Alphat (solar and lunar)	lectures Theoretical	Test at the en each lecture
10	1	1- learns the rules of the Ara language	Language skills. Rules writing punctuation marks.	lectures Theoretical	Test at the en each lecture
11	1	1- learns the rules of the Ara language	Language skills. Rules writing the hamza (init medial, final, and the hamzat wasl and hamzat al-qata').	lectures Theoretical	Test at the en each lecture
12	1	1. The student will learn about methodologies used by authors arranging their linguistic dictionarie	Arabic dictionaries. Lexical schools.	lectures Theoretical	Test at the en each lecture

		.			
13	1	1. The student will learn the meani of words in the Holy Quran that require in-depth explanation.	The Book of Vocabulary by Raghib Al-Asfahani. Meanin of Western words in the kree Quran: tafhum, farsha, naqir	lectures Theoretical	Test at the en each lecture
14	1	1. The student will learn the alphabetical arrangement of dictionaries according to the poir of articulation of the letters.	Exercises on "Ain" and "Asa The curriculum of the "al-'A and "al-'Asas" schools, exercises in extracting words	lectures Theoretical	Test at the en each lecture
15	1	1. The student will learn about most common linguistic errors.	Arabic Grammar. Common linguistic errors.	lectures Theoretical	Test at the en each lecture
16	1	1. The student will learn the corr way to pronounce the words of Holy Quran	The Holy Quran and Prophetic Hadith. Surat Al-H verses 1-5 The Prophetic Hadith (The b among you is he who learns Qur'an and teaches it	lectures Theoretical	Test at the en each lecture
17	1	1- Introduction to the Diwan of al-Rumi	Arabic Literature. Ibn Al-Rur Ba'iyyah.	lectures Theoretical	Test at the en each lecture
18	1	1- Introduction to human values Arabic poetry	Arabic Literature. - Human values in Arabic poe - Islam and poetry.	lectures Theoretical	Test at the en each lecture
19	1	1-The student will learn Arabic grammar	Arabic Grammar Rules. - Parts of speech and diacritic - Inflected and uninflected no	lectures Theoretical	Test at the en each lecture
20	1	1-The student will learn Arabic grammar	Arabic Grammar Rules. - Definite and indefinite noun - Subject and predicate.	lectures Theoretical	Test at the en each lecture
21	1	1-The student will learn Arabic grammar	Arabic Grammar Rules. - Abrogators - The subject and the deputy subject.	lectures Theoretical	Test at the en each lecture

22	1	1-The student will learn Arabic grammar	A General Introduction to Arabic Rhetoric. Arabic rheto its definition, linguistic conce and terminology.	lectures Theoretical	Test at the en each lecture
23	1	1- The student will learn Arabic grammar	Arabic Rhetoric. The relationship of rhetorical sciences to the Arabic language.	lectures Theoretical	Test at the en each lecture
24	1	1-The student will learn Arabic grammar	Sciences of Rhetoric in Arabic Languag Simile, definition, and types	lectures Theoretical	Test at the en each lecture
25	1	1- The student will learn Arabic grammar	Similes in the Language. Simile, its definiti and types.	lectures Theoretical	Test at the en each lecture
26	1	1- The student will learn Arabic grammar	Metaphor in language Linguistic metaphor, its definition, relationships, an applications.	lectures Theoretical e	Test at the en each lecture
27	1	1- The student will learn Arabic grammar	Metaphor in language. Truth metaphor.	lectures Theoretical	Test at the en each lecture
28	1	1- The student will learn Arabic grammar	Metaphor in language. Mer metaphor, its definiti relationships, a applications.	lectures Theoretical	Test at the en each lecture
29	1	1- The student will learn Arabic gramma	Metaphor in Language. Metaphor, its definition, relationships, and applications.	lectures Theoretical	Test at the en each lecture
30	1	1- The student will learn Arabic grammar	Metonymy in Language. Metonymy, its definition, relationships, and applications.	lectures Theoretical	Test at the en each lecture

11.Course Evaluation

The degree is distributed

1- 20 marks for the first semester for practical.

2- 20 marks for the second semester for practical

3 - 10 marks for student activities

4 - 50 marks final exam .	
12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Subject teacher lectures
Main references (sources)	Scientific Websites
Recommended books and references (scientific journals, reports…)	Arabic-language magazines that effectiv support the curriculum .
Electronic References, Websites	Not found

Stage 2

Course Description Form

1. Course Name: Crimes of the Baath Regime in Iraq	
2. Course Code: ATU2012-24-YM	
3. Semester / Year: Second/annual	
4. Description Preparation Date 18/11/2025	
5. Available Attendance Forms: In-person	
6. Number of Credit Hours (Total) / Number of Units (Total) : 30hour , 2unit	
7. Course administrator's name (mention all, if more than one name)	
Name: A.L Mustafa Mohammed Email: Mustafa.Mohammed.iba4@atu.idu.iq	
8. Course Objectives	
	a. Developing the student's organized logical thought. B. Highlighting the most important reasons for the fall of the

Course Objectives	Baath Party regime and the heinous crimes it committed against the Iraqi people. C. Developing ideal attitudes and values and instilling the spirit of humanity, tolerance and patriotism in the student.

9. Teaching and Learning Strategies

Strategy	- Theoretical lectures - Discussions for students regarding the subject

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1	The student will be able to: 1- Understand the concept of crimes linguistically and technically	The term crime, language and concept	lectures Theoretical	Test at the end of each lecture + student discuss ion
2	1	1- Identify the categories of crimes	The term crime, language and concept	lectures Theoretical	Test at the end of each lecture + student discuss ion
3	1	1- Recognize the types of international crimes	The term crime, language and concept	lectures Theoretical	Test at the end of each lecture + student discuss ion
4	1	1- Understand the decisions issued by the Supreme Criminal Court	The term crime, language and concept	lectures Theoretical	Test at the end of each lecture + student discuss ion
5	1	1. The student will identify and classify the types of crimes. 2. The student will learn	The term crime, language and concept	lectures Theoretical	Test at the end of each lecture + student discuss ion

		about the effects of crimes and the most prominent violations committed by the Ba'athist regime in Iraq.			
6	1	1. The student will learn about psychological crimes and their mechanisms.	The term crime, language and concept	lectures Theoretical	Test at the end of each lecture + student discuss ion
7	1	1. The student will explore the mechanisms of psychological pressure and punishment. 2. The effects of psychological crimes.	The term crime, language and concept	lectures Theoretical	Test at the end of each lecture + student discuss ion
8	1	1. Understands the types of social crimes. 2. Section One: Types of Crimes	The term crime, language and concept	lectures Theoretical	Test at the end of each lecture + student discuss Ion
9	1	1. Social Crimes Section Two:	The term crime, language and concept	lectures Theoretical	Test at the end of each lecture + student discuss ion
10	1	1. Understands violations of Iraqi laws 2. Examples of laws Section One:	The term crime, language and concept	lectures Theoretical	Test at the end of each lecture + student discuss ion
11	1	1. Violations of Iraqi laws 2. Examples of laws Section Two:	The term crime, language and concept	lectures Theoretical	Student discussion
12	1	1. Understands some decisions regarding domestic violations 2. Military violations by the Ba'ath regime	The term crime, language and concept	Theoretical lectures + listening	Test at the end of each lecture
13	1	1. The student will learn about the locations of prisons in Iraq. 2. The student will learn about the most important detention centers of the Ba'ath regime.	The term crime, language and concept	lectures Theoretical	Student discussion

14	1	1. The student will learn about the environmental crimes committed by the Ba'ath regime.	The term crime, language and concept	lectures Theoretical	Test at the end of each lecture
15	1	1. The student will learn about the environmental crimes that occurred in Basra.	The term crime, language and concept	lectures Theoretical	Student discussion
16	1	1. The student will understand how radioactive contamination occurred in Halabja.	The term crime, language and concept	lectures Theoretical	Test at the end of each lecture + student discuss ion
17	1	1. The student learns about the methods used to destroy cities and villages.	The term crime, language and concept	lectures Theoretical	Test at the end of each lecture + student discuss ion
18	1	1. The student learns about the Battle of the Jasim River. 2. Burning oil wells.	The term crime, language and concept	lectures Theoretical	Test at the end of each lecture + student discuss ion
19	1	1. The student learns about draining the marshes.	The term crime, language and concept	lectures Theoretical	Test at the end of each lecture + student discuss ion
20	1	1. The student understands how palm groves, trees, and crops were bulldozed.	The term crime, language and concept	lectures Theoretical	Test at the end of each lecture + student discuss ion
21	1	1. The student learns an introduction to the crimes of mass graves.	The term crime, language and concept	lectures Theoretical	Test at the end of each lecture + student discuss ion
22	1	1. The student learns about the mass grave incidents perpetrated by the Ba'athist regime in 1963.	The term crime, language and concept	lectures Theoretical	Test at the end of each lecture + student discuss ion
23	1	. 1. Understands an introduction to the events spanning from 1979 to 2003.	The term crime, language and concept	lectures Theoretical	Test at the end of each lecture + student discuss ion

		2. Understands their relationship to mass graves.			
24	1	1. The student learns about the events of the Iran-Iraq War (1980-1988).	The term crime, language and concept	lectures Theoretical	Test at the end of each lecture + student discuss ion
25	1	1. The student understands the events of 1987-1988 and their relationship to mass graves.	The term crime, language and concept	lectures Theoretical	Test at the end of each lecture + student discuss ion
26	1	1. The student learns about the events of the 1991 Sha'ban Uprising.	The term crime, language and concept	lectures Theoretical	Test at the end of each lecture + student discuss ion
27	1	1. The student understands the connection between mass graves and the 1980-1988 war.	The term crime, language and concept	lectures Theoretical	Test at the end of each lecture + student discuss ion
28	1	1. The student learns about the mass graves of the Barzani Kurds (1983).	The term crime, language and concept	lectures Theoretical	Test at the end of each lecture + student discuss ion
29	1	1. The student learns about the mass graves of the 1991 Sha'ban Uprising (Part 1).	The term crime, language and concept	lectures Theoretical	Test at the end of each lecture + student discuss ion
30	1	1. The student learns about the mass graves of the 1991 Sha'ban Uprising (Part 2).	The term crime, language and concept	lectures Theoretical	Test at the end of each lecture + student discuss ion

11.

Course Evaluation

The degree is distributed
1- 20 marks for the first semester for practical.
2- 20 marks for the second semester for practical
3 - 10 marks for student activities
4 - 50 marks final exam

12.

13. Learning and Teaching Resources

Required textbooks (curricular books, if any)	A methodological book (Crimes of the Baath Regim Iraq) + lectures by the subject teacher
Main references (sources)	Reliable sources approved by the Ministry of Hig Education and Scientific Research
Recommended books and references (scientific journals, reports…)	Diverse cultural sources effectively support curriculum
Electronic References, Websites	Not found

Course Description Form

1. Course Name: Project

2. Course Code: MET205-24-YM

3. Semester / Year: Second/annual

4. Description Preparation Date: 8/10/2025

5. Available Attendance Forms: Theoretical lectures and discussions with the project supervisor + field visits to the site for implementing and completing the project work .

6. Number of Credit Hours (Total) / Number of Units (Total) : 60hour , 4 unit

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

Name: Assist.Prof. Zuher Hassan Abdullah
Email: inb.zuher74@edu.atu.iq
Name: A.T. Nawal Abdallah omran
EMAIL: nawal_omran@atu.edu.iq
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Name: A.T Zinab abd alabbas

Email: zainabalnamey68@gmail.com
Name: A.T Zainab Jawad Kazim
Zainab.kadhim.iba104@atu.edu.iq

8. Course Objectives

Course Objectives	− The student becomes able to create and create various typ and shapes of designs and manufacture and assemble mode in an accurate and organized scientific manner. − Expanding and developing the student's capacity imagination, imagination, creativity, and implementation.

9. Teaching and Learning Strategies

Strategy	The organization's workshops and laboratories and conducting practi experiments and various field practices in order to reach and achieve t goal.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	The student will be able to: 1- Understand what a project is. 2- Discuss the projects being tested and determine the work method and plan.	topic. Introduction to the project + the importance of the project	Collect various information about the project topic	Continuous discussion with students + supervisor follow-up
2	2	1- Identify and assign responsibilities for project completion. 2- Develop a project timeline.	topic. Introduction to the project + the importance of the project	Collect various information about the project topic	Continuous discussion with students + supervisor follow-up

3	2	1- Understand how to prepare drawings and operating cards. 2- Identify the different mechanical laboratory components involved in the project.	topic. Introduction to the project + the importance of the project	Collect various information about the project mechanical laboratories related to the project's parts.topic	Continuous discussion with students + supervisor follow-up
4-14	2	1- Understand project implementation within laboratory units. 2- Prepare progress reports. 3- Monitor weekly progress, production rates, and operational obstacles.	Implementing the project in the laboratory units and preparing reports on the stages that have been reached, along with weekly follow-up of the work progress of production rates and operating obstacles.	Directions theproject supervisor	Continuous discussion with students + supervisor follow-up
15	2	1. The student learns how to discuss their project with a committee and evaluate implementation plans for improvement (this is considered an assessment for the end of the first semester).	Implementing the project in the laboratory units and preparing reports on the stages that have been reached, along with weekly follow-up of the work progress of production rates and operating obstacles.	Directions theproject supervisor	Continuous discussion with students + supervisor follow-up
16-27	2	2. The student understands how to resume project implementation and complete the practical aspects. report (this is considered an assessment for the second semester).	Writing the pract part of the project	Preparing all the necessary materials and tools to complete the practical part of the project	Continuous discuss students + supervi follow-up
28	2	3. The student learns how to discuss project details. 4. Students are guided on how to prepare the	Writing the pract part of the project	Preparing all the necessary materials and tools to	Continuous discuss students + supervi follow-up

		final		complete the practical part of the project	
29	2	1. The student will be able to complete the project, both theoretically and practically. 2. The student will know how to prepare for the final discussion.	V Discussing project results	esearching	Continuous discussion with students + supervisor follow-up
30	2	3. The student will become familiar with the final project discussion.	V Discussing project results	esearching	Continuous discussion with students + supervisor follow-up

11. Course Evaluation

The degree is distributed
1- 30 marks for the first semester for practical.
2- 30 marks for the second semester for practical
3 - 10 marks for student activities
4 - 30 marks final exam

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Scientific sources directly related to the project topic selected and directed by the supervisor and proj students
Main references (sources)	Books and scientific sources directly related to the proj topic
Recommended books and references (scientific journals, reports...)	Scientific journals that address the practical a theoretical aspects of the project
Electronic References, Websites	Various scientific Internet sites that are directly related the essence of the project topic

Course Description Form

1. Course Name: Industrial Drawing

2. Course Code: MET206-24-YM

3. Semester / Year: Second/annual

4. Description Preparation Date: 18/11/2025

5. Available Attendance Forms: In-person

6. Number of Credit Hours (Total) / Number of Units (Total) : 90 hour , 6 unit

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

Name: A.L. Zainab Imad abdul-sattar
Email: zainab.abdul-sattar.iba106@atu.edu.iq

8. Course Objectives

Course Objectives	Teaching the student to draw mechanical parts Teaching students how to assemble mechanical parts Teaching the student the rules and dimensions needed to dra a mechanical part Teaching the student to cut assembled parts and how to spli them Teaching the student to project the combined figure Teaching the student to draw three-part mechanical parts assembled Teaching the student to read the mechanical part and sor into designs or blocks.

9. Teaching and Learning Strategies

Strategy	1-Theoretical lectures 2- Practical applications 3- Use DATA-SHOW 4- Use AUTO CAD program.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3	1. The student will learn a general review of the first-year topics in engineering drawing. 2. The student will learn about geometric lines, projections, and sections. 3. The student will learn how to add dimensions using AutoCAD.	projections and sections.	lectures Practical	Practical exercise
2−3	3	1. The student will understand methods of fastening using screws, types of screws, and types of nuts. 2. The student will be able to draw drawings.	projections and sections	lectures Practical	Practical exercise
4−5	3	1. The student will learn about fastening using dowels, their types, and their uses. 2. The student will learn how to	Drawing of mechanical parts.	lectures Practical	Practical exercise

		draw an assembly drawing.			
6–7	3	1-The student will learn about welding, welding symbols, and how to draw an assembly drawing with welding symbols.	Drawing of mechanical parts	lectures Practical	Practical exercise
8–9	3	1. The student understands rivet fastening, rivet shapes, and types of rivet fastening. 2. The student knows how to draw an assembly drawing.	Drawing of mechanical parts.	lectures Practical	Practical exercise
10	3	1. The student knows how to draw a practical drawing for disassembling and assembling a mechanical lever.	Drawing of mechanical parts.	lectures Practical	Practical exercise
11	3	1. The student learns about springs, their types, uses, and draws a drawing of a compression spring.	Drawing of mechanical parts.	lectures Practical	Practical exercise
12	3	1. The student will learn to draw a diagram showing the disassembly and assembly of an exhaust valve.	Drawing of mechanical parts.	lectures Practical	Practical exercise
13	3	1. The student will learn about shaft couplings (couplers), their types, and draw a diagram.	Drawing of mechanical parts.	lectures Practical	Practical exercise

14	3	1. The student will understand clutches, their types, and their uses, and draw a diagram.	Assembling mechanical parts.	lectures Practical	Semester exam
15		1. The student will understand bearings and draw an assembly diagram for a friction bearing.	Assembling mechanical parts	lectures Practical	Semester exam
16	3	1. The student will learn about pulleys and belts, their types, and their uses. 2. The student will learn how to draw two diagrams showing the assembly of parts containing different types of belt pulleys.	Assembling mechanical parts.	lectures Practical	Semester exam
17–18	3	1. The student will learn about gears, their types, and basic definitions of spur gears. 2. The student will learn to draw a spur gear diagram and a diagram showing the engagement of a spur gear.	Assembling mechanical parts.	lectures Practical	Semester exam

19–20 21–22	3	1. The student will understand bevel gears and draw a diagram showing the engagement of a bevel gear. 2. The student will receive an introduction to the Autodesk Inventor software.	Assembling mechanical parts.	lectures Practical	Semester exam
23	3	1. The student will learn about the two-dimensional drawing environment.	Complex grouping exercises	lectures Practical	Semester exam
24–25	3	2. The student will learn about the assembly environment.	Complex grouping exercises	lectures Practical	Semester exam
26–27	3	1. Understands the dynamic analysis and motion environment.	Complex grouping exercises	lectures Practical	Semester exam
28	3	1. Recognizes additions to drawings.	Complex grouping exercises	lectures Practical	Semester exam
29–30	3	1. Students become familiar with a project within their department's specialization. 2. Understands the practical application of a part of any operational system.	Complex grouping exercises	lectures Practical	Semester exam

11.Course Evaluation
The degree is distributed

1- 20 marks for the first semester for practical. 2- 20 marks for the second semester for practical 3 - 10 marks for student activities 4 - 50 marks final exam

12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Drawing and design books Educational bag
Main references (sources)	Electronic scientific websites
Recommended books and references (scientific journals, reports…)	-Scientific sources 2- Websites
Electronic References, Websites	Continuing education courses

Course description Form

1. Course Name: Management & occupational safety
2. Course Code: MET207-24-YM
3. Semester / Year: Second/annual
4. Description Preparation Date: 18/11/2025
5. Available Attendance Forms: In-person
6. Number of Credit Hours (Total) / Number of Units (Total) : 60hour , 4 unit
7. Course administrator's name (mention all, if more than one name)
Name: Assist. Prof. Zuher Hassan Abdullah Email: inb.zuher74@edu.atu.iq

8. Course Objectives	
Course Objectives	Teaching and training the student to recognize the control charts, international specifications, and industrial safety foun in laboratories, and to manage those laboratories, diagrams, and safety precautions. Teaching the student to project the combined figure Teaching the student to draw three-part mechanical parts assembled

9. Teaching and Learning Strategies	
Strategy	-1 Theoretical lectures - 2- Use the blackboard

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2 hours	The student will be able to: 1- Understand management and its development, including the stages and evolution of management. 2- Understand the basic principles of management and its characteristics.	Management administrative operations.	lectures Theoretical	Theoretical surprise exams
2	2 hours	1- Understand administrative functions and industrial engineering. 2- Understand the characteristics of industrial management.	Management and administrative operations.	lectures Theoretical	Theoretical surprise exams
3	2 hours	1- Understand how to organize an industrial unit.	Management and administrative	lectures Theoretical	Theoretical and surprise exams

		2- Understand the main factors influencing the selection of industrial project sites.	operations.		
4	2 hours	1- Understand feasibility studies for industrial projects: an overview of feasibility studies for industrial projects. 2- Understand the stages of feasibility studies.	Management and administrative operations.	lectures Theoretical	Theoretical and surprise exams
5	2 hours	1. The student will learn about production planning and its concept. 2. The student will understand the purpose of production planning and control.	Management and administrative operations.	lectures Theoretical	Theoretical and surprise exams
6	2 hours	1. The student will learn about types of production and methods of production planning. 2. The student will understand linear programming, graphical programming, and transfer programming.	Management and administrative operations.	lectures Theoretical	Theoretical and surprise exams
7	2 hours	1. The student will learn to discuss reports submitted by them and take a test.	Management and administrative operations.	lectures Theoretical	Theoretical and surprise exams
8	2 hours	1. The student will understand the purpose of work and standard time studies, as well as work studies and work study methods. 2. The student will learn about method studies, time studies, and work measurement.	Management and administrative operations.	lectures Theoretical	Theoretical and surprise exams
9	2 hours	1. Students will learn about maintenance, its importance, and the concept of a technological system.	Management and administrative operations.	lectures Theoretical	Theoretical and surprise exams
10	2 hours	1. Students will learn about types of maintenance and types of	Management and administrative	lectures Theoretical	Theoretical and surprise exams

		malfunctions.	operations.		
11	2 hours	1. Students will understand the concept of training, its importance, and training methods.	Management and administrative operations.	lectures Theoretical	Theoretical and surprise exams
12	2 hours	1. Students will understand the topic of industrial costs and wages. 2. Students will learn about the classification of costs and wages.	Management and administrative operations.	lectures Theoretical	Theoretical and surprise exams
13	2 hours	1. Students will learn about the methods used to calculate wages. 2. Students will learn about incentives and their types.	Management and administrative operations.	lectures Theoretical	Theoretical and surprise exams
14	2 hours	1. The student will learn about purchasing management and the steps involved in purchasing. 2. The student will understand inventory management, the types of stored materials, and methods for controlling them.	Management administrative operations.	lectures Theoretical	Theoretical surprise exams
15	2 hours	1. The student will learn about industrial safety, accidents, types of accidents, and ways to prevent accidents. 2. The student will learn about personal protective equipment and its types.	Quality control charts	lectures Theoretical	Theoretical and surprise exams
16	2 hours	1. The student will understand what quality control means. 2. The student will understand the meaning of control and the meaning of quality.	Quality control charts	lectures Theoretical	Theoretical and surprise exams
17	2 hours	1. The student will understand the definition of quality, quality specifications, and the factors that control quality. 2. The student will learn methods for developing and improving	Quality control charts	lectures Theoretical	Theoretical and surprise exams

		quality, design, conformity assessment, and international and Iraqi standards.			
18	2 hours	1. Students will learn about quality control methods and sampling inspection plans. 2. Students will learn about inspection and testing methods.	Quality control charts	lectures Theoretical	Theoretical and surprise exams
19	2 hours	1. Students will learn about the workability curve and design quality. 2. Students will understand how to collect data (its types and analysis).	Quality control charts	lectures Theoretical	Theoretical and surprise exams
20	2 hours	1. Students will learn about the most important types of quality control charts.	Quality control charts	lectures Theoretical	Theoretical and surprise exams
21	2 hours	1. Students will learn how to prepare and use the mean chart. 2. Students will learn how to prepare and use the Pareto chart.	Quality control charts	lectures Theoretical	Theoretical and surprise exams
22	2 hours	1. Students will learn how to prepare a chart with standard deviation. 2. Students will learn how to prepare a defects chart.	Quality control charts	lectures Theoretical	Theoretical and surprise exams
23	2 hours	1. Students will learn how to prepare and use scatter plots.	Quality control charts	lectures Theoretical	Theoretical and surprise exams
24	2 hours	1. Students will learn how to prepare quality control plots for standard deviation and the percentage of defective units. 2. Students will learn about histograms (their preparation and use).	Quality control charts	lectures Theoretical	Theoretical surprise exams
25	2 hours	1. Students will learn how to prepare control plots for variables (control plot for the arithmetic mean (X-chart).	Quality control charts	lectures Theoretical	Theoretical surprise exams

26	2 hours	1. The student will learn how to prepare control charts for variables (R-chart for range and δ-chart for standard deviation).	Quality control charts	lectures Theoretical	Theoretical and surprise exams
27	2 hours	1. The student will learn how to prepare control charts for features (P-chart for percentage of defective units).	Quality control charts	lectures Theoretical	Theoretical surprise exams
28	2 hours	1. The student will learn about control charts for features (C-chart for number of defects in a single item).	Quality control charts	lectures Theoretical	Theoretical and surprise exams
29	2 hours	1. The student will learn about control charts for features (U-chart for average number of defects in a group of items).	Quality control charts	lectures Theoretical	Theoretical surprise exams
30	2 hours	1. The student will be able to discuss reports submitted by them, along with a test.	Quality control charts	lectures Theoretical	Theoretical surprise exams

11.

11.Course Evaluation
The degree is distributed 1- 20 marks for the first semester for practical. 2- 20 marks for the second semester for practical 3 - 10 marks for student activities 4 - 50 marks final exam

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Industrial Management Book - Acer Soussan
Main references (sources)	Electronic scientific websites
Recommended books and references (scientific journals, reports…)	-Scientific reports 1-Scientific sources 2- Websites
Electronic References, Websites	Periodic visits to laboratories and factories continuous education .

Course Description Form

1. Course Name: Metallurgy
2. Course Code: MET203-24-YM
3. Semester / Year: Second/annual
4. Description Preparation Date : 18/11/2025
5. Available Attendance Forms: In-person
6. Number of Credit Hours (Total) / Number of Units (Total) : 120 hour , 8 unit
7. Course administrator's name (mention all, if more than one name)
Name: L .Malik Abd Al Husian Email: malik.alhusayn.iba@atu.edu.iq

8. Course Objectives	
Course Objectives	Teaching and training students to learn about metallurgy, the composition metal blocks, common defects in castings, learn about plastic and elas formation, learn about stress curves, heat balance diagrams, and therm coefficients, and learn about corrosion and its economic costs.

9. Teaching and Learning Strategies	
Strategy	1- Theoretical lectures + practical lectures **2**- Use the blackboard

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	The student will be able to: 1- Define mineralogy, crystallization, and dendritic crystallization. 2- Recognize the effect of the cooling rate on mineral structure.	The theory of plastic and elastic formation	lectures theoretical and Practical	Theoretical and surprise exams
2	4	1- Identify the composition of mineral masses (solidification of castings). 2- Discover common defects in castings.	The theory of plastic and elastic formation	lectures theoretical and Practical	Theoretical and surprise exams
3	4	1- Define the atomic density index and crystallographic orientations. 2- Recognize crystal planes and the phenomenon of inclination.	The theory of plastic and elastic formation	lectures theoretical and Practical	Theoretical and surprise exams
4	4	1- Identify the most important defects in the crystal lattice.	The theory of plastic and elastic	lectures	Theoretical and surprise exams

		2- Identify the types of defects: point and line.	formation	theoretical and Practical	
5	4	1. The student understands elastic and plastic deformation (slip, twinning).	The theory of plastic and elastic formation	lectures theoretical and Practical	Theoretical and surprise exams
6	4	1. The student learns about strain hardening. 2. The student learns about cold forming and hot forming theories.	The theory of plastic and elastic formation	lectures theoretical and Practical	Theoretical and surprise exams
7	4	1. The student understands the processes of restoration and recrystallization. 2. The student learns about crystal growth.	Crystal growth in Metals	lectures theoretical and Practical	Theoretical and surprise exams
8	4	1. Recognizes stress-strain curves in bending and flexion. 2. Understands types of fracture and the transition from ductile to brittle fracture.	Stress- Strain diagram	lectures theoretical and Practical	Theoretical and surprise exams
9	4	1. Understands fatigue and its mechanisms. 2. Recognizes factors affecting the fatigue limit and fatigue-resistant materials.	Metals Fatigue	lectures theoretical and Practical	Theoretical and surprise exams
10	4	1. Understands creep and its mechanisms. 2. Understands creep-resistant materials.	Metals Creep	lectures theoretical and Practical	Theoretical and surprise exams
11	4	1. Understands compounds, phases, solid solutions, and systems. 2. Recognizes equilibrium diagrams and alloy formation.	Thermal equilibrium diagrams	lectures theoretical and Practical	Theoretical and surprise exams

12	4	1. Recognizes the thermal equilibrium diagram for a fully soluble binary system in the liquid and solid states. 2. Recognizes the thermal equilibrium diagram for a fully soluble binary system in the liquid state.	Thermal equilibrium diagrams	lectures theoretical and Practical	Theoretical and surprise exams
13	4	1. Recognizes the thermal equilibrium diagram for a fully soluble binary system in the liquid state. 2. Recognizes the diagram for a partially soluble binary system in the solid state.	Thermal equilibrium diagrams	lectures theoretical and Practical	Theoretical and surprise exams
14	4	1. Recognizes the thermal equilibrium diagram for a fully soluble binary system in the liquid state. 2. Recognizes the diagram for the formation of a chemical compound upon freezing.	Thermal equilibrium diagrams	lectures theoretical and Practical	Theoretical and surprise exams
15	4	1. The student learns about the metal iron and the solubility of carbon in iron. 2. The student understands the thermal equilibrium diagram for an iron/carbon system and the most important reactions included in the diagram.	Iron-Carbon thermal equilibrium diagram	lectures theoretical and Practical	Theoretical and surprise exams
16	4	1. The student understands the completion of the thermal equilibrium diagram for an iron/carbon system.	Iron-Carbon thermal equilibrium diagram	lectures theoretical and Practical	Practical exams
17	4	1. The student will understand the theory of austenite formation and the mechanism of pearlite conversion to austenite.	Heat Treatment	lectures theoretical and Practical	Practical exams

18	4	1. The student will understand the transformations of austenite under constant temperature conditions. 2. The student will understand the transformations under continuous cooling.	Heat Treatment	lectures theoretical and Practical	Practical exams
19	4	1. The student will learn about the different types of heat treatments (annealing, tempering, and standardization).	Heat Treatment	lectures theoretical and Practical	Practical exams
20	4	1. The student will understand the continuation of heat treatments (standardization and tempering). 2. The student will learn about sub-zero heat treatments and aging.	Heat Treatment	lectures theoretical and Practical	Practical exams
21	4	1. Students will learn about surface hardening (carburizing of various types and the heat treatments that follow it), tempering, and annealing.	Surface Hardening	lectures theoretical and Practical	Practical exams
22	4	1. Students will learn about alloy steel and the effect of alloying elements on steel properties.	Alloy - Steel	lectures theoretical and Practical	Practical exams
23	4	1. The student learns what stainless steel is. 2. The student learns about tool steel.	Stainless - Steel	lectures theoretical and Practical	Practical exams
24	4	1. The student understands the production process of cast iron and its main heat properties.	Cast – Iron	lectures theoretical and Practical	Practical exams
25	4	1. The student completes the section on cast iron production and its main types.	Types of Cast – Iron	lectures theoretical and Practical	Practical exams

26	4	1. The student understands the definition of corrosion, its direct and indirect economic costs, and its manifestations. 2. The student understands the mechanism of corrosion.	Corrosion and its mechanism	lectures theoretical and Practical	Practical exams
27	4	1. The student knows the meaning of passivity, Faraday's law of general corrosion, galvanic corrosion, and cavernous corrosion.	Applications of Corrosion	lectures theoretical and Practical	Practical exams
28	4	1. Students will learn about soil-related erosion, selective erosion, intercrystalline erosion, and stress-related erosion.	Types of Corrosion	lectures theoretical and Practical	Practical exams
29	4	1. Students will learn about optimal material selection, environmental mitigation, design, and operation.	Selection of Materials	lectures theoretical and Practical	Practical exams
30	4	3. Students will learn about methods of preventing erosion.	Disadvantages of Corrosion	lectures theoretical and Practical	Practical exams

11. Corse Evaluation

The degree is distributed
1- 20 marks for the first semester for practical.
2- 20 marks for the second semester for practical
3 - 10 marks for student activities
4 - 50 marks final exam .

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Curriculum book

Main references (sources)	Electronic scientific websites
Recommended books and references (scientific journals, reports…)	Scientific books on minerals
Electronic References, Websites	1-Scientific sources

Course Description Form

1. Course Name: Computer and Artificial Intelligence	
2. Course Code: ATU2015-24-YM	
3. Semester / Year: Second/annual	
4. Description Preparation Date: 18/11/2025	
5. Available Attendance Forms: In-person	
6. Number of Credit Hours (Total) / Number of Units (Total) : 30hour , 6 unit	
1 theoretical hour + 1 practical hours	
7. Course administrator's name (mention all, if more than one name)	
Name: A.L. Zainab abd Al Abbas Email: zainabalnamey68@gmail.com	
8. Course Objectives	
Course Objectives	Training students on the use of artificial intelligence programs, explaini the types of networks, their components, and how to troubleshoot the Addressing the history of artificial intelligence, challenges, and ethi

	values, and using AI methods and techniques in computers.

9. Teaching and Learning Strategies	
Strategy	-1 - Theoretical lectures + practical lectures - 2- Use the blackboard - 3- Use the smart scree

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1	The student will be able to: 1- Identify artificial intelligence networks and their components 2- Identify different types of networks	Artificial Intelligence Program.	lectures theoretical	Theoretical exams
2	1	3- Understand the fundamentals of network security	Introduction and Introduction to Computer Security Programs.	lectures theoretical	Theoretical exams
3	1	4- Identify threats in artificial intelligence networks	Introduction to Understanding Network Threats.	lectures theoretical	Theoretical exams
4	1	1- Detect and fix errors in artificial intelligence networks.	Troubleshooting and Maintenance.	lectures theoretical	Theoretical exams
5-6	1	1. The student understands the concept of e-	E-Commerce.	lectures theoretical	Theoretical exams

		commerce. 2. The student learns about online banking services.			
7-8	1	1. The student learns about mobile banking services. 2. The student learns about ATMs.	Using ATMs and debit cards.	lectures theoretical	Theoretical exams
9-10	1	1. The student understands how electronic services via SMS work.	Mobile phone software.	lectures theoretical	Theoretical exams
11-12	1	1. The student understands electronic alerts.	Artificial intelligence alert software.	lectures theoretical	Theoretical exams
13	1	1. The student discovers and fixes computer errors.	Software encountered by computer users.	lectures theoretical	Theoretical exams
14-15	1	1. The student learns basic error detection techniques and tools in computer networks.	Software for diagnosing and resolving problems.	lectures theoretical	Theoretical exams
16	1	1. The student learns the definition of artificial intelligence. 2. The student knows the history of artificial intelligence.	Microsoft Excel 2010	lectures theoretical	Theoretical exams
17	1	1. The student learns artificial intelligence	Introduction to Artificial Intelligence.	lectures theoretical	Theoretical exams

		techniques and methods.			
18	1	1. The student understands the ethical challenges and values.	Applying Ethical Values to Programming.	lectures theoretical	Theoretical exams
19-20	1	1. The student will learn about the importance of artificial intelligence in our daily lives. 2. The student will learn about artificial intelligence in smartphones and virtual platforms such as Google.	Everyday Applications of Artificial Intelligence.	lectures theoretical	Theoretical exams
21-22	1	1. The student understands the applications of artificial intelligence in education and healthcare. 2. The student learns about marketing processes, advertising, transportation, and finance.	artificial intelligence	lectures theoretical	Theoretical exams
23-24-25	1	1. The student will understand AI and society. 2. The student will understand how AI affects social and international relations and the future of humanity.	artificial intelligence	lectures theoretical	Theoretical exams
26-27-28	1	1.Ethical Challenges in Artificial Intelligence: AI Ethics, Privacy and Surveillance, and	artificial intelligence	lectures theoretical	Theoretical exams

		the Impact of AI on the Labor Market.			
29-30	1	1. The student will recognize the ethical challenges of AI. 2. The student will understand AI ethics, privacy and surveillance, and the impact of AI on the job market.	artificial intelligence	lectures theoretical	Theoretical exams

11. Core Evaluation

The degree is distributed
1- 20 marks for the first semester for practical.
2- 20 marks for the second semester for practical
3 - 10 marks for student activities
4 - 50 marks final exam

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Printed material teacher lectures and others
Main references (sources)	Help books from scientific websites
Recommended books and references (scientific journals, reports…)	1-Scientific sources 2- Websites
Electronic References, Websites	Continuing education courses

Course Description Form

1. Course Name: Work Shops 2

2. Course Code: MET204-24-YM

3. Semester / Year: Second/annual

4. Description Preparation Date: 18/11/2025

5. Available Attendance Forms: In-person

6. Number of Credit Hours (Total) / Number of Units (Total) : 240hour , 16 unit
1 theoretical hour + 2 practical hours

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

Name: En. Salam Hamad Hamza
Email: sala60521@gmail.com

8. Course Objectives

Course Objectives	Discussing the practical side of the Mechanics Department/Production Bran and introducing the student to the most important mechanical workshops a learning about their many different types and the technological methods used arranging the lines of each workshop according to the sequence of steps making the works for each workshop.

9. Teaching and Learning Strategies

Strateg	- Teaching how to use the machines correctly by having the student stand the machine himself and operate it. - Learning by holding training courses and ongoing scientific seminars to ho the student's talent in workshops - Publishing educational posters and information boards for each workshop - Identify and learn how to use the personal protective equipment that t worker uses in the work environment to avoid the occurrence of various typ of accidents and make the work environment as safe .

10. Course Structure

We	H	Required Learning Outcomes	Unit or subject	Learning	Evaluat

ek	ours		name	method	ion method
1-5	8	Horizontal Milling Machine, Combined Main Unit. 1- The student learns how to explain the machine's parts and the function of each, machine operation, speed and feed selection, machine tools and attachments, their uses and installation methods, dividing heads, chucks, and the rotary table. 2- The student becomes familiar with combined milling heads and the toothed rack head.	Milling	Practical	Practical tests in week
	8	Dividing Heads and Their Uses: 1- The student will learn about the dividing head and how to use it, including simple dividing, dividing using hole circles, differential dividing, and angle dividing. They will also practice different types of dividing (partial dividing and angle dividing). 2- The student will learn about milling straight gears on general-purpose machines and spur gears. 3- The student will learn the laws governing gear cutting and the types of cutters used.	Milling	Practical	Practical tests in week
		1. The student learns to mill bevel gears on general-purpose machines. 2. The student learns to mill helical gears and inclined toothed racks on general-purpose machines.		Practical	Practical tests in week
		Internal Slot Milling 1. The student will learn about curve milling, the general rules for each operation, the steps involved, and how to prepare raw materials.	. Milling	Practical	Practical tests in week

		2. The student will learn how to select cutters, choose machining rates, perform milling operations, and review workpiece dimensions.			
		Milling Machine Maintenance: 1- Learn how to disassemble and assemble the spindle. 2- Learn how to open, maintain, and assemble the machine table. 3- Learn how to open the main cutter gearbox, change speeds, and reassemble it.	Milling	Practical	Practical tests in week
1-5	8	1. The student will learn about grinding machines: (Internal and external cylindrical grinding, centerless grinding, surface grinding, tool sharpening) 2. The student will learn about grinding wheels: Their shapes, types, specifications, uses, and how to prepare grinding wheels for machining (balancing and leveling). 3. The student will learn about surface grinding machines.	Grinding machines	Practical	Practical tests in week
1-5	8	- The student will learn about cylindrical grinding: The machine's components, how to operate it, and how to adjust the operating speed. 2- The student will learn how to secure workpieces, use cooling fluids, and use measuring instruments.	Grinding machines	Practical	Practical tests in week
	8	1-Eccentric grinding and grinding of cranks. 2-Various grinding operations using previous grinding operations and training on them.	. Grinding machines	Practical	Practical tests in week
1-5	8	1. The student understands eccentric grinding and			

		crankshaft grinding. 2. The student understands various grinding operations using previously learned grinding processes and practice.	sharpening machine	Practical	Practical tests in week
1-5	8	1. The student will learn about tool sharpening machines. 2. The student will learn how to operate tool sharpening machines, how to handle them, and how to select the appropriate machine for sharpening a specific tool. 3. The student will learn how to mount the cutting tool on the machine and determine the required angles for the cutting edge.	grinding machines	Practical	Practical tests in week
1-5	8	1. The student understands how to maintain grinding machines (general internal and external cylindrical grinding machines). 2. The student learns how to change the coolant and determine the required level. 3. The student knows how to identify the lubrication points for the machine and the appropriate type of oil and grease.	Scraping (5 weeks)	Practical	Practical tests in week
1-5	8	1. The student will learn about mortise and tenon planers: the difference between their uses, the machine parts, and how they work. 2. The student will learn about the workpieces and surfaces that can be machined using the tools used.	Scraping (5 weeks	Practical	Practical tests in week
1-5	8	1- The student practices exercises for scraping surfaces and complete works, parts of molds, V-blocks, drill bases.	Scraping (5 weeks	Practical	Practical tests in week
1-5	8	1- The student takes training on scraping arches,	Scraping (5	Practical	Practical

		making grooves on circular workpieces using dividing devices on scrapers.	weeks		tests in week
1-5	8	1- The student learns about various scraping exercises.	Scraping (5 weeks	Practical	Practical tests in week
1-5	8	1. The student will learn about the maintenance of a rammer milling machine. 2. The student will learn about the maintenance of a trolley milling machine. 3. The student will learn about the operation of the crocodile valve and the maintenance of parts for controlling stroke length and stroke position.	Lathing (5 weeks)	Practical	Practical tests in week
		1. The student learns the meaning of eccentric turning and turning using a four-way eyepiece. 2. The student understands methods of securing specialized workpieces. 3. The student works through exercises on various eccentric workpieces.		Practical	Practical tests in week
		The student learns external and internal turning and shaping turning. 2- Exercises in various turning operations using shaping tools.		Practical	Practical tests in week
		1- The student learns about turret lathes: A general overview of turret lathes and the use of speed and feed tables.		Practical	Practical tests in week

		2- The student practices machining various products and preparing their sequences.			
		The student deals with the pens and tools used, how to adjust them, and how to prepare to make various crafts.	Lathe maintenance	Practical	Practical tests in week
1-5	8	1. The student learns how to disassemble and maintain three- and four-piece samples. 2. The student learns how to disassemble and maintain the tailstock. 3. The student learns how to maintain the main parts gearbox and calculate the feed speed.	Machines programmed using G-Code	Practical	Practical tests in week
		1. Provides a brief history of CNC machines, the differences between conventional and CNC machines, and the operational stages of CNC machines. 2. Defines machine components, including the drive axes and control panel, and provides practical demonstrations of machine operation.	Linear motion	Practical	Practical tests in week
		1. The student understands the program structure, how to program milling machines, the functions used in programmed machines, and the motion coordinate functions (G17, G18, G19) and (G90, G91). 2. The student performs a simulation using simulation software and learns how to use the software. 3. The student performs movements using a manual control device and resets the machine.	program milling machines	Practical	Practical tests in week
		1- The student will learn about linear motion functions (G1, G2) and functions for storing the zero point of the segment (reference points).	program milling machines		Practical

		2- The student will learn about the auxiliary functions F, M, S, T. 3- The student will execute a face milling program using the commands.		Practical	tests in week
		1. The student learns to create a program to perform circular cuts (quarter circle, semicircle, full circle) and apply it to the computer. 2. The student creates a program to perform two exercises, one relief and the other engraving, and applies it to the computer.	program milling machines	Practical	Practical tests in week
1-5	8	1. The student learns constant functions, a single-stage punching function, and a multi-stage punching function. 2. The student learns to execute a program using the above functions, implement it on a computer using simulation software, and then execute it on a machine. 3. The student learns how to maintain the machine and how to replace parts.	Vocabularies for the workshop of programmed machines that operate with the CAD-CAM system	Practical	Practical tests in week
		1. Introducing students to CNC machines, their accessories, and associated software. 2. Identifying the components of a CNC lathe, including control panel keys and their functions, number of cutting tools, and machine axes. 3. Learning to use CAD/CAM software to design and simulate engineering products on a computer.	programmed machines	Practical	Practical tests in week
		1- Learning how to identify faulty parts or define a new set. 2- Implementing a complete product on the machine, starting from the design phase using CAD/CAM software, through the simulation	programmed machines	Practical	Practical tests in week

		process, and ending with the product's implementation on the machine.			
		1- Identifying the parts of a CNC milling machine: control panel keys and their function. 2- Using CAD/CAM software to design an engineering product.	programmed machines	Practical	Practical tests in week
		1. Understanding how to replace damaged parts or define new parts. 2. Implementing a complete product on the machine, starting from the design phase in CAD/CAM software, through the simulation process, and ending with the product's implementation on the machine.	programmed machines	Practical	Practical tests in week

11. Cores Evaluation

The degree is distributed
Continuing education during the academic year. Each workshop is evaluated out of 100 points distributed as follows: 60 speed and accuracy in completing the exercise 20 professional behavior 20 activity Total 100. The workshop scores are added together and divided by their number to obtain the final score out of 100.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Fundamentals and operations book.
Main references (sources)	Books on mechanical operations, sources maintenance of machines and equipment.
Recommended books and references (scientific journals, reports…)	Fundamentals and operations book.
Electronic References, Websites	Continuing education courses

Course Description Form

1. Course Name: Machine parts

2. Course Code: MET201-24-YM

3. Semester / Year: Second/annual

4. Description Preparation Date: 18/11/2025

5. Available Attendance Forms: In-person

6. Number of Credit Hours (Total) / Number of Units (Total): 90 hour , 6 unit

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

Name: P. Abbas Ali Mahmoud
Email: abbas.mahmood@atu.edu.iq

8. Course Objectives

Course Objectives	Teaching second-year students on the mechanical design of mach parts based on the stresses affecting the part, mainly On the stress-strain curve, from which all information related to coefficient of vision and strain is extracted, and the design is accord to the curve on the side that relates to the flexibility stage.

9. Teaching and Learning Strategies

Strategy	- Theoretical lectures + use of the blackboard + Internet review + data shaw reports - Identify and learn how to use the personal protective equipment t the worker uses in the work environment to avoid the occurrence of vari types of accidents and make the work environment as safe and clean as possi

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3	1- The student	Stress	lectures theoretical	duty.

		becomes able to review the strength of the materials.	analysis		
2−3	3	1. The student will learn about screw-in connections. 2. The student will learn about the types of screw-in connections and their designs.	How to connect parts	lectures theoretical	duty.
4−5	3	1- The student learns about welded joints and their types	How to connect parts	lectures theoretical	Discussion + assignments.
6−7	3	1- The student learns about threaded connections, bolt design for fastening, and bolt design for power transmission.	How to connect parts	lectures theoretical	duty.
8−9	3	1- The student learns about key joints and their types	How to connect parts	lectures theoretical	Discussion + assignments.
10−11	3	1- Understands friction clutches and their types	Transmission.	lectures theoretical	duty.
12−13	3	1. The student will learn about different types of springs and their design.	Transmission.	lectures theoretical	Discussion + assignments.
14−15	3	1. The student will learn about different types of belts and their design.	Machine columns	lectures theoretical	Discussion + assignments
16−17	3	1. The student will learn how to design a shaft.	Clutches and spacers	lectures theoretical	Discussion + assignments.

18−19	3	1. Learns to design the main rotating part.	Clutches and spacers	lectures theoretical	discussion.
20	3	1. Learns to select the sliding spur.	Gear design.	lectures theoretical	discussion.
21−22	3	1. Understands gear design using Lewis structure.	Gear design.	lectures theoretical	discussion.
23−24	3	Gears Trains	Gear design.	lectures theoretical	Surprise exams
25−26	3	1- The student designs a simple gearbox	Gear design.	lectures theoretical	And discussion within the lecture.
27−28	3	1- Identifying worm gears	Movement control.	lectures theoretical	Surprise exams
29−30	3	1- He designs cams (irregular circular parts)	Suppress and simplify forces	lectures theoretical	Surprise exams

11.Course Evaluation

The degree is distributed :
1- 20 marks for the first semester for practical.
2- 20 marks for the second semester for practical
3 - 10 marks for student activities
4 - 50 marks final exam

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Subject teacher lectures
Main references (sources)	Websites
Recommended books and references (scientific journals, reports…)	Weekly scientific reports
Electronic References, Websites	Various websites and internet browsers

Course Description Form

1. Course Name: Manufacturing Processes 2
2. Course Code: MET202-24-YM
3. Semester / Year: Second/annual
4. Description Preparation Date: 18/11/2025
5. Available Attendance Forms: In-person
6. Number of Credit Hours (Total) / Number of Units (Total) : 120hour , 8 unit
7. Course administrator's name (mention all, if more than one name)
Name: L. Raed Salman Saeed Email: raed.saeed@atu.edu.iq
8. Course Objectives

	Teaching second stage students on cognitive and practical skills in differe

Course Objectives	metal manufacturing methods (traditional and non-traditional) And the modern ones that include electronic computers in their work, as well preparing operating cards for mechanical products and calculating forces, tin and other factors related to manufacturing.

9. Teaching and Learning Strategies

Strategy	- Surprise question about the lecture topic . - A quick review of the topics covered during the lecture . - Quick review of the previous lecture .

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	The student will be able to: 1- Understand what geometric 2- tolerances, couples, couple systems, tolerance orders are.	Interferences and allowances	lectures Theoretical and Practical	Practical exams
2	4	1- Understands types of tolerances, hole basic system, column basic system, duplication symbols, tolerances for free dimensions	Mechanical.	lectures Theoretical and Practical	In the workshops .
3	4	1. The student will understand geometric tolerances in shape and position, and the different types of shape and position tolerances.	Interferences and allowances	lectures Theoretical and Practical	
4	4	1. The student will understand measurement parameters and their design. 2- He knows the most important types of measurement parameters (internal measurement parameters, external measurement parameters)	Interferences and allowances	lectures Theoretical and Practical	Practical exams

5	4	1. Understands the classification of metal manufacturing and metalworking. 2. Receives an introduction to chip formation theory and the factors affecting it, as well as workpiece fixing methods.	Mechanical.	lectures Theoretical and Practical	In the workshops .
6	4	1- Identifying the tools used and how to fix them to the workpieces, lathe tools for shaping.	Interferences and allowances	lectures Theoretical and Practical	Practical exams
7	4	1. Identifying the different types of lathe tool angles and their effect on the cutting process. 2. Understanding the applications of various cutting speeds.	Interferences and allowances	lectures Theoretical and Practical	Practical exams
8	4	1- The student will learn about the cutting edge, the resulting cutting edge and its formation theory, and the factors that affect it.	Mechanical.	lectures Theoretical and Practical	In the workshops .
9	4	1- The student will learn how to perform a worksheet for a group of operations, calculate its components, and calculate the cutting time for each operation.	Roughness measurement.	lectures Theoretical and Practical	Practical exams
10	4	1. Understands how to utilize the sequence c to create a product path through different units 2. Recognizes the factors that influence the selection of cutting speed.	Roughness measurement.	lectures Theoretical and Practical	Practical exams
11	4	1. The student will learn about turret lathes and automatic lathes. 2. The student will learn how to prepare operating cards.	Roughness measurement.	lectures Theoretical and Practical	In the workshops .
12	4	1- Understands the types of numbers used and their arrangement on the front and back hexagonal and quadrilateral heads.	Roughness measurement	lectures Theoretical and Practical	Practical exams
13	4	1. The student will learn how to program automated lathes. 2. The student will examine the factors affecting the machining process.	Roughness measurement.	lectures Theoretical and Practical	Practical exams
14	4	1. The student will learn about the topic milling. 2. The student will learn about the parts and	measurement.	lectures Theoretical and Practical	In the workshops .

		components of horizontal and vertical milling machines and the nature of the work of each part.			
15	4	1- The student understands machine accessories, dividing heads, workpiece fasteners, clamps, and bushings.	Roughness measurement.	lectures Theoretical a Practical	Practical exams
16	4	1- He learns about the types of milling knives (disc and finger), gear cutting knives, and milling knife angles.	Product inspection results.	lectures Theoretical and Practical	In the workshops .
17	4	1. The student will learn the steps involved milling operations. 2. The student will learn about methods of joining workpieces.	Product inspection results.	lectures Theoretical and Practical	In the workshops .
18	4	1- Recognizes the milling of different types of gears (spur gears, bevel gears, helical gears, worm gears)	Product inspection results.	lectures Theoretical and Practical	Practical exams
19	4	1- He learns about the working method of the V-block gear.	Product inspection results	lectures Theoretical and Practical	In the workshops .
20	4	1- Knows operating rates, cutting speeds, and feeding	Product inspection results.	lectures Theoretical and Practical	In the workshops .
21	4	1. The student will understand what scraping is and identify the different types of scrapers (trolley, hopper, vertical) 2. The student will understand the operations performed on a scraper.	Types of products.	lectures Theoretical and Practical	Practical exams
22	4	1- The student understands the operating rates of cutting and feed speeds, and the attachments of the planers such as dividing heads or special devices.	Types of products.	lectures Theoretical and Practical	In the workshops .
23	4	1- To identify the planer, explain (cutting stroke, return stroke), methods of attaching to the planer machine and operating rates	Types of products.	lectures Theoretical and Practical	Practical exams
24	4	1- Understands the meaning of grindi Introduction to cutting theory and chip format in the grinding process 2- Identifies the grinding wheels used (circular, face, side, cup, external, internal), their specifications and uses, methods of connection and balancing.	Types of product	lectures Theoretical and Practical	Practical exams
25	4	1- The student learns about different grinding machines and the operating capabilities of each type.	Types of product	lectures Theoretical and Practical	In the workshops .

26	4	1- Learn how to prepare a comprehensive operating card for all cutting operations.	Types of operating methods	lectures Theoretical and Practical	Practical exams
27	4	1- To learn about metal forming: forming theory, the basics of cold and hot forming, types of forming.	Types of operating methods	lectures Theoretical a Practical	Practical exams
28	4	1. The student will learn the basics and meth of rolling. 2. The student will learn the fundamentals of metal extrusion and the types of extruded products.	Types of operating methods	lectures Theoretical and Practical	In the workshops .
29	4	1. It covers the fundamentals of cutt operations, types of dies, and their components 2. The student understands the fundamentals of drawing and deep drawing operations.	Types of operating methods	lectures Theoretical and Practical	In the workshops
30	4	1. The student will learn about non-traditio methods of metal forming: a. Hydrostatic extrusion b. Electrical discharge machining c. Electromagnetic fields d. Explosive forming and the advantages of this process.	Types of operating methods	lectures Theoretical and Practical	In the workshops

11.Coure Evaluation

The degree is distributed

1- 20 marks for the first semester for practical.

2- 20 marks for the second semester for practical

3 - 10 marks for student activities

4 - 50 marks final exam

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Subject teacher lectures
Main references (sources)	Websites
Recommended books and references (scientific journals, reports...)	Weekly scientific reports

Electronic References, Websites	Various websites and internet browsers

Course Description Form

1. Course Name: English Language
2. Course Code: ATU2014-24-YM
3. Semester / Year: Second/annual
4. Description Preparation Date: 18/11/2025
5. Available Attendance Forms: In-person
6. Number of Credit Hours (Total) / Number of Units (Total) : 30hour , 2 unit
7. Course administrator's name (mention all, if more than one name)
Name: A.L Mukhallad Murad Obied Email: mukhallad.murad.iku@atu.edu.iq
8. Course Objectives

Course Objectives	Teaching and training the student to learn the basics of t English language .
9. Teaching and Learning Strategies	
Strategy	-Theoretical lectures - 2- Using DATA-SHOW - 3- Using the board

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	one	The student will be able to: 1-Learning some everyday English vocabulary	Geeting to know you , Tensis - Questions- Using a bilingual dictionary – Social expression	lectures Theoretical	Test at the end each lecture
3-4	one	1-The student should be able to listen to a passage in English and translate it. 2-To learn the names of countr	The way we live , Present tenses – have / have got – collocation- dail life- making conversation	lectures Theoretical	Test at the end each lecture
5-6	one	1-To recognize auxiliary pronoun 2- To learn job titles in English	It all went wrong past tense word formation – time expression	lectures Theoretical	Test at the end each lecture
7-8	one	1-Identifying possessive pronouns 2-Understanding the conditions and rules of listening	Lets go shopping , much/ many-some/ any – a few , alittle, aloy of . Article - shopoing – prices	lectures Theoretical	Test at the end each lecture
9-10	one	1-Understanding the simple present tense 2-Understanding the topic of nationalities and ethnicities	What do you want to do . Verb patteren1 . Future forms.Hot verbs how do you feel	lectures Theoretical	Test at the end each lecture
11-1	one	1-The student learns about prepositions in the English language. 2-It deals with the topic of ti and days of the week	Tell me What's it like . what…..like ? comparative and superlatives -synonyms and antonyms . Directions	lectures Theoretical	Test at the end each lecture
13-1	one	1-He recognizes interrogative words. 2-Recognizes the qualities. 3-The student completes a surv on some everyday topics.	Frame – present perfect – for , since . Adverb word pairs . short answer	lectures Theoretical	Test at the end each lecture
15-1	one	1-The student will discuss the topic of furniture. 2-Recognizes directions 3-Review of some reading topi	Do's and don'ts . have (got) to . should / must .word that go togeth At the doctor.	lectures Theoretical	Test at the end each lecture
17-1	one	1-It recognizes the names of the months and dates. 2-The simple past tense is	Going places , Time clauses . If . Hot verb .in the hotel	lectures Theoretical	Test at the end each lecture

		understood			
19-2	one	1-He recognizes negation tools. 2-The ability to hold a conversation 3-Learning some mathemati vocabulary	Scared to death , Verb patterens manage to , used to . ed/ing adjective - Exclamations	lectures Theoretical	Test at the end each lecture
21-2	one	1-The student learns about the topic of short answers. 2-He learns about the most important adverbs used in the English language. 3-The topic is: Requests Offers	Things that changed the world . Passive – verb and nouns that go together .Notice	lectures Theoretical	Test at the end each lecture
23-2	one	1-He learns some things and terms 2-The subject is understood as: Dreams and reality 3-It discusses the most import antonyms in the Engl language.	Dreams and reality , second conditional . might . Phrasal verbs Social expression	lectures Theoretical	Test at the end each lecture
25-2	one	1-The student learns about the topic of colors 2-It introduces the topic of affirmation and negation 3-Understanding the present continuous tense	Earing a living . Present perfect continuous -Word formation .adverbs .Telephoning	lectures Theoretical	Test at the end each lecture
27-2	one	1-He learns about the topic: Future plans 2-It explores the topic of: Social Expressions Through Time	Family ties . Past perfect . Reporte statements . saying good bye	lectures Theoretical	Test at the end each lecture
29-3	one	1-The student takes a comprehensive review of the rules for all tenses.	Review: Conduct a comprehensive review	lectures Theoretical	Test at the end each lecture

11.Course Evaluation	
The degree is distributed 1- 20 marks for the first semester for practical. 2- 20 marks for the second semester for practical 3 - 10 marks for student activities 4 - 50 marks final exam .	
12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Subject teacher lectures + Intermediat book
Main references (sources)	1- New Headway Book 2-Intermediat Students Book
Recommended books and references (scientific journals, reports…)	English-language magazines that effectiv support the curriculum .
Electronic References, Websites	1-Scientific sources 2- Websites

Course Description Form

1. Course Name: Arabic Language
2. Course Code: ATU2013-24-YM
3. Semester / Year: Second/annual
4. Description Preparation Date: 18/11/2025
5. Available Attendance Forms: In-person
6. Number of Credit Hours (Total) / Number of Units (Total) : 30hour , 2unit
7. Course administrator's name (mention all, if more than one name)

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8. Course Objectives

Course Objectives	-The student should grow up loving the Arabic language, the language of the Holy Quran. -The student should be able to receive correct ideas and the correct meaning, by controlling the language in which he communicates. - Develop the student's ability and spelling and writing skills. -Develop the student's literary taste so that he can realize the aesthetic aspects of speech styles, meanings and images. -Enabling the student to write the research assigned to him in a correct language free of linguistic errors.

9. Teaching and Learning Strategies

Strategy	1-Develop the student's ability and spelling and writing skills. 2- Develop the student's literary taste so that he can realize the aesthetic aspects of speech styles, meanings and images. 3- Help the student understand complex structures and ambiguous styles and enable him to think accurately.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	one	The student will be able to: 1- Recognize and memorize selected verses from Surah Al-Isra	The Holy Qur'an and the Noble Prophet's Hadith.	Lectures Theoretical	Test at the end each lecture

		2- Memorize the Prophetic Hadith perfecting one's work			
2	one	1- Recognize the art of elegy, specifica verses from a poem by the poet Sharif Radi	Rules and arts of lamentation	Lectures Theoretical	Test at the end each lecture
3	one	1- Recognize Arabic literature - Al-Jawahiri	Origins of Arabic Literature	Lectures Theoretical	Test at the end each lecture
4	one	1- Recognize Arabic literature - Badr Shakir Al-Sayyab	Origins of Arabic Literature	Lectures Theoretical	Test at the end each lecture
5	one	1- Recognize the art of prose	Prose rules and arts	Lectures Theoretical	Test at the end each lecture
6	one	1- Learns Arabic grammar - the present te verb, its subjunctive and jussive forms 2- Learns Arabic grammar - genitive nouns 3- Learns Arabic grammar - accusative no and verbs	Arabic grammar	Lectures Theoretical	Test at the end each lecture
7	one	Arabic grammar - genitive nouns.	Arabic Grammar	Lectures Theoretical	Test at the end each lecture
8	one	Arabic grammar - accusative nouns and verbs.	Arabic Grammar	Lectures Theoretical	Test at the end each lecture
9	one	Rulings on writing the open and bound ta'.	Arabic Grammar	Lectures Theoretical	Test at the end each lecture
10	one	Rulings on writing the extended and short alifs	Arabic Grammar	Lectures Theoretical	Test at the end each lecture
11	one	Provisions for writing the dād-dha.	Arabic Grammar	Lectures Theoretical	Test at the end each lecture
12	one	Arabic dictionaries.	An introduction to studying the most important dictionari in the Arabic langua	Lectures Theoretical	Test at the end each lecture
13	one	Stages of collecting the Arabic language	Arabic literature.	Lectures Theoretical	Test at the end each lecture
14	one	Dictionaries of words and semantics.	Arabic Literature	Lectures Theoretical	Test at the end each lecture
15	one	Common linguistic errors. - Surat Yusuf	Arabic grammar rul The Holy Qur'an an	Lectures Theoretical	Test at the end each lecture
16	one	- The Noble Prophet's Hadith (the sanctity of a Muslim).	the Noble Proph Hadith.	Lectures Theoretical	Test at the end each lecture
17	one	- Mimi Al-Mutanabbi	Arabic Literature	Lectures	Test at the end

		- Jamiyah Ibn Al-Farid.		Theoretical	each lecture
18	one	The poem (Baghdad) by the poet Mustafa Jamal al-Din.	Rules of Arabic poe	Lectures Theoretical	Test at the end each lecture
19	one	Muhammad Mahdi Al-Jawahiri	Rules of Arabic poe	Lectures Theoretical	Test at the end each lecture
20	one	declension.	Arabic grammar	Lectures Theoretical	Test at the end each lecture
21	one	The noun in terms of abstraction and addition. Pun, contrast, counterpoint, good	Arabic grammar	Lectures Theoretical	Test at the end each lecture
22	one	The noun is masculine and feminine.	Arabic grammar	Lectures Theoretical	Test at the end each lecture
23	one	The noun is singular, plural, and plural.	Arabic grammar	Lectures Theoretical	Test at the end each lecture
24	one	Number and its provisions.	Arabic grammar	Lectures Theoretical	Test at the end each lecture
25	0ne	Minions.	Arabic grammar	Lectures Theoretical	Test at the end each lecture
26	one	My School Curriculum - Standards and Sahih	Arabic grammar	Lectures Theoretical	Test at the end each lecture
27	one	Exercise in extracting words.	Arabic grammar	Lectures Theoretical	Test at the end each lecture
28	one	Badi's knowledge and its impact on eloquence of speech.	Arabic grammar	Lectures Theoretical	Test at the end each lecture
29	one	reasoning, praise with something similar to condemnation. Alliteration, assonance, quotation, implication.	Arabic grammar	Lectures Theoretical	Test at the end each lecture
30	one	Common linguistic errors.	Arabic grammar	Lectures Theoretical	Test at the end each lecture

11.Course Evaluation

The degree is distributed

1- 20 marks for the first semester for practical.
2- 20 marks for the second semester for practical
3 - 10 marks for student activities
4 - 50 marks final exam .

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Subject teacher lectures
Main references (sources)	- Al Quran Al Kareem - History of Arabic Literature, Showki Ghaf, Dar Al-Maarif – Egypt 1975 - Arabic Lessons Collection – Mustafa Ghalaa - Modern Library , Beirut 1994 - Grammar Al- Wafiy, Abbas Hassan, Dar Al-Maarif, Egypt D – T .
Recommended books and references (scientific journals, reports…)	Arabic-language magazines that effectively support curriculum .
Electronic References, Websites	1-Scientific sources 2- Websites