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

Academic program Description form for colleges and institutes

Introduction:

The educational program is considered a coordinated and organized package of academic courses that includes procedures and experiences organized in the form of academic vocabulary, the main purpose of which is to build and refine the skills of graduates, making them qualified to meet the requirements of the labor market. It is reviewed and evaluated annually through. Internal or external audit procedures and programs such as the external examiner program.

The description of the academic program provides a brief summary of the main features of the program and its courses, indicating the skills that students are working to acquire based on the objectives of the academic program. The importance of this description is evident because it represents the cornerstone of obtaining program accreditation and participates in Written by teaching staff under the supervision of scientific committees in scientific departments.

This guide, in its second edition, includes a description of the academic program after updating vocabulary and paragraphs . The previous guide in light of the latest developments in the educational system in Iraq, which included a description of the academic program in its traditional form (annual and quarterly system), in addition to adopting the description of the academic program circulated according to the letter of the Department of Studies, 3/2906 dated 5/3/2023, regarding programs that adopt the Bologna Process as a basis for their work.

In this area, we can only emphasize the importance of writing descriptions of academic programs and courses to ensure the smooth conduct of the educational process.

Concepts and terminology

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

Course Description: Provides a necessary summary of the most important characteristics of the course and the learning outcomes that the student is expected to achieve, demonstrating whether he or she has made the most of the available learning opportunities. It is derived from a description the program.

The program's vision: is an ambitious picture for the future of the academic program, to be a developed, inspiring, motivating, and realistic program and applicable.

Program mission: It briefly explains the goals and activities necessary to achieve them, and also defines the program's development paths and its trends.

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

Curriculum structure: All courses/study subjects included in the academic program are in accordance with the approved learning system (semester, annual track (Bologna), whether it is a requirement of a ministry, a university, a college, or a scientific department with **Number of study units.**

Learning outcomes: are a consistent set of knowledge, skills, and values that a student has acquired after completing a program Academic success and the learning outcomes for each course must be determined in a way that achieves the program objectives.

Teaching and learning strategies: are the strategies used by the faculty member to develop the student's teaching and learning. They are plans that are followed to reach the learning goals, that is, they describe all classroom activities.

Academic Program Description Form

The University: Middle Technical University
The college/ Institute: Technical Institute - kut
Scientific department: Department of Petroleum Equipment Inspection and Welding Techniques

Date of filling out the file: 21-12-2023

Head of Department:
Dr. Abbas Nasser Hasein
Date: 10 - 3 -2024

Signature:

Scientific assistant:
Dr. Adil Sabr Akar
Date 10 -3 -2024

Signature:

The file has already been checked
Quality Assurance and University Performance Division
Name of the Director of the Quality Assurance and University Performance Division: Lecturer: Zamn Khalil Ibrahim

Date: 12 - 3-2024

Signature

الجامعة التقنية الوسطى
المعهد التقني
شعبة ضمان الجودة وتنمية الأداء

Dean's endorsement

12/3/2024
الاستاذ الدكتور
مهدي فرحان بنية
عميد المعهد التقني. كوت

1. Program vision

The academic program description provides a brief summary of inspection and welding techniques for petroleum and industrial equipment in a way that contributes to supplying the local market with technical personnel with scientific and practical experience, which contributes to increasing job opportunities for graduates, especially in oil companies.

2. Program message

1- Preparing graduates with high professional skills and ethics.
2- Educational guidance and consolidation of national identity.
3- Instilling in the student the spirit of acquiring knowledge to serve society.
4- Serving the community by providing engineering consultations, studies, and specialized training courses.

3. Program objectives

(1) Achieving the university's goals within the field of inspection and welding techniques.
(2) Provides correct instruction in the basics of welding for petroleum equipment.
(3) Develop the skills and confidence necessary to solve, based on engineering and scientific principles, problems in the construction and inspection of petroleum equipment.
(4) Continuing to find highly capable graduates.
(5) Providing education compatible with the needs of the labor market.

4. Programmatic accreditation

nothing

5. Other external influences

nothing

6. Program structure

Program structure	Number of courses	Study unit	percentage	comments
Enterprise requirements				
College requirements				
Department	18	66	27%	Basic

requirements				
Summer training	There is			
Other				

* Notes may include whether the course is core or elective.

7. Program description				
Educational level	**Course or course code**	**Name of the course or course**	**Credit hours**	
			Pr.	**Th.**
First semester				
The first		Welding Fundamentals	2	2
The first		Manufacturing Processes	2	2
The first		Engineering Inspection	2	2
The first		Welding Workshops	8	0
The first		Mechanics	3	2
The first		Computer and its Applications	2	1
The first		Mathematics	0	2
The first		English Language	0	2
The first		Human rights and democracy	0	2
Second Semester				
The first		Welding Technology	2	2
The first		Welding Machine	2	2
The first		Engineering Inspection in Oil Facilities	2	2
The first		Workshops	8	-

The first		Heat Transfer	2	2
The first		Computer Aided Design (CAD)	2	1
The first		Safety and Industrial Management	-	2
The first		Crimes of the Defunct Baath Party	-	2
The first		Arabic Language	-	2

8. Expected learning outcomes of the program
Knowledge
1- Learn the necessary facts, concepts, principles and theories of inspection and welding. 2- Understanding the constraints facing the technician in making the right decision. 3- Basic mathematics and science. 4- Techniques used. 5- Ideas and concepts of safety and management.
Skills
1 - Ethics and professionalism of the profession. 2 - The impact of engineering activities on society and civilization. 3- Compatibility with future issues.
Value
Student development on: 1- Solving industrial problems that may be specific to known or unknown circumstances. 2- Analyze and discuss the available data or conduct specific experiments to obtain more data. 3- Design units and processes and make the necessary improvements. 4- The ability to apply new technologies and have a comprehensive view of industrial engineering problems, Taking into account cost, safety, quality, environmental impacts, and the ability to assess and manage risks.

9- Teaching and learning strategies
1 – Lectures. 2 - Discussion and dialogue. 3 - Enrichment questions.

4 - Direct interrogation.

10- Evaluation methods

1- Daily, monthly and final tests.
2- Reports and homework.
3- Attendance and adherence to the lecture time.

11. The teaching staff

Faculty members

Scientific rank	specialization		Numbers of teaching staff		Requirements/ skills	
	general	private	clerk	lecturer		
Lecturer	Production and metals	Welding engineering	1			
Lecturer	Applied mechanics	Manufacturing systems engineering	1			
Assistant Lecturer	Applied mechanics	Welding engineering	2			
Assistant Lecturer	Applied mechanics	Templates and tools	1			

Professional development

Orienting new faculty members

Holding periodic meetings, tools and workshops that will develop the capabilities of new faculty members in teaching methods and scientific and functional controls.

Professional development for faculty members

Holding scientific courses and workshops that will develop:
1- Skills in using references and terminology.
2- Skills in collecting and analyzing data on topics.
3 - Skills to exploit available capabilities.
4 - Skills in making comparisons about the topic.
5 - Skills of preparing special concepts about the subject.
6- Providing students with self-learning skills that enable them to update their scientific knowledge in their specialization

12. Acceptance criterion

1- Centrally through admission lists issued by the Ministry of Higher Education and Scientific Research.

2- Direct submission by applying for the evening study.

13. The most important sources of information about the program
1- Scientific Department. 2- Registration. 3- Subject teacher.

14. Program development plan
The program is updated periodically based on recent research and labor market requirements.

Curriculum skills chart

Please check the boxes corresponding to the individual learning outcomes from the program subject to evaluation

Learning outcomes required from the programme

Year /level	Course Code	Course Name	Basic Or optional	Knowledge				Skills				Value			
				1 a	2 a	3 a	4 a	1 b	2 b	3 b	4 b	1 c	2 c	3 c	4 c
First		Welding Fundamentals	Basic	√	√	√	√	√	√	√	√	√	√	√	√

First Stage

(First semester)

Description Mode

Course description: Welding Fundamentals **Dr. Abbas Nasser**

This course description provides a summary of the most important course characteristics and the learning outcomes the student is expected to achieve, demonstrating whether he or she has made the most of the learning opportunities available. It must be linked to the program description.

1- Educational institution	Middle Technical University, Al KUT Technical Institution
2- Scientific Department / Center	Department of Petroleum Equipment Inspection and Welding Techniques
3- Course name/code	**Welding Fundamentals**
4- Attendance type available	Mandatory
5- Semester / year	The first semester of the academic year 2024-2023
6- Number of hours of study (total)	(60) hours of study, 4 hours per week
7- The date this description was made	21/12/2023
8- Course objectives: 1 - Definition of welding and enumerating its types 2- Enumerate the types of welding joints 3 - Identify the variables of the welding process 4- Acquiring practical skills through training in a welding workshop	

9 - Course outcomes and teaching, learning and evaluation methods

A- Cognitive objectives A1- Knows a general idea of the basics of welding. A2- Explains to the student how to connect welded pieces together. A3- Explains how to adjust the variables of welding machines A4- Explains to the student the basics of gas and electric welding. A5- Explains to the student the types of welding joints and how to choose them.
B - The skills objectives of the course. B1 - Preparing the welding joints. B2 - Practically applies all welding conditions. B3 - Compare the welding processes. B4- Apply the basics of operating automated analysis devices.
Teaching and learning methods
1 - Objective questions are divided into: multiple choice questions, true and false questions, or approximation questions 2 - Self-evaluation and evaluation of the colleague. 3- The tests include: A - Constructive achievement tests accompanying the teaching plans. B - Final achievement tests and include: • Monthly final exams at the end of each academic month. • Final final exams at the end of a semester. • Final final exams at the end of the academic year.
Evaluation methods
Using achievement tests: • daily • Monthly • Quarterly Final
C- Emotional and value goals C1 - Presenting new ideas on the topic by the student. C 2- The student's ability to evaluate the topic and give solutions. C 3 - differentiate between problems. C4- Explain and analyze phenomena and problems.
Teaching and learning methods
1 - Use the presentation and presentation method 2 - Draw illustrations. 3 - Brainstorming method.

D - Transferred general and qualifying skills (other skills related to employability and personal development). D 1- Skills of using references and terminology. D 2 - Skills in collecting and analyzing data on the subject. D 3 - the skills of exploiting the available capabilities. D 4- Skills of making comparisons on the topic D 5 - Skills of preparing special concepts on the subject.

10. Course structure					
The week	**Hours**	**Unit name and / or topic**	**Required learning outcomes**	**Education method**	**Evaluation method**
1	4	Definition of welding, welding safety regulations:	General precautions, ventilation, body protection precautions, handling cylinders, connections, clothing, safety when performing welding, fire safety rules.	lecture	oral exams
2+3	8	Types of welding, uses of welding,	Welding joints, welding angles, preparing joints, welding pool, welding positions, welding movements, basic welding symbols.	Discussion and dialogue	Self and peer evaluation
4-6	12	Arc welding: arc welding theory, metal transfer methods, types of arc welding, advantages of arc	Introduction to shielded arc welding (SMAW), electric currents, welding equipment, welding machines, welding supplies, operating and adjusting the welding machine, technical methods for welding operations (arc ignition, arc	lecture	oral exams

		welding,	stabilization, arc re-ignition to continue welding, welding angles), forms of arc welding joints.		
7-9	12	The used Electrodes (wires) in shielded arc welding (SMAW):	Definition and types of electrodes, specifications of welding electrodes, benefits of using flux on electrodes, relationship of metal thickness and electrode diameter to current.	Discussion and dialogue	Self and peer evaluation
10+11	8	Gas welding	The idea of gas welding, advantages and disadvantages of gas welding, the used gases, welding equipment (cylinders, regulator, pressure gauges, hoses, safety valve, welding torch).	Lecture	oral exams
12-15	16	Types of flame and its regions, flame control	Weld pool, weld line, different types of joints. Different welding positions, torch movement, angle of torch and filler wire, classification of filler wires, fluxes, welding of pipes, gas metal cutting.	Discussion and dialogue	oral exams

11. Infrastructure	
1- Required prescribed books	
2- Main references (sources)	1. Welding metallurgy/written by Dr. Qahtan Al-Khazraji. 2. Manufacturing methods, plumbing and welding, Dr.

	Arif Abu Safia and Dr. Abdul Razzaq Khadr, University of Technology, Baghdad. 3. Metal Welding Engineering, Dr. Ahmed Salem Al-Sabbagh, Dar Ashrouk, first edition. 4. Welding Technology Bag for Production Specialization, Department of Mechanical Technology - Colleges of Technology, General Corporation for Technical and Vocational Training, Riyadh. 5. Welding program portfolios – for industrial vocational institutes, General Corporation for Technical and Vocational Training, Riyadh. 6. Shielded Metal Arc Welding (SMAW) book, first grade, training year 2019/2020, prepared and developed by Yat Education Solutions Company. 7. Gas welding, Part One and Two, Flex Fotka, Al-Ahram Foundation. 8. Welding principles and applications, Larry Jeffus, 4th edition, Delmar publisher USA. 9. welding engineering, R.L. Agrawal, Khanna publisher, Delhi. 10. Practical Welding, S. Gibson, Mcmillan prass, London. 11. Principles of Welding, L.M. Gourd, 3rd edition, Edward Arnold, London. 12. Work shop Technology, Part 3, W.A.J. Chapman, , 3rd edition, Arnold.
3- Reputable international sites specialized and sober publishing sites	Recommended books and references, scientific journals ، reports.
4- Discreet publishing sites	Electronic references ، Internet sites...

12- course development plan
Providing the student with available recent research as far as the topic of the lecture is concerned .

Description Mode

Course description: Manufacturing Processes Lecturer: Asham Mohammad

This course description provides a summary of the most important course characteristics and the learning outcomes the student is expected to achieve, demonstrating whether he or she has made the most of the learning opportunities available. It must be linked to the program description.

1- Educational institution	Middle Technical University, KUT Technical Institution
2- Scientific Department / Center	Department of Petroleum Equipment Inspection and Welding Techniques
3- Course name/code	**Manufacturing Processes**
4- Attendance type available	Mandatory
5- Semester / year	The first semester of the academic year 2024-2023
6- Number of hours of study (total)	(60) hours of study, 4 hours per week
7- The date this description was made	21/12/2023
8- Course objectives: 1 - Definition of measurement and units of measurement 2 - Enumerates measuring feet (furnaces), their parts, uses, and types. 3 - Explains micrometers, their types, uses, parts, and the idea of how a micrometer works. 4- Describes measuring templates, their uses, types, and how to use them.	

9 - Course outcomes and teaching, learning and evaluation methods

A- Cognitive objectives A1- Knows a general idea about manufacturing processes A2- Knows equations and laws A3- Knowledge of the tools used for measurement
B - The skills objectives of the course. B1 - Apply some laboratory experiments. B2 - Applies some measurement processes in a practical way. B3 - Apply some tests to different metals.
Teaching and learning methods
1 - Objective questions are divided into: multiple choice questions, true and false questions, or approximation questions 2 - Self-evaluation and evaluation of the colleague. 3- The tests include: A - Constructive achievement tests accompanying the teaching plans. B - Final achievement tests and include: • Monthly final exams at the end of each academic month. • Final final exams at the end of a semester. • Final final exams at the end of the academic year.
Evaluation methods
Using achievement tests: • daily • Monthly • Quarterly Final
C- Emotional and value goals C1 - Presenting new ideas on the topic by the student. C 2- The student's ability to evaluate the topic and give solutions. C 3 - differentiate between problems. C4- Explain and analyze phenomena and problems.
Teaching and learning methods
1 - Use the presentation and presentation method 2 - Draw illustrations. 3 - Brainstorming method.
D - Transferred general and qualifying skills (other skills related to employability and personal development). D 1- Skills of using references and terminology. D 2 - Skills in collecting and analyzing data on the subject. D 3 - the skills of exploiting the available capabilities. D 4- Skills of making comparisons on the topic

D 5 - Skills of preparing special concepts on the subject.

10. Course structure					
The week	**Hours**	**Unit name and / or topic**	**Required learning outcomes**	**Education method**	**Evaluation method**
1	4	Definition of measurement and units of measurement, error and its causes, methods of measuring main dimensions, simple conveyor measuring devices.	Introducing the student to the various measuring tools and devices in the laboratory, the precautions that must be followed when working to maintain them, and the conditions that must be met in measurement laboratories.	lecture	Self and peer evaluation
2	4	Measuring feet (furnaces), their parts, uses, and types.	Measurement using a vernier foot, learning about the types of feet in terms of accuracy, use and range of measurement, how to measure using vernier feet, measuring procedures for different models.	Discussion and dialogue	oral exams
3	4	Micrometers, their types, uses, parts,	Measurement using micrometers,	lecture	Self and peer evaluation

		and the idea of how a micrometer works.	learning about the types of micrometers in terms of accuracy, use and field of measurement, measuring using micrometers for different models.		
4	4	Measuring molds and their uses, types, and how to use them.	Measuring templates, learning about the different groups of measuring templates, how to assemble them to obtain a specific dimension, how to check the accuracy of a micrometer using measuring templates.	lectureDiscussion and dialogue	oral exams
5	4	Measuring angles and side shapes, tools.	Comparators, learn about the different comparators (mechanical, electronic and optical) with different measuring parts on each.	lecture	Self and peer evaluation
6	4	Method of measuring screw elements, comparators.	Measuring angles, identifying the devices and tools used to measure angles, using them to make different	Discussion and dialogue	oral exams

			measurements of specific angles.		
7	4	Optical device	Projector device, identifying the parts of the device and their uses, identifying the parts of the device and their uses, using the device with a longitudinal dimension scale, measuring angles for different models.	lecture	Self and peer evaluation
8	4	The filing and its role in industrial development.	Measuring tubes (measuring tubes): Identifying the different measuring tubes and using them to make measurements.	Discussion and dialogue	oral exams
9	4	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.	Lecture	Self and peer evaluation

10	4	Drilling and grinding, types of drills.	types of primers, types of primers, how to perform the drilling and grinding process.	Discussion and dialogue	oral exams
11	4	Models	Models types, wood used in their manufacture, and conditions that must be met in the model.	Lecture	Self and peer evaluation
12	4	Tools and devices used in making the model.	box molds, and how to design a simple model.	Discussion and dialogue	oral exams
13	4	Casting	Historical overview, main methods of plumbing (cast casting, sand casting, metal mold casting, other methods of plumbing) Advantages of the plumbing process.	Lecture	Self and peer evaluation
14	4	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.	Discussion and dialogue	oral exams
15	4	Special blacksmithing methods,	effective force, explanation of the different	Lecture	Self and peer evaluation

		blacksmithing molds and their manufacture,	blacksmithing operations (contact, methods of different geometric sections in cutting operations, making simple steps, forming various artifacts).		

11. Infrastructure	
1- Required prescribed books	
2- Main references (sources)	1.Introduction to production engineering,Hassan Hussein Fahmy, Jalal Shawqi (1966). 2.Principles of metal casting, Translation – Dr. Salah al-Din Muhammad al-Muhanni 3.Methods of forming metals, Dr. Anwar Abdul Wahid (1963). 4. Manufacturing methods, Dr. Arif Abu Safia, Dr. Abdul Razzaq Ismail Khadr 5. Igniting Metals - Technological Foundations, Abdel Moneim Akef (1977).
3- Reputable international sites specialized and sober publishing sites	Recommended books and references, scientific journals ، reports.
4- Discreet publishing sites	Electronic references ، Internet sites...

12- course development plan
Providing the student with available recent research as far as the topic of the lecture is concerned .

Description Mode

Course description: Engineering Inspection **A. Lecturer: Mortadha Kareem**

This course description provides a brief overview of engineering inspection of metals and how to evaluate and analyze the properties of metals and metallic materials using various techniques to detect defects and deformations and measure mechanical properties. As well as introducing the student to the basics of engineering examination, the types of examinations and how to apply them to metals used in the manufacture of petroleum equipment, cars, aircraft, construction and architecture.

1- Educational institution	Middle Technical University, KUT Technical Institution
2- Scientific Department / Center	Department of Petroleum Equipment Inspection and Welding Techniques
3- Course name/code	**Engineering Inspection**
4- Attendance type available	Mandatory
5- Semester / year	The first semester of the academic year 2024-2023
6- Number of hours of study (total)	(60) hours of study, 4 hours per week
7- The date this description was made	21/12/2023
8- Course objectives: 1. Enumerate the types of destructive tests for metals 2. Evaluation and analysis of the mechanical properties of metals 3. Know the most important international specifications for engineering examination	

9 - Course outcomes and teaching, learning and evaluation methods

A- Cognitive objectives A1- Knows the concept of engineering examination. A2- Explains to the student the most important properties of metallic materials. A3- Shows the student how to use international standards and apply them on the ground.
B - The skills objectives of the course. B1 - Collects information about the engineering examination. B2 - Analyze the causes and problems. B3 - Compares past and present experiences. B4- Communication and communication skills.
Teaching and learning methods
1 - Objective questions are divided into: multiple choice questions, true and false questions, or approximation questions 2 - Self-evaluation and evaluation of the colleague. 3- The tests include: A - Constructive achievement tests accompanying the teaching plans. B - Final achievement tests and include: • Monthly final exams at the end of each academic month. • Final final exams at the end of a semester. • Final final exams at the end of the academic year.
Evaluation methods
Using achievement tests: • Daily • Monthly • Quarterly Final
C- Emotional and value goals C1 - Presenting new ideas on the topic by the student. C 2- The student's ability to evaluate the topic and give solutions. C 3 - differentiate between problems. C4- Explain and analyze phenomena and problems.
Teaching and learning methods
1 - Use the presentation and presentation method 2- Draw illustrations. 3 - Brainstorming method.
D - Transferred general and qualifying skills (other skills related to employability and personal development). D 1- Skills of using references and terminology. D 2 - Skills in collecting and analyzing data on the subject.

D 3 - the skills of exploiting the available capabilities. D 4- Skills of making comparisons on the topic D 5 - Skills of preparing special concepts on the subject.

10. Course structure

The week	Hours	Unit name and / or topic	Required learning outcomes	Education method	Evaluation method
1	4	Definition of engineering examination.	Classification of engineering materials. Classification of engineering examinations. Engineering units.	lecture	Self and peer evaluation
2	4	Tensile test	The general concept of tensile testing. Test terminology. Stress-strain curve.	Discussion and dialogue	oral exams
3	4	Tensile test	Calculating mechanical properties, Tensile testing device.	lecture	Self and peer evaluation
4	4	Tensile test	Standard tensile samples, Test steps, Analyze and evaluate test results.	lectureDiscussion and dialogue	oral exams
5	4	Compression test	The general concept of compression testing.Test terminology, Stress-strain curve	lecture	Self and peer evaluation
6	4	Compression	Standard samples,	Discussion and	oral exams

		test	Test steps, Analyze and evaluate test results	dialogue	
7	4	Hardness test	Brinell Hardness test	lecture	Self and peer evaluation
8	4	Hardness test	Vickers Hardness test	Discussion and dialogue	oral exams
9	4	Hardness test	Rockwell hardness test	Lecture	Self and peer evaluation
10	4	Hardness test	Microhardness test	Discussion and dialogue	oral exams
11	4	Impact test	The general concept of Impact test, Test terminology, Calculating the shock energy	Lecture	Self and peer evaluation
12	4	Impact test	Types of impact tests, Standard samples for testing, The effect of temperature on the test	Discussion and dialogue	oral exams
13	4	Bending test	The general concept of the bending test, Test terminology	Lecture	Self and peer evaluation
14	4	Bending test	Standard samples, Analyze and evaluate test results	Discussion and dialogue	oral exams
15	4	Bending test	Bending test for welds, Types of bending tests for welds	Lecture	Self and peer evaluation

11. Infrastructure	
1- Required prescribed books	
2- Main references (sources)	ASTM Standards: 1- E 8M Test Methods for Tension Testing of Metallic Materials. 2- E 209 Practice for Compression Tests of Metallic Materials at Elevated Temperatures with Conventional or Rapid Heating Rates and Strain Rates3. 3- E10 Standard Test Method for Brinell Hardness of Metallic Materials1. 4- E18 Standard Test Methods for Rockwell Hardness and Rockwell Superficial Hardness of Metallic Materials1,2 5- E23 Standard Test Methods for Notched Bar Impact Testing of Metallic Materials1. 6- E92 Standard Test Method for Vickers Hardness of Metallic Materials1. 7- E140 Standard Hardness Conversion Tables for Metals1 Relationship Among Brinell Hardness, Vickers Hardness, Rockwell Hardness, Superficial Hardness, Knoop Hardness. 8- E190 Standard Test Method for Guided Bend Test for Ductility of Welds. 9- ANSI/AWS B4.0 – 98. 10- Lincoln Handbook of Arc Welding.
3- Reputable international sites specialized and sober publishing sites	Recommended books and references, scientific journals ، reports.
4- Discreet publishing sites	Electronic references ، Internet sites...

12- course development plan
Providing the student with available recent research as far as the topic of the lecture is concerned .

Description Mode

Course description: Welding Workshop

This course description provides a summary of acquiring the manual skill to carry out various welding operations and the ability to operate the welding machines and equipment used in the welding workshop.

1- Educational institution	Middle Technical University, KUT Technical Institution
2- Scientific Department / Center	Department of Petroleum Equipment Inspection and Welding Techniques
3- Course name/code	**Welding Workshop**
4- Attendance type available	Mandatory
5- Semester / year	The first semester of the academic year 2024-2023
6- Number of hours of study (total)	(120) hours of study, 8 hours per week
7- The date this description was made	21/12/2023
8- Course objectives: At the end of the academic year, the student should be able to: 1. Enumerate the types of welding joints 2. Enumeration of welding positions 3. Acquire manual skill to carry out welding operations	

9 - Course outcomes and teaching, learning and evaluation methods
A- Cognitive objectives A1- Knows the electric arc welding process. A2- Enumerate the types of welding processes. A3- Shows the student how to weld iron sheets and tubes using different welding

methods.
B - The skills objectives of the course. B1 - Collects information about the welding workshop. B2 - Analyze the causes and problems. B3 - Compares past and present experiences. B4- Communication and communication skills.
Teaching and learning methods
1 - Objective questions are divided into: multiple choice questions, true and false questions, or approximation questions 2 - Self-evaluation and evaluation of the colleague. 3- The tests include: A - Constructive achievement tests accompanying the teaching plans. B - Final achievement tests and include: • Monthly final exams at the end of each academic month. • Final final exams at the end of a semester. • Final final exams at the end of the academic year.
Evaluation methods
Using achievement tests: • Daily • Monthly • Quarterly Final
C- Emotional and value goals C1 - Presenting new ideas on the topic by the student. C 2- The student's ability to evaluate the topic and give solutions. C 3 - differentiate between problems. C4- Explain and analyze phenomena and problems.
Teaching and learning methods
1 - Use the presentation and presentation method 2- Draw illustrations. 3 - Brainstorming method.
D - Transferred general and qualifying skills (other skills related to employability and personal development). D 1- Skills of using references and terminology. D 2 - Skills in collecting and analyzing data on the subject. D 3 - the skills of exploiting the available capabilities. D 4- Skills of making comparisons on the topic D 5 - Skills of preparing special concepts on the subject.

10. Course structure					
The week	**Hours**	**Unit name and / or topic**	**Required learning outcomes**	**Education method**	**Evaluation method**
1	8	Occupational safety and security precautions:	Welding equipment, practical training on using the electric arc to weld different surfaces, the used equipment, electrodes and how to install them.	lecture	Self and peer evaluation
2	8	Practical exercise 1	Welding lines below eye level (flat position).	Discussion and dialogue	oral exams
3	8	Practical exercise 2	Welding an external corner below eye level (flat position).	lecture	Self and peer evaluation
4	8	Practical exercise 3	Welding an internal corner (T-joint) below eye level (flat).	lectureDiscussion and dialogue	oral exams
5	8	Practical training 4	Welding a butt joint in front of eye level.	lecture	Self and peer evaluation
6	8	Practical exercise 5	Welding an internal angle (t-joint) upward.	Discussion and dialogue	oral exams
7	8	Practical training 6	Welding an uphill butt joint.	lecture	Self and peer evaluation
8	8	Practical training 7	Welding a butt joint with an uphill V-bevel.	Discussion and dialogue	oral exams

9-15	56	Gas welding	Gas welding, the used equipment 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 flare up and adjusting the required flame, the workpieces, rinsing and cleaning the edges to be welded. Welding butt surfaces, perpendicular surfaces, inclined surfaces, circle welding, longitudinal and transverse cutting.	Lecture	Self and peer evaluation

11. Infrastructure	
1- Required prescribed books	
2- Main references (sources)	1- AWS welding Handbook 2- Lincolin Handbook
3- Reputable international sites specialized and sober publishing sites	Recommended books and references, scientific journals ، reports.

4- Discreet publishing sites	Electronic references ، Internet sites...

12- course development plan
Providing the student with available recent research as far as the topic of the lecture is concerned .

Description Mode

Course description: Mechanics **Lecturer: Sadam hassan**

This course description provides a summary of the most important course characteristics and the learning outcomes that the student is expected to achieve, demonstrating whether he or she has made the most of the learning opportunities available. It must be linked to the program description.

1- Educational institution	Middle Technical University, KUT Technical Institution
2- Scientific Department / Center	Department of Petroleum Equipment Inspection and Welding Techniques
3- Course name/code	**Mechanics**
4- Attendance type available	Mandatory
5- Semester / year	The first semester of the academic year 2024-2023
6- Number of hours of study (total)	(75) hours of study, 5 hours per week
7- The date this description was made	21/12/2023
8- Course objectives: Study the effects of the forces on bodies as static and dynamic (Kinetics & Kinematic) bodies, also study the stresses and strains occur due to the Loads.	

9 - Course outcomes and teaching, learning and evaluation methods
A- Cognitive objectives A1- Knows the concept of engineering mechanics. A2- Explains to the student the effect of forces on bodies. A3- Explains to the student the types of stresses and how to calculate them.

B - The skills objectives of the course. B1 - Collects information about engineering mechanics. B2 - Analyze the causes and problems. B3 - Compares past and present experiences. B4- Communication and communication skills.
Teaching and learning methods
1 - Objective questions are divided into: multiple choice questions, true and false questions, or approximation questions 2 - Self-evaluation and evaluation of the colleague. 3- The tests include: A - Constructive achievement tests accompanying the teaching plans. B - Final achievement tests and include: • Monthly final exams at the end of each academic month. • Final final exams at the end of a semester. • Final final exams at the end of the academic year.
Evaluation methods
Using achievement tests: • Daily • Monthly • Quarterly Final
C- Emotional and value goals C1 - Presenting new ideas on the topic by the student. C 2- The student's ability to evaluate the topic and give solutions. C 3 - differentiate between problems. C4- Explain and analyze phenomena and problems.
Teaching and learning methods
1 - Use the presentation and presentation method 2- Draw illustrations. 3 - Brainstorming method.
D - Transferred general and qualifying skills (other skills related to employability and personal development). D 1- Skills of using references and terminology. D 2 - Skills in collecting and analyzing data on the subject. D 3 - the skills of exploiting the available capabilities. D 4- Skills of making comparisons on the topic D 5 - Skills of preparing special concepts on the subject.

10. Course structure					
The week	**Hours**	**Unit name and / or topic**	**Required learning outcomes**	**Education method**	**Evaluation method**
1	5	1-Static.	fundamental concepts, Force, Scalars and, Vectors, Units, Force polygon, Cartesian Components.	lecture	Self and peer evaluation
2	5	Analysis of Forces	Analysis of Forces	Discussion and dialogue	oral exams
3	5	Resultant of Concurrent.	Coplanar Force system (2-D)	lecture	Self and peer evaluation
4	5	Moments.	Moments.	lectureDiscussion and dialogue	oral exams
5	5	Couples.	Transformation of the Couple and the force	lecture	Self and peer evaluation
6	5	Resultant of non – Concurrent.	Coplanar force system (3-D).	Discussion and dialogue	oral exams
7	5	Equilibrium.	Free body diagram (F.B.D.)	lecture	Self and peer evaluation
8	5	Friction.	Dry Friction	Discussion and dialogue	oral exams
9	5	Center of Gravity.	Centroid (length, area), Centroid of Simple area	Lecture	Self and peer evaluation
10	5	Moment of inertia	(Simple and Composite areas).	Discussion and dialogue	oral exams
11	5	2-Dynamics type of motion.	Linear motion with constant speed.	Lecture	Self and peer evaluation
12	5	Newton's	Newton's Second	Discussion and	oral exams

		Second Law	Law	dialogue	
13	5	Strength of material:	Fundamental concept, Loads, Stress, Strain, Elasticity, Plasticity, Deformation.	Lecture	Self and peer evaluation
14	5	Hook's Law.	Stress -strain curve, type of stress.	Discussion and dialogue	oral exams
15	5	Beams.	types of loads, types of beams.	Lecture	Self and peer evaluation

11. Infrastructure	
1- Required prescribed books	
2- Main references (sources)	1- Engineering Mechanics, Static & dynamics, Bed ford & fowler 4th 2005. 2- Higdon & Stiles, Engineering Machine 3ed 1968. 3- Sadhu Singh, Strength of Martial 2007. 4- Engineering Mechanics by Singer.
3- Reputable international sites specialized and sober publishing sites	Recommended books and references, scientific journals ، reports.
4- Discreet publishing sites	Electronic references ، Internet sites...

12- course development plan
Providing the student with available recent research as far as the topic of the lecture is concerned .

Description Mode

Course description: Computer and its Applications A. Lecturer: Hibat Lafta

This academic program description provides a summary of the most important computer applications and office programs, and a study of the program's characteristics and the learning outcomes expected of the student to achieve, demonstrating whether he has made the most of the available opportunities.

1- Educational institution	Middle Technical University, KUT Technical Institution
2- Scientific Department / Center	Department of Petroleum Equipment Inspection and Welding Techniques
3- Course name/code	**Computer and its Applications**
4- Attendance type available	Mandatory
5- Semester / year	The first semester of the academic year 2024-2023
6- Number of hours of study (total)	(45) hours of study, 3 hours per week
7- The date this description was made	21/12/2023
8- Course objectives: At the end of the academic year, the student will be able to: 1. Knows the components of the calculator, studies the Windows 7 operating system, and learns about the system's commands and windows. 2. 2- Knows writing and text settings in Word 2010. 3- He knows how to create tables, manage graphic objects and geometric shapes, and deal with databases in Excel 2010. 4- Knows how to prepare slides for text and graphic shapes and prepare an interactive presentation of slides in Power Point 2010.	

9 - Course outcomes and teaching, learning and evaluation methods

A- Cognitive objectives A1- Knows the concept of computer science. A2- Explains to the student the most important characteristics of the computer. A3- Shows the student how to use software programs on the computer.
B - The skills objectives of the course. B1 - Collects information about the computer. B2 - Analyze the causes and problems. B3 - Compares past and present experiences. B4- Communication and communication skills.
Teaching and learning methods
1 - Objective questions are divided into: multiple choice questions, true and false questions, or approximation questions 2 - Self-evaluation and evaluation of the colleague. 3- The tests include: A - Constructive achievement tests accompanying the teaching plans. B - Final achievement tests and include: • Monthly final exams at the end of each academic month. • Final final exams at the end of a semester. • Final final exams at the end of the academic year.
Evaluation methods
Using achievement tests: • Daily • Monthly • Quarterly Final
C- Emotional and value goals C1 - Presenting new ideas on the topic by the student. C 2- The student's ability to evaluate the topic and give solutions. C 3 - differentiate between problems. C4- Explain and analyze phenomena and problems.
Teaching and learning methods
1 - Use the presentation and presentation method 2- Draw illustrations. 3 - Brainstorming method.
D - Transferred general and qualifying skills (other skills related to employability and personal development). D 1- Skills of using references and terminology. D 2 - Skills in collecting and analyzing data on the subject. D 3 - the skills of exploiting the available capabilities.

D 4- Skills of making comparisons on the topic D 5 - Skills of preparing special concepts on the subject.

10. Course structure					
The week	**Hours**	**Unit name and / or topic**	**Required learning outcomes**	**Education method**	**Evaluation method**
1	3	A general introduction to the basics of the computer.	-Hardware and software components -Windows operating system	lecture	Self and peer evaluation
2	3	Concept of the window for any program	-Get to know the Start menu and its contents. (processor speed, processor type, memory size, operating system, and version number).	Discussion and dialogue	oral exams
3	3	Folders and files	(create, move, copy, rename, delete, retrieve from trash, empty trash). -Use the Find command to select a file or folder. -The concept of compressing files or folders and decompressing them -Control Folder Option display options for files	lecture	Self and peer evaluation

			and folders		
4	3	**Word Program**	- Introduction to the program, calling the program, getting to know the main interface and its elements	lectureDiscussion and dialogue	oral exams
5	3	Word art main text	(insert text, change text, rotate text, change font size, Format bar).	lecture	Self and peer evaluation
6	3	General settings	(flip the page from portrait to landscape mode, create a frame for the page, show the ruler, page numbering, Header & Footer, print preview, printing).	Discussion and dialogue	oral exams
7	3	Text	Direct text (writing text, text settings, adding symbols and mathematical equations). -Text box, keyboard shortcuts.	lecture	Self and peer evaluation
8	3	Graphics	(basic shapes, pictures, cartoons, clip art, illustrative and statistical charts. - Tables (drawing a table, changing the size of a table, inserting a line or column into a	Discussion and dialogue	oral exams

			table, merging several cells in the table, dividing the cell, arranging the lines in the table in ascending and descending order, deleting lines and columns).		
9	3	**Excel Program**	- Run the program, get to know the main interface and bars, store and close the workbook, protect the workbook, Excel file extension.	Lecture	Self and peer evaluation
10	3	The worksheet and its contents	Change the name of the worksheet and add new papers -Delete, hide, protect the worksheet	Discussion and dialogue	oral exams
11	3	Manipulating and editing cells	- Data management (writing a code, changing the formula of a cell content, searching for a value, finding a value, sorting). - Insert data, insert columns and rows.	Lecture	Self and peer evaluation
12	3	Draw charts	Draw charts	Discussion and dialogue	oral exams
13	3	**Power Point Program**	-Run the program and get to know	Lecture	Self and peer evaluation

			the program interface -Prepare a slide (main text, word art, graphic shapes, text box, background).		
14	3	Animating elements on the slide	Custom Animation (add movement to any element on the slide, add sound to the movement, review the project within the storyboard, review the project on the entire screen, erase the movement, change the movement sequence, add implicit movement).	Discussion and dialogue	oral exams
15	3	Prepare a multi-slide project	(add a new slide, edit slides, delete slides) -Preparing an interactive show for slides using Hyper Link	Lecture	Self and peer evaluation

11. Infrastructure	
1- Required prescribed books	
2- Main references (sources)	1. Dr. Adnan Majed Abdel Rahman Berry, Excel basics. 2. Aqeel Muhammad Aqeel, Basics of Information Technology, Al-Manhal, 2014. 3. Khalil Ibrahim Shubar, basics of teaching.

3- Reputable international sites specialized and sober publishing sites	Recommended books and references, scientific journals ، reports.
4- Discreet publishing sites	Electronic references ، Internet sites...

12- course development plan
Providing the student with available recent research as far as the topic of the lecture is concerned .

Description Mode

Course description: Mathematics **A. Lecturer: Hibat Lafta**

This course description provides a summary of the most important course characteristics and the learning outcomes that the student is expected to achieve, demonstrating whether he or she has made the most of the learning opportunities available. It must be linked to the program description.

1- Educational institution	Middle Technical University, KUT Technical Institution
2- Scientific Department / Center	Department of Petroleum Equipment Inspection and Welding Techniques
3- Course name/code	**Mathematics**
4- Attendance type available	Mandatory
5- Semester / year	The first semester of the academic year 2024-2023
6- Number of hours of study (total)	(30) hours of study, 2 hours per week
7- The date this description was made	21/12/2023
8- Course objectives: At the end of the academic year, the student will be able to: Acquiring skills in dealing with mathematical operations, solving simultaneous equations, drawing mathematical functions, engineering applications of differentiation, applications of integration, understanding differential equations with their various applications, understanding vectors, and calculating angles for vectors.	

9 - Course outcomes and teaching, learning and evaluation methods

A- Cognitive objectives A1- Knows the concept of mathematical applications. A2-Solve simultaneous equations using Cramer's method. A3- Draw mathematical functions and maximum and minimum limits. A4- Understands the laws of integration and their relationship to differentiation. A5- Explains statistics from a mathematical perspective and the probability theory associated with it.
B - The skills objectives of the course. B1 - Understands various mathematical operations. B2 - Analyze mathematical laws and equations. B3 - Compares ancient and modern experiences in solving equations. B4- Communication and delivery skills.
Teaching and learning methods
1 - Objective questions are divided into: multiple choice questions, true and false questions, or approximation questions 2 - Self-evaluation and evaluation of the colleague. 3- The tests include: A - Constructive achievement tests accompanying the teaching plans. B - Final achievement tests and include: • Monthly final exams at the end of each academic month. • Final final exams at the end of a semester. • Final final exams at the end of the academic year.
Evaluation methods
Using achievement tests: • Daily • Monthly • Quarterly Final
C- Emotional and value goals C1 - Presenting new ideas on the topic by the student. C 2- The student's ability to evaluate the topic and give solutions. C 3 - differentiate between problems. C4- Explain and analyze phenomena and problems.
Teaching and learning methods
1 - Use the presentation and presentation method 2- Draw illustrations. 3 - Brainstorming method.
D - Transferred general and qualifying skills (other skills related to employability and personal development).

D 1- Skills of using references and terminology. D 2 - Skills in collecting and analyzing data on the subject. D 3 - the skills of exploiting the available capabilities. D 4- Skills of making comparisons on the topic D 5 - Skills of preparing special concepts on the subject.

10. Course structure

The week	Hours	Unit name and / or topic	Required learning outcomes	Education method	Evaluation method
1	2	Matrices	Defined kinds, operations on matrices , adding and subtracting and multiplication. Binary determinants	lecture	Self and peer evaluation
2	2	Determinants	Defined, How to calculate specified bilateral , tripartite, Solving linear equations(The way Kramer)	Discussion and dialogue	oral exams
3	2	Engineering theories	Trigonometry	lecture	Self and peer evaluation
4	2	Engineering theories	Areas and volumes	lectureDiscussion and dialogue	oral exams
5	2	Differentiation	Derivative geometric definition of derivative، laws of direct derivation of algebraic functions, chain rule، implicit function، derivative of exponential	lecture	Self and peer evaluation

			function,		
6	2	Differentiation	Derivative geometric definition of derivative، laws of direct derivation of algebraic functions, chain rule، implicit function، derivative of exponential function,	Discussion and dialogue	oral exams
7	2	Differentiation،	Derivative geometric definition of derivative، laws of direct derivation of algebraic functions, chain rule، implicit function، derivative of exponential function,	lecture	Self and peer evaluation
8	2	Applications of the derivative	Equation of the straight line , the slope of the tangent line and column , speed and acceleration	Discussion and dialogue	oral exams
9	2	Applications of the derivative	Equation of the straight line , the slope of the tangent line and column , speed and acceleration	Lecture	Self and peer evaluation
10	2	Applications of the derivative	Equation of the straight line , the slope of the tangent line and column ,	Discussion and dialogue	oral exams

			speed and acceleration		
11	2	Integration	(indefinite integral) integration of algebraic functions exponential and logarithmic functions trigonometric functions	Lecture	Self and peer evaluation
12	2	Integration	(indefinite integral) integration of algebraic functions exponential and logarithmic functions trigonometric functions	Discussion and dialogue	oral exams
13	2	Integration methods	(retail method and method of partial fractions	Lecture	Self and peer evaluation
14	2	Integration methods	(retail method and method of partial fractions	Discussion and dialogue	oral exams
15	2	Census	Statistical processes and frequency distributions and geometric mean	Lecture	Self and peer evaluation

11. Infrastructure	
1- Required prescribed books	
2- Main references (sources)	1- Dr. Ramadan Muhammad, Dr. Ahmed Abdel-Aali, Differentiation and Integration, 2001. 2- Prof. Malath Rahim Jassim, The Basic Theory of Calculus. 3- Georg B . Thomas, Jr. , "Thomas Calculus, 12th edition, Addison Wesley , Pearson Education, Inc ,2010.

3- Reputable international sites specialized and sober publishing sites	Recommended books and references, scientific journals ، reports.
4- Discreet publishing sites	Electronic references ، Internet sites...

12- course development plan
Providing the student with available recent research as far as the topic of the lecture is concerned .

Description Mode

Course description: English Language 1 **Lecturer: Salman Khayoun**

This course description provides a summary of the most important course characteristics and the learning outcomes that the student is expected to achieve, demonstrating whether he or she has made the most of the learning opportunities available. It must be linked to the program description.

1- Educational institution	Middle Technical University, KUT Technical Institution
2- Scientific Department / Center	Department of Petroleum Equipment Inspection and Welding Techniques
3- Course name/code	English Language 1
4- Attendance type available	Mandatory
5- Semester / year	The first semester of the academic year 2024-2023
6- Number of hours of study (total)	(30) hours of study, 2 hours per week
7- The date this description was made	21/12/2023
8- Course objectives: At the end of the academic year, the student will be able to: 1. Understands tenses and how they are used within sentences in the English language 2. He realizes that the curriculum is prepared for his level and develops with him 3. Learn about the most important ways of speaking or communicating while working in the English language 4. Develops English listening skills 5. Explains the mechanism of writing in the English language	

9 - Course outcomes and teaching, learning and evaluation methods

A- Cognitive objectives A1- The student is introduced to the concept of tenses in the English language. A2- Explains to the student how to learn language skills. A3- Shows the student the basics of writing and speaking. A4- Demonstrates the student the listening skill. A5- It gives the student practical examples and conversations in the English language.
B - The skills objectives of the course. B1 - Collects information about everything related to the English language. B2 - Analyzes the most important problems that prevent learning this language. B3 - Compares past and present experiences in language teaching. B4- Communication and communication skills and interacts with students.
Teaching and learning methods
1 - Objective questions are divided into: multiple choice questions, true and false questions, or approximation questions 2 - Self-evaluation and evaluation of the colleague. 3- The tests include: A - Constructive achievement tests accompanying the teaching plans. B - Final achievement tests and include: • Monthly final exams at the end of each academic month. • Final final exams at the end of a semester. • Final final exams at the end of the academic year.
Evaluation methods
Using achievement tests: • Daily • Monthly • Quarterly Final
C- Emotional and value goals C1 - Presenting new ideas on the topic by the student. C 2- The student's ability to evaluate the topic and give solutions. C 3 - differentiate between problems. C4- Explain and analyze phenomena and problems.
Teaching and learning methods
1 - Use the presentation and presentation method 2- Draw illustrations. 3 - Brainstorming method.
D - Transferred general and qualifying skills (other skills related to employability and personal development).

D 1- Skills of using references and terminology. D 2 - Skills in collecting and analyzing data on the subject. D 3 - the skills of exploiting the available capabilities. D 4- Skills of making comparisons on the topic D 5 - Skills of preparing special concepts on the subject.

10. Course structure

The week	Hours	Unit name and / or topic	Required learning outcomes	Education method	Evaluation method
1	2	Unit one	Hello Am\are\is ,my\your This is With practice in work	lecture	Self and peer evaluation
2	2	Unit two	Your world He\she\they, his\her Questions	Discussion and dialogue	oral exams
3	2	Unit three	All about	lecture	Self and peer evaluation
4	2	Unit four	Family and friends Possessive adjectives Possessives Has\have - Adjective + noun	lectureDiscussion and dialogue	oral exams
5	2	Unit Five	The way l live Present simple I \you\we\they A and An Adjective + noun	lecture	Self and peer evaluation
6	2	Unit six	Every day Present simple he\she	Discussion and dialogue	oral exams

			Questions and negatives Adverbs of frequency		
7	2	Unit seven	My favorites Question words Pronouns This and that	lecture	Self and peer evaluation
8	2	Unit eight	Where l live There is\are Prepositions	Discussion and dialogue	oral exams
9	2	Unit nine	Times past Was\were born Past simple-irregular verbs	Lecture	Self and peer evaluation
10	2	Unit ten	We had a great time Past simple-regular and irregular Question Negatives Ago	Discussion and dialogue	oral exams
11	2	Unit eleven	I can do that Can |can't Adverbs – Requests	Lecture	Self and peer evaluation
12	2	Unit twelve	Please and thank you I'd like… Some and any Like and would like	Discussion and dialogue	oral exams
13	2	Unit thirteen	Here and now Present simple and present continuous	Lecture	Self and peer evaluation
14	2	Unit fourteen	It's time to go	Discussion and	oral exams

			Future plans	dialogue	
15	2	Revision	Writing email and informant letter	Lecture	Self and peer evaluation

11. Infrastructure	
1- Required prescribed books	
2- Main references (sources)	The curriculum book designated for the first stage (primary in the English language) circulated by the Central Technical University.
3- Reputable international sites specialized and sober publishing sites	Recommended books and references, scientific journals ، reports.
4- Discreet publishing sites	Electronic references ، Internet sites...

12- course development plan
Providing the student with available recent research as far as the topic of the lecture is concerned .

Description Mode

Course description: Human rights, A. Lecturer: Abdullah Salman

This course description provides a summary of the most important course characteristics and the learning outcomes that the student is expected to achieve, demonstrating whether he or she has made the most of the learning opportunities available. It must be linked to the program description.

1- Educational institution	Middle Technical University, KUT Technical Institution
2- Scientific Department / Center	Department of Petroleum Equipment Inspection and Welding Techniques
3- Course name/code	**Democracy and Human rights**
4- Attendance type available	Mandatory
5- Semester / year	The first semester of the academic year 2024-2023
6- Number of hours of study (total)	(30) hours of study, 2 hours per week
7- The date this description was made	21/12/2023
8- Course objectives: At the end of the academic year, the student will be able to Understands the main principles of human rights, freedoms, rights and duties on groups and individuals and on superiors and subordinates, distinguishes human rights from the perspective of the Islamic religion, compares it to other religions, and understands the charters and covenants adopted by human rights associations in most countries of the world.	

9 - Course outcomes and teaching, learning and evaluation methods

A- Cognitive objectives A1- Knows the concept of human rights and democracy. A2- It characterizes international recognition of human rights. A3- It reveals the role of non-governmental organizations in dealing with the rights of the individual and society. A4- Understands human rights according to the Iraqi constitution. A5- It classifies human rights guarantees on the local, international and regional basis. A6- Classifies public and private freedoms.
B - The skills objectives of the course. B1 - Understands the rights and duties that an individual has and is obligated to fulfill. B2 - Realizes the role of institutions and community organizations in consolidating human rights. B3 - Compares the role of organizations towards human rights for most countries. B4- He possesses special skills and methods for determining rights and duties from the point of view of human rights organizations and committees spread around the world.
Teaching and learning methods
1 - Objective questions are divided into: multiple choice questions, true and false questions, or approximation questions 2 - Self-evaluation and evaluation of the colleague. 3- The tests include: A - Constructive achievement tests accompanying the teaching plans. B - Final achievement tests and include: • Monthly final exams at the end of each academic month. • Final final exams at the end of a semester. • Final final exams at the end of the academic year.
Evaluation methods
Using achievement tests: • Daily • Monthly • Quarterly Final
C- Emotional and value goals C1 - Presenting new ideas on the topic by the student. C 2- The student's ability to evaluate the topic and give solutions. C 3 - differentiate between problems. C4- Explain and analyze phenomena and problems.

Teaching and learning methods
1 - Use the presentation and presentation method 2- Draw illustrations. 3 - Brainstorming method.
D - Transferred general and qualifying skills (other skills related to employability and personal development). D 1- Skills of using references and terminology. D 2 - Skills in collecting and analyzing data on the subject. D 3 - the skills of exploiting the available capabilities. D 4- Skills of making comparisons on the topic D 5 - Skills of preparing special concepts on the subject.

10. Course structure

The week	Hours	Unit name and / or topic	Required learning outcomes	Education method	Evaluation method
1	2	Human rights	Definition. Its objectives, Human rights in ancient civilizations, especially the Mesopotamian civilization.	lecture	Self and peer evaluation
2	2	Human rights in divine laws, with a focus on human rights in Islam	Human rights in divine laws, with a focus on human rights in Islam	Discussion and dialogue	oral exams
3	2	Human rights in contemporary and modern history:	international recognition of human rights since World War I and the League of Nations	lecture	Self and peer evaluation
4	2	Regional	The American	lectureDiscussion	oral exams

		recognition of human rights under the European Convention on Human Rights 1950.	Convention on Human Rights 1969. The African Charter on Human Rights 1981. The Arab Charter on Human Rights 1994.	and dialogue	
5	2	Non-governmental organizations and human rights	(International Committee of the Red Cross, Amnesty International, Human Rights Watch, National Human Rights Organizations	lecture	Self and peer evaluation
6	2	Human rights in Iraqi constitutions.	Human rights in Iraqi constitutions.	Discussion and dialogue	oral exams
7	2	The relationship between human rights and public freedoms in the Universal Declaration of Human Rights in regional charters and national constitutions.	The relationship between human rights and public freedoms in the Universal Declaration of Human Rights in regional charters and national constitutions.	lecture	Self and peer evaluation
8	2	Economic	social and cultural human rights and civil	Discussion and dialogue	oral exams

			and political human rights		
9	2	Modern human rights	the right to development. The right to a clean environment. The right to solidarity. The right to religion.	Lecture	Self and peer evaluation
10	2	Guarantees of respect and protection of human rights at the national level.	Guarantees in the constitution and laws Guarantees in the principle of the rule of 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	Discussion and dialogue	oral exams
11	2	Guarantees, respect and protection of human rights at the international level - the role of the United Nations and	The role of regional organizations (the Arab League, the European Union, the Organization of American States, the ASEAN	Lecture	Self and peer evaluation

		its specialized agencies in providing guarantees.	Organization. The role of international regional non-governmental organizations and public opinion in respecting and protecting human rights.		
12	2	The general theory of freedoms is the origin of rights.	The project's position on the declared rights and freedoms. Use of the term public freedoms.	Discussion and dialogue	oral exams
13	2	The legal rule of the state of law.	The legal rule of the state of law.	Lecture	Self and peer evaluation
14	2	Regulation of public freedoms by public authorities.	Regulation of public freedoms by public authorities.	Discussion and dialogue	oral exams
15	2	Equality	The historical development of the concept of equality. The modern development of the idea of gender equality - equality between individuals, their beliefs, and their race.	Lecture	Self and peer evaluation

11. Infrastructure	
1- Required prescribed books	
2- Main references (sources)	The prescribed letter from the Ministry of Higher Education and Scientific Research
3- Reputable international sites specialized and sober publishing sites	Recommended books and references, scientific journals ، reports.
4- Discreet publishing sites	Electronic references ، Internet sites...

12- course development plan
Providing the student with available recent research as far as the topic of the lecture is concerned .

First Stage

(Second semester)

Description Mode

Course description: Welding Technology **Dr. Abbas Nasser**

This assignment provides an operational overview of Japan and a diverse range of oil and industrial sectors, as well as a description of the preparation of oil and pipe fittings and how to weld them to various locations in Yemen.

1- Educational institution	Middle Technical University, KUT Technical Institution
2- Scientific Department / Center	Department of Petroleum Equipment Inspection and Welding Techniques
3- Course name/code	**Welding Technology**
4- Attendance type available	Mandatory
5- Semester / year	The second semester of the academic year 2024-2023
6- Number of hours of study (total)	(60) hours of study, 4 hours per week
7- The date this description was made	21/12/2023
8- Course objectives: The student is introduced to advanced welding processes, which qualifies him to compare and choose the best and most appropriate processes in his field of work.	

9 - Course outcomes and teaching, learning and evaluation methods
A- Cognitive objectives A1- Defines the concept of welding technology in oil facilities. A2- Explains to the student the most important characteristics of each welding

process.
A3- Shows the student how to use international specifications for welding technology and apply them on the ground.

B - The skills objectives of the course.
B1 - Collects information about welding technology in general.
B2 - Analyze the causes of these problems occurring in welding operations.
B3 - Compares past and present experiences.
B4- Communication and communication skills.

Teaching and learning methods

1 - Objective questions are divided into: multiple choice questions, true and false questions, or approximation questions
2 - Self-evaluation and evaluation of the colleague.
3- The tests include:
A - Constructive achievement tests accompanying the teaching plans.
B - Final achievement tests and include:
• Monthly final exams at the end of each academic month.
• Final final exams at the end of a semester.
• Final final exams at the end of the academic year.

Evaluation methods

Using achievement tests:
• Daily
• Monthly
• Quarterly Final

C- Emotional and value goals
C1 - Presenting new ideas on the topic by the student.
C 2- The student's ability to evaluate the topic and give solutions.
C 3 - differentiate between problems.
C4- Explain and analyze phenomena and problems.

Teaching and learning methods

1 - Use the presentation and presentation method
2- Draw illustrations.
3 - Brainstorming method.

D - Transferred general and qualifying skills (other skills related to employability and personal development).
D 1- Skills of using references and terminology.
D 2 - Skills in collecting and analyzing data on the subject.
D 3 - the skills of exploiting the available capabilities.
D 4- Skills of making comparisons on the topic

D 5 - Skills of preparing special concepts on the subject.

10. Course structure					
The week	**Hours**	**Unit name and / or topic**	**Required learning outcomes**	**Education method**	**Evaluation method**
1	4	Introduction to welding technology	Definition and basics of gas-shielded arc welding (MIG), its advantages and disadvantages.	lecture	Self and peer evaluation
2+3	8	Gas-shielded arc welding:	The main parts of gas-shielded arc welding (machine, feeding device, welding guns, gas unit), gases used in it, metal transfer methods, welding wires.	Discussion and dialogue	oral exams
4-6	12	Welding machine	Operating and adjusting the welding machine, technical methods for welding operations (arc ignition, arc stabilization, re-igniting the arc to continue welding, welding angles), forms of arc welding joints.	lecture	Self and peer evaluation
7+8	8	Electrodes (wires) used	Definition and types of	lectureDiscussion and dialogue	oral exams

		in shielded arc welding (SMAW):	electrodes, specifications of welding electrodes, benefits of using the flux aid (Flux) on the electrodes, the relationship of the thickness of the metal and the diameter of the electrode wire to the intensity of the current.		
9+10	8	Gas welding	The idea of gas welding, advantages and disadvantages of gas welding, gases used, welding equipment (cylinders, regulator, pressure gauges, hoses, safety valve, welding torch).	lecture	Self and peer evaluation
11-14	16	Types of flames and their areas	Flame control, weld pool, welding line, different types of connections. Different welding positions, torch movement, angle of torch and filler wire, classification of filler wires,	Discussion and dialogue	oral exams

			melting aids, pipe welding, gas metal cutting.		
15	4	Electrical resistance welding	Advantages of electrical resistance welding, types of electrical resistance welding (spot welding, strip welding, projection welding, flash welding).	lecture	Self and peer evaluation

11. Infrastructure	
1- Required prescribed books	
2- Main references (sources)	1. Welding Technology, Dr. Abdul Razzaq Ismail and Dr. Nofal Hamad Hassan. 2. Welding metallurgy, Dr. Qahtan Al-Khazraji. 3. Welding Technology Bag for Production Specialization, Department of Mechanical Technology - Colleges of Technology, General Corporation for Technical and Vocational Training, Riyadh. 4. Welding program portfolios – for industrial vocational institutes, General Corporation for Technical and Vocational Training, Riyadh. 5. Welding principles and applications ،Larry Jeffus, 4th edition ،Delmar publisher USA.
3- Reputable international sites specialized and sober publishing sites	Recommended books and references, scientific journals ، reports.
4- Discreet publishing sites	Electronic references ، Internet sites...

12- course development plan
Providing the student with available recent research as far as the topic of the lecture is concerned .

Description Mode

Course description: Welding Machine **Eng. Ali Hassanein**

This course description provides a summary of welding machines and their use in oil and industrial fields, as well as a description of fault diagnosis and maintenance for various welding machines.

1- Educational institution	Middle Technical University, KUT Technical Institution
2- Scientific Department / Center	Department of Petroleum Equipment Inspection and Welding Techniques
3- Course name/code	**Welding Machine**
4- Attendance type available	Mandatory
5- Semester / year	The second semester of the academic year 2024-2023
6- Number of hours of study (total)	(60) hours of study, 4 hours per week
7- The date this description was made	21/12/2023
8- Course objectives: At the end of the academic year, the student should be able to know the technical foundations of welding machines and various electric motors, the theory of their operation, methods of operation, and how to repair electrical faults and perform maintenance on them.	

9 - Course outcomes and teaching, learning and evaluation methods
A- Cognitive objectives A1- Knows the concept of welding machines. A2- Explains to the student the most important characteristics of each welding machine. A3- It shows the student how to use international specifications for welding

machines and apply them on the ground.
B - The skills objectives of the course. B1 - Collects information about welding machines in general. B2 - Analyze the causes of these problems occurring in welding machines. B3 - Compares past and present experiences. B4- Communication and communication skills.
Teaching and learning methods
1 - Objective questions are divided into: multiple choice questions, true and false questions, or approximation questions 2 - Self-evaluation and evaluation of the colleague. 3- The tests include: A - Constructive achievement tests accompanying the teaching plans. B - Final achievement tests and include: • Monthly final exams at the end of each academic month. • Final final exams at the end of a semester. • Final final exams at the end of the academic year.
Evaluation methods
Using achievement tests: • Daily • Monthly • Quarterly Final
C- Emotional and value goals C1 - Presenting new ideas on the topic by the student. C 2- The student's ability to evaluate the topic and give solutions. C 3 - differentiate between problems. C4- Explain and analyze phenomena and problems.
Teaching and learning methods
1 - Use the presentation and presentation method 2- Draw illustrations. 3 - Brainstorming method.
D - Transferred general and qualifying skills (other skills related to employability and personal development). D 1- Skills of using references and terminology. D 2 - Skills in collecting and analyzing data on the subject. D 3 - the skills of exploiting the available capabilities. D 4- Skills of making comparisons on the topic D 5 - Skills of preparing special concepts on the subject.

10. Course structure					
The week	**Hours**	**Unit name and / or topic**	**Required learning outcomes**	**Education method**	**Evaluation method**
1-4	16	Introduction to the basics of electricity:	Electrical units and symbols, simple electrical circuit, current strength of electromotive force, potential difference, methods of connecting resistors (series, parallel, compound), applied examples. Alternating current (variable): sine wave, current waveform with time and frequency, applications and examples of the use of alternating current in practical life. Electromagnetism: magnetic field, field properties, properties of magnetism, types of magnetic materials, definitions (field density, field strength, magnetic driving force)...	lecture	Self and peer evaluation
5-10	24	Introduction to the welding machine, safety precautions, explanation of the technical	Description of the protection devices (thermal protection, alarm screen, displayed errors and the meaning of each symbol). Installing the machine, installing the cables and separate parts, identifying the control panel and the	Discussion and dialogue	oral exams

		specifications listed on the machine nameplate.	function of each key in the machine, choosing the appropriate type and amount of current for welding. Welding machine maintenance (machine coil and core, resistors, capacitors, diodes, etc.).		
11-15	20	Alternating current has three phases. Electrical transformers Three-phase AC motors	Single-phase AC motors Protection (protection) of engines. Methods for identifying faults in engines	lecture	Self and peer evaluation

11. Infrastructure	
1- Required prescribed books	
2- Main references (sources)	1-Electrical Technology by – Theraga. 2- Electrical Technology by – Hughes 3- Electrical Technology by – Erick
3- Reputable international sites specialized and sober publishing sites	Recommended books and references, scientific journals ، reports.
4- Discreet publishing sites	Electronic references ، Internet sites...

12- course development plan
Providing the student with available recent research as far as the topic of the lecture is concerned .

Description Mode

Course description: Engineering Inspection in Oil Facilities
A. Lecturer: Mortadha Kareem

This course description provides a summary of engineering inspection in petroleum facilities and how to evaluate and analyze test results using different techniques to detect defects and deformations and measure mechanical properties. As well as introducing the student to the basics of engineering examination in oil facilities, the types of examinations, and how to apply them.

1- Educational institution	Middle Technical University, KUT Technical Institution
2- Scientific Department / Center	Department of Petroleum Equipment Inspection and Welding Techniques
3- Course name/code	**Engineering Inspection in Oil Facilities**
4- Attendance type available	Mandatory
5- Semester / year	The second semester of the academic year 2024-2023
6- Number of hours of study (total)	(60) hours of study, 4 hours per week
7- The date this description was made	21/12/2023
8- Course objectives: At the end of the academic year, the student will be able to: 1. Enumerates the types of tests used in engineering examination of oil facilities 2. Evaluation and analysis of the mechanical properties of equipment 3. Know the most important international specifications for engineering inspection of equipment.	

9 - Course outcomes and teaching, learning and evaluation methods

A- Cognitive objectives A1- Knows the concept of engineering inspection in oil facilities. A2- Explains to the student the most important characteristics of each examination. A3- Shows the student how to use international specifications for testing equipment and apply them on the ground.
B - The skills objectives of the course. B1 - Collects information about engineering examination in general. B2 - Analyze the causes of these problems occurring in oil equipment. B3 - Compares past and present experiences. B4- Communication and communication skills.
Teaching and learning methods
1 - Objective questions are divided into: multiple choice questions, true and false questions, or approximation questions 2 - Self-evaluation and evaluation of the colleague. 3- The tests include: A - Constructive achievement tests accompanying the teaching plans. B - Final achievement tests and include: • Monthly final exams at the end of each academic month. • Final final exams at the end of a semester. • Final final exams at the end of the academic year.
Evaluation methods
Using achievement tests: • Daily • Monthly • Quarterly Final
C- Emotional and value goals C1 - Presenting new ideas on the topic by the student. C 2- The student's ability to evaluate the topic and give solutions. C 3 - differentiate between problems. C4- Explain and analyze phenomena and problems.
Teaching and learning methods
1 - Use the presentation and presentation method 2- Draw illustrations. 3 - Brainstorming method.
D - Transferred general and qualifying skills (other skills related to employability and personal development). D 1- Skills of using references and terminology. D 2 - Skills in collecting and analyzing data on the subject.

D 3 - the skills of exploiting the available capabilities. D 4- Skills of making comparisons on the topic D 5 - Skills of preparing special concepts on the subject.

10. Course structure

The week	Hours	Unit name and / or topic	Required learning outcomes	Education method	Evaluation method
1	4	Introduction to engineering inspection in petroleum facilities	1-Definition of engineering examination. 2-Classification of engineering examinations.	lecture	Self and peer evaluation
2	4	Inspection of oil tanks	1-The general concept of tank inspection. 2-Types of oil tanks. 3-Atmospheric pressure tanks.	Discussion and dialogue	oral exams
3	4	Reasons and times for inspecting oil tanks	1- Low pressure tanks. 2- Justifications for inspection and causes of damage. 3- Examination time and rates.	lecture	Self and peer evaluation
4	4	External and internal examinations of oil tanks	1-External examination of the tank. 2-Internal examination. 3- Check the bottom of the tank. 4- Inspect the tank	lectureDiscussion and dialogue	oral exams

			walls.		
5	4	Testing of oil tanks	1-Clarity examination. 2- Tank testing. 3- Limits of permissible tolerances.	lecture	Self and peer evaluation
6	4	Inspection of oil equipment	1- Introduction. 2- Examination of vessels operating under pressure. 3- Choose the appropriate metal.	Discussion and dialogue	oral exams
7	4	Examination methods	1- Factors affecting the examination. 2- The examination methods used. 3- Detection of defects in the walls of vessels.	lecture	Self and peer evaluation
8	4	Inspection of oil equipment	1- Limits of the thickness of the vessel walls. 2- Wall maintenance methods.	Discussion and dialogue	oral exams
9	4	Inspection of steam boilers	1- Introduction to steam boilers. 2- Types of steam boilers. 3- Boiler inspection systems.	Lecture	Self and peer evaluation
10	4	Inspection of steam boilers	1- Purposes of inspection and causes of damage to boilers.	Discussion and dialogue	oral exams

			2- Safety measures and preparing an examination plan. 3- Evaluation and analysis of tests.		
11	4	Engineering inspection of oil pipelines	1- The general concept of pipe inspection. 2- Pipe terminology. 3- Classification of oil pipelines.	Lecture	Self and peer evaluation
12	4	Engineering inspection of oil pipelines	1- Types of welding tests in pipes. 2- Screening rates. 3- Inspection during operation.	Discussion and dialogue	oral exams
13	4	Engineering inspection of oil pipelines	1- Measure the thickness of the pipes 2- International specifications for pipe inspection 3- Evaluate and analyze the examination results	Lecture	Self and peer evaluation
14	4	Engineering inspection of furnaces and chimneys	1- Introduction to oven inspection 2- Types of ovens and chimneys 3- Methods of plastering ovens	Discussion and dialogue	oral exams
15	4	Engineering inspection of furnaces and chimneys	1- Checking the torches 2- Inspecting the chimneys	Lecture	Self and peer evaluation

			3- Inspection of precision devices		

11. Infrastructure	
1- Required prescribed books	
2- Main references (sources)	1- Lincoln Handbook of Arc Welding 2- ASME – Unfired pressure vessels 3- ASTM – Standards book
3- Reputable international sites specialized and sober publishing sites	Recommended books and references, scientific journals ، reports.
4- Discreet publishing sites	Electronic references ، Internet sites...

12- course development plan
Providing the student with available recent research as far as the topic of the lecture is concerned .

Description Mode

Course description: Workshops

This course description provides a summary of the acquisition of manual skill to carry out operating and manufacturing operations using various hand tools and measuring tools and the ability to work and operate machines in the optimal productive manner.

1- Educational institution	Middle Technical University, KUT Technical Institution
2- Scientific Department / Center	Department of Petroleum Equipment Inspection and Welding Techniques
3- Course name/code	**Workshops**
4- Attendance type available	Mandatory
5- Semester / year	The second semester of the academic year 2024-2023
6- Number of hours of study (total)	(120) hours of study, 8 hours per week
7- The date this description was made	21/12/2023
8- Course objectives: At the end of the academic year, the student will be able to: 1. Acquire manual skill to carry out operations 2. Implementing various exercises for each workshop. 3. Knowing the most important international specifications for safety in workshops and what their most important guidelines are.	

9 - Course outcomes and teaching, learning and evaluation methods

A- Cognitive objectives A1- Knows the concept of laboratories and workshops. A2- Explains to the student the most important characteristics of each workshop. A3- Shows the student how to use international specifications for laboratories and workshops.
B - The skills objectives of the course. B1 - Collects information about laboratories and workshops in general. B2 - Analyze the causes of problems occurring in the workshops. B3 - Compares past and present experiences. B4- Communication and communication skills.
Teaching and learning methods
1 - Objective questions are divided into: multiple choice questions, true and false questions, or approximation questions 2 - Self-evaluation and evaluation of the colleague. 3- The tests include: A - Constructive achievement tests accompanying the teaching plans. B - Final achievement tests and include: • Monthly final exams at the end of each academic month. • Final final exams at the end of a semester. • Final final exams at the end of the academic year.
Evaluation methods
Using achievement tests: • Daily • Monthly • Quarterly Final
C- Emotional and value goals C1 - Presenting new ideas on the topic by the student. C 2- The student's ability to evaluate the topic and give solutions. C 3 - differentiate between problems. C4- Explain and analyze phenomena and problems.
Teaching and learning methods
1 - Use the presentation and presentation method 2- Draw illustrations. 3 - Brainstorming method.
D - Transferred general and qualifying skills (other skills related to employability and personal development). D 1- Skills of using references and terminology. D 2 - Skills in collecting and analyzing data on the subject.

D 3 - the skills of exploiting the available capabilities. D 4- Skills of making comparisons on the topic D 5 - Skills of preparing special concepts on the subject.

10. Course structure					
The week	**Hours**	**Unit name and / or topic**	**Required learning outcomes**	**Education method**	**Evaluation method**
1	8	Milling	- Horizontal milling machine, main comprehensive: explanation of the parts of the machine and the function of each, operating the machines and choosing speeds and feeds, tools and devices attached to the machines and their uses and methods of installing them, dividing heads, and locations. - Milling balls: their types (cylindrical surface milling, shoulder milling, sewage work balls, gear opening balls, special cylindrical forming balls with internal or peripheral holes), uses of the blocks, methods of installing them, and fixing workpieces.	lecture	Self and peer evaluation

2	8	Milling	Division heads and their uses, Explaining the division device and how to use it, simple division, division using circles of holes, doing a polygons exercise on the division head.	Discussion and dialogue	oral exams
3	8	Milling	Milling straight gears on general machines maintenance of milling machines.	lecture	Self and peer evaluation
4	8	Metal Plumbing	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 students.	lectureDiscussion and dialogue	oral exams
5	8	Metal Plumbing	Sand mold of a one-piece model with identification of castings and risers, melting and pouring metal into a mould, extraction and cleaning of castings.	lecture	Self and peer evaluation
6	8	Metal Plumbing	Forming a sand mold as before, melting the metal, pouring it into a mold, taking out the casting and cleaning	Discussion and dialogue	oral exams

			it. Metal smelting furnaces, their types, characteristics, uses, rotary, stirrer, and stationary furnaces.		
7	8	Lathe workshop	Specifications, uses, accessories, installation methods, operating the lathe, types of lathe pens using each of them. Lathing operations: plane lathing, tooling, center work, simple step drilling, use of measuring tools.	lecture	Self and peer evaluation
8	8	Lathe workshop	Mapping the external method in different ways, explaining the laws for each method, and doing an exercise specifically for the external method.	Discussion and dialogue	oral exams
9	8	Lathe workshop	Cutting speeds, selecting them, and using their tables. -Working out the different teeth externally (the triangle). Performing an exercise that includes the triangle teeth -Make the tooth an outer square and do an exercise.	Lecture	Self and peer evaluation
10	8	Grinding workshop	Industrial development and the role of the	Discussion and dialogue	oral exams

			refrigerator in it. Vernier calipers. Shankara process. Files and cold process.		
11	8	Grinding workshop	Chainsaw cutting	Lecture	Self and peer evaluation
12	8	Grinding workshop	The process of embryogenesis Drilling process	Discussion and dialogue	oral exams
13	8	Plumbing and blacksmithing	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 discretizations, calculating the discreteness of the cut and missing actuators.	Lecture	Self and peer evaluation
14	8	Plumbing and blacksmithing	Training on calculating individual intersecting works, performing an exercise for two intersecting cylinders.	Discussion and dialogue	oral exams
15	8	Plumbing and blacksmithing	Cone singularities and conic ellipses.	Lecture	Self and peer evaluation

11. Infrastructure	
1- Required prescribed books	

2- Main references (sources)	
3- Reputable international sites specialized and sober publishing sites	Recommended books and references, scientific journals ، reports.
4- Discreet publishing sites	Electronic references ، Internet sites...

12- course development plan
Providing the student with available recent research as far as the topic of the lecture is concerned .

Description Mode

Course description: Engineering Corrosion A. Lecturer: Duaa Abbas

This course description provides a summary of the most important course characteristics and the learning outcomes that the student is expected to achieve, demonstrating whether he or she has made the most of the learning opportunities available. It must be linked to the program description.

1- Educational institution	Middle Technical University, KUT Technical Institution
2- Scientific Department / Center	Department of Petroleum Equipment Inspection and Welding Techniques
3- Course name/code	**Engineering Corrosion**
4- Attendance type available	Mandatory
5- Semester / year	The second semester of the academic year 2024-2023
6- Number of hours of study (total)	(30) hours of study, 2 hours per week
7- The date this description was made	21/12/2023
8- Course objectives: At the end of the academic year, the student will be able to: Acquires the skills to deal with and understand the corrosion process that occurs in metals, the important terms in corrosion, the effect of corrosion on industrial facilities, the causes of corrosion and its types, the chemical and electrochemical reactions that occur as a result of corrosion, the processes of protecting metal from corrosion, or the methods used to avoid corrosion.	

9 - Course outcomes and teaching, learning and evaluation methods

A- Cognitive objectives A1- Knows the concept of corrosion and the terms associated with it. A2- Explains the harms of corrosion, its causes, and how to combat it. A3- Shows the effect of corrosion from industrial aspects A4- Explains the factors affecting corrosion of metal. A5- Explains ways to protect metal from corrosion. A6- Explains effective methods for examining corrosion, measurement methods, and its indications.
B - The skills objectives of the course. B1 - Understands the process of corrosion and the causes that cause it to occur. B2 - Analyze the damage resulting from corrosion of metals. B3 - Compare the effect of corrosion from one metal to another. B4- Communication and communication skills.
Teaching and learning methods
1 - Objective questions are divided into: multiple choice questions, true and false questions, or approximation questions 2 - Self-evaluation and evaluation of the colleague. 3- The tests include: A - Constructive achievement tests accompanying the teaching plans. B - Final achievement tests and include: • Monthly final exams at the end of each academic month. • Final final exams at the end of a semester. • Final final exams at the end of the academic year.
Evaluation methods
Using achievement tests: • Daily • Monthly • Quarterly Final
C- Emotional and value goals C1 - Presenting new ideas on the topic by the student. C 2- The student's ability to evaluate the topic and give solutions. C 3 - differentiate between problems. C4- Explain and analyze phenomena and problems.
Teaching and learning methods
1 - Use the presentation and presentation method 2- Draw illustrations. 3 - Brainstorming method.
D - Transferred general and qualifying skills (other skills related to employability

and personal development).
D 1- Skills of using references and terminology.
D 2 - Skills in collecting and analyzing data on the subject.
D 3 - the skills of exploiting the available capabilities.
D 4- Skills of making comparisons on the topic
D 5 - Skills of preparing special concepts on the subject.

10. Course structure

The week	Hours	Unit name and / or topic	Required learning outcomes	Education method	Evaluation method
1	2	Learn about the concept of corrosion and the important terms associated with it.	Corrosion, its definition Important terms: anode, cathode, ion, positive ion, negative ion, electrolytic medium, dielectric junction, conductor, polarization, electrochemical series.	lecture	Self and peer evaluation
2	2	Learn about Faraday's law and the types of electrochemical cells.	Dry column, Faraday's law, cathode and anode, types of electrochemical cells.	Discussion and dialogue	oral exams
3	2	Identify the damage caused by corrosion and how to combat it	The damage of corrosion, the reasons for combating it, the impact of corrosion on industrial aspects, the costs of direct and indirect	lecture	Self and peer evaluation

			corrosion.		
4	2	Identify the mechanics of corrosion and its conditions	Corrosion mechanics, corrosion conditions, corrosion occurrence.	lectureDiscussion and dialogue	oral exams
5	2	Identify corrosive materials and their types	Corrosive materials, types of corrosion: general corrosion, galvanic corrosion, inter-gap corrosion.	lecture	Self and peer evaluation
6	2	Identify corrosion occurring under the surface of water	Pitting corrosion, facultative corrosion, mechanical corrosion, underwater corrosion.	Discussion and dialogue	oral exams
7	2	Identify corrosion resulting from sediments	Sediment corrosion, intergranular corrosion, stress crack corrosion.	lecture	Self and peer evaluation
8	2	Learn about dynamics, electrochemical equilibrium, and the Van Hoff equation	Thermodynamics and electrochemical equilibrium: chemical and electrochemical reactions, van Hoff equation.	Discussion and dialogue	oral exams
9	2	Finding the relationship between potential difference, pH, and the direction of the	The relationship between potential difference and pH, direction of chemical reaction, electromotive force and electrochemical	Lecture	Self and peer evaluation

		chemical reaction	series.		
10	2	Detection of factors affecting and contributing to corrosion of metal	Factors affecting metal corrosion: pH graph, potential difference, comparison electrode.	Discussion and dialogue	oral exams
11	2	Understanding the kinetics of chemical reactions and applying the relationship between potential difference and current intensity	Kinetics of chemical reactions: the relationship between potential difference and current intensity, corrosion rate.	Lecture	Self and peer evaluation
12	2	Identify the mechanism of protecting metal from corrosion	Protection of metal from corrosion: cathodic protection, anodic protection, coatings, corrosion inhibitors, appropriate design.	Discussion and dialogue	oral exams
13	2	Identify the quality of the metal and the corrosion medium	Metal quality, corrosion medium, coverage.	Lecture	Self and peer evaluation
14	2	Identify methods of inspection or examination for corrosion	Corrosion inspection: visual inspection, method for determining lost weight, full polarization, resistance to alternating current,	Discussion and dialogue	oral exams

			corrosion meter, qualitative analysis using X-rays, signs of the beginning of corrosion, changing the medium voltage.		
15	2	Learn about measurement procedures and choose the system for corrosion protection.	Measurement work: selection of the protection system, special survey work, measuring devices, measurement methods, measurement guides.	Lecture	Self and peer evaluation

11. Infrastructure	
1- Required prescribed books	
2- Main references (sources)	1- Corrosion control, Samuel A. Bradford 1 2- Corrosion control and surface finishing, Hideyuki Kanematsu. 3- Corrosion of Metals, Kaesche.3 - 4 - Corrosion processes, George Vachtsevanos 5- Applied materials science, corrosion, Saudi Development Institute.
3- Reputable international sites specialized and sober publishing sites	Recommended books and references, scientific journals ، reports.
4- Discreet publishing sites	Electronic references ، Internet sites...

12- course development plan
Providing the student with available recent research as far as the topic of the lecture is concerned .

Description Mode

Course description: Heat Transfer **Lecturer: Asham Mohammad**

This course description provides a necessary summary of the most important basics of heat transfer, the most important types of heat exchangers and their industrial applications, the most important types of insulators and methods of using them.

1- Educational institution	Middle Technical University, KUT Technical Institution
2- Scientific Department / Center	Department of Petroleum Equipment Inspection and Welding Techniques
3- Course name/code	**Heat Transfer**
4- Attendance type available	Mandatory
5- Semester / year	The second semester of the academic year 2024-2023
6- Number of hours of study (total)	(60) hours of study, 4 hours per week
7- The date this description was made	21/12/2023
8- Course objectives: At the end of the academic year, the student will be able to: 1. The student knows the basics of heat 2. The student knows thermal conductivity 3. The student knows the transfer of heat by radiation 4. The student is introduced to heat exchangers	

9 - Course outcomes and teaching, learning and evaluation methods
A- Cognitive objectives A1- Knows the concept of heat and methods of its transfer. A2- Explain to the student thermal conductivity A3- Explains to the student the content of heat transfer by radiation

A4- Explain to the student the development reached by heat exchangers.
B - The skills objectives of the course. B1 - Collects information about the industries. B2 - Analyze the causes of these problems. B3 - Compares past and present experiences. B4- Communication and communication skills.
Teaching and learning methods
1 - Objective questions are divided into: multiple choice questions, true and false questions, or approximation questions 2 - Self-evaluation and evaluation of the colleague. 3- The tests include: A - Constructive achievement tests accompanying the teaching plans. B - Final achievement tests and include: • Monthly final exams at the end of each academic month. • Final final exams at the end of a semester. • Final final exams at the end of the academic year.
Evaluation methods
Using achievement tests: • Daily • Monthly • Quarterly Final
C- Emotional and value goals C1 - Presenting new ideas on the topic by the student. C 2- The student's ability to evaluate the topic and give solutions. C 3 - differentiate between problems. C4- Explain and analyze phenomena and problems.
Teaching and learning methods
1 - Use the presentation and presentation method 2- Draw illustrations. 3 - Brainstorming method.
D - Transferred general and qualifying skills (other skills related to employability and personal development). D 1- Skills of using references and terminology. D 2 - Skills in collecting and analyzing data on the subject. D 3 - the skills of exploiting the available capabilities. D 4- Skills of making comparisons on the topic D 5 - Skills of preparing special concepts on the subject.

10. Course structure					
The week	**Hours**	**Unit name and / or topic**	**Required learning outcomes**	**Education method**	**Evaluation method**
1	4	Heat basics	The basics of heat, its units and types (specific heat and latent heat).	lecture	Self and peer evaluation
2	4	Heat transfer	Conduction Heat Transfer and Fourier's Law.	Discussion and dialogue	oral exams
3+4	8	Methods heat transfer	Temperature distribution through the walls.	lecture	Self and peer evaluation
5+6	8	Temperature distribution	Practical applications.	lectureDiscussion and dialogue	oral exams
7+8	8	Thermal conductivity	Delivery to the unstable state.	lecture	Self and peer evaluation
9+10	8	heat transfer	Convection Heat Transfer.	Discussion and dialogue	oral exams
11+12	8	Applications	Forced Convection in a Tube + Practical Applications.	lecture	Self and peer evaluation
13	4	Heat transfer by radiation	Heat Transfer by Radiation (Wave Theory and Quantum Theory).	Discussion and dialogue	oral exams
14+15	8	Heat flow in welding	Heat Flow in Welding , Weld Thermal Cycle.	Lecture	Self and peer evaluation

11. Infrastructure	
1- Required prescribed books	
2- Main references (sources)	1- J.P. Holman, Heat Transfer, Ninth edition. 2- Frank P. Incropera & David P. Dewitt, Fundamentals of Heat and Mass Transfer, Fifth Edition. 3- Coulson, J.M and Richardson J.F. "Chemical Engineering, volume 1", 3rd edition. 4- Welding Metallurgy, Heat Flow in Welding 5- The CRC Handbook of Thermal Engineering, Ed. Frank Kreith, Boca Raton: CRC Press LLC, 2000.
3- Reputable international sites specialized and sober publishing sites	Recommended books and references, scientific journals ، reports.
4- Discreet publishing sites	Electronic references ، Internet sites...

12- course development plan
Providing the student with available recent research as far as the topic of the lecture is concerned .

Description Mode

Course description: CAD **A. Lecturer: Hibet Lafta**

This course description provides a summary of the most important basics of computer-aided drawing (CAD) and their applications.

1- Educational institution	Middle Technical University, KUT Technical Institution
2- Scientific Department / Center	Department of Petroleum Equipment Inspection and Welding Techniques
3- Course name/code	**CAD**
4- Attendance type available	Mandatory
5- Semester / year	The second semester of the academic year 2024-2023
6- Number of hours of study (total)	(45) hours of study, 3 hours per week
7- The date this description was made	21/12/2023
8- Course objectives: At the end of the academic year, the student will be able to: 1- Operating the AutoCAD program and using it for engineering drawing of geometric shapes. 2- Analyzing and designing engineering tools and models, adjusting drawing interface settings. 3- Analyzing the triangular geometric shape into geometric projections.	

9 - Course outcomes and teaching, learning and evaluation methods
A- Cognitive objectives A1- Knows the concept of engineering drawing. A2- Explains to the student the most important commands in the AutoCAD program A3- Explains to the student the content of engineering drawings

A4- Explains to the student the development that the engineering drawing program has reached
B - The skills objectives of the course. B1 - Collects information about problems in the AutoCAD program. B2 - Analyze the causes of these problems. B3 - Compares past and present experiences. B4- Communication and communication skills.A4- Explains the factors affecting corrosion of metal.
Teaching and learning methods
1 - Objective questions are divided into: multiple choice questions, true and false questions, or approximation questions 2 - Self-evaluation and evaluation of the colleague. 3- The tests include: A - Constructive achievement tests accompanying the teaching plans. B - Final achievement tests and include: • Monthly final exams at the end of each academic month. • Final final exams at the end of a semester. • Final final exams at the end of the academic year.
Evaluation methods
Using achievement tests: • Daily • Monthly • Quarterly Final
C- Emotional and value goals C1 - Presenting new ideas on the topic by the student. C 2- The student's ability to evaluate the topic and give solutions. C 3 - differentiate between problems. C4- Explain and analyze phenomena and problems.
Teaching and learning methods
1 - Use the presentation and presentation method 2- Draw illustrations. 3 - Brainstorming method.
D - Transferred general and qualifying skills (other skills related to employability and personal development). D 1- Skills of using references and terminology. D 2 - Skills in collecting and analyzing data on the subject. D 3 - the skills of exploiting the available capabilities. D 4- Skills of making comparisons on the topic

D 5 - Skills of preparing special concepts on the subject.

10. Course structure					
The week	**Hours**	**Unit name and / or topic**	**Required learning outcomes**	**Education method**	**Evaluation method**
1	3	Auto CAD	Auto CAD program: running the program and general concepts (running the program, getting to know the program's workspace, display cube, steering wheel, display movement, ribbon, menus, toolbars, closing the program)	lecture	Self and peer evaluation
2	3	Open a previous drawing file	-Open a previous drawing file, control the display of the contents of the drawing file using the Zoom command and its options, the Pan command, close the drawing file, create a new file and save it. - Units command and Limits command.	Discussion and dialogue	oral exams
3	3	Drawing commands	Draw commands (Point, Line, point coordinate definition formulas, Multiline) - Drawing commands (Polyline, Rectangle, Polygon)	lecture	Self and peer evaluation

			-Hatch , gradient , boundary		
4	3	Drawing commands	(Circle, Arc, Ellipse) - Text writing commands (Single line text, Multiline text, creating new style models for writing	lectureDiscussion and dialogue	oral exams
5	3	Types of drawing lines and their uses	-Control drawing specifications (Line type, Line weight, Color) - Modify the properties of the drawing lines	lecture	Self and peer evaluation
6	3	Modify commands	(Mirror, Array, Scale, Break, Extend.(Modify commands (Fillet, Chamfer, Trim, Explode).	Discussion and dialogue	oral exams
7	3	Drawing engineering shapes	- Implementing the basic shapes	lecture	Self and peer evaluation
8	3	Dimensions	How to add dimensions Dimension (Linear Dim., Aligned Dim., Radial Dim., Diameter Dim. Angular Dim., Quick Dim., Baseline Dim., Continuous Dim., Dimension Style	Discussion and dialogue	oral exams
9	3	Drawing applications on geometric shapes	-Drawing various geometric shapes -Drawing exercise (test).	Lecture	Self and peer evaluation

10	3	Drawing applications	Drawing applications on geometric shapes - Drawing an exercise (test)	Discussion and dialogue	oral exams
11	3	Projection theory	-Projection theory - Explanation of projections	Lecture	Self and peer evaluation
12	3	Projection theory	Projection theory - Drawing simple projections	Discussion and dialogue	oral exams
13	3	Applications on landscaping	-Applications on engineering projects - Drawing an exercise (test)	Lecture	Self and peer evaluation
14	3	Applications on landscaping	-Applications on engineering projects - Drawing exercise (test)	Discussion and dialogue	oral exams
15	3	Applications on landscaping	-Applications on engineering projects - Drawing exercise (test)	Lecture	Self and peer evaluation

11. Infrastructure	
1- Required prescribed books	
2- Main references (sources)	1. Tujan Saleh Al-Jaghbir, Basics in AutoCAD, 2012, Amman. 2. Abdul Rasoul Al-Khafaf, Engineering Drawing, 1990 3.Dr. Khader Al-Abadi, Cartography, Map Locations, 1980, Baghdad 4. Keats,J,S.,"Cartography Design and Production",3rd Ed.
3- Reputable international sites specialized and sober publishing sites	Recommended books and references, scientific journals ، reports.

4- Discreet publishing sites	Electronic references ، Internet sites...

12- course development plan
Providing the student with available recent research as far as the topic of the lecture is concerned .

Description Mode

Course description: Safety and Industrial Management A. Lecturer: Hibet Lafta

This course description provides a summary of the most important instructions for the safety and health of human workers, and is done by providing an appropriate and safe environment that is free of any causes of accidents, injuries, or occupational diseases, as well as teaching the student the concept of industrial management and its importance in various industries in a way that serves to improve productivity.

1- Educational institution	Middle Technical University, KUT Technical Institution
2- Scientific Department / Center	Department of Petroleum Equipment Inspection and Welding Techniques
3- Course name/code	**Safety and Industrial Management**
4- Attendance type available	Mandatory
5- Semester / year	The first semester of the academic year 2024-2023
6- Number of hours of study (total)	(30) hours of study, 2 hours per week
7- The date this description was made	21/12/2023
8- Course objectives: At the end of the academic year, the student will be able to: Acquiring the skills to deal with and understand the instructions for the safety and health of human workers, and this is done by providing an appropriate and safe environment that is free of any causes of accidents, injuries, or occupational diseases, as well as teaching the student the concept of industrial management and its importance in different industries in a way that serves to improve productivity.	

9 - Course outcomes and teaching, learning and evaluation methods

A- Cognitive objectives A1- Knows the concept of safety and the terms associated with it. A2- Explains the risks, its causes, and how to combat it. A3- Shows the safety impact from industrial aspects
B - The skills objectives of the course. B1 - Understands safety instructions B2 - Analyze the damages resulting from not following instructions. B3 - Communication and communication skills.
Teaching and learning methods
1 - Objective questions are divided into: multiple choice questions, true and false questions, or approximation questions 2 - Self-evaluation and evaluation of the colleague. 3- The tests include: A - Constructive achievement tests accompanying the teaching plans. B - Final achievement tests and include: • Monthly final exams at the end of each academic month. • Final final exams at the end of a semester. • Final final exams at the end of the academic year.
Evaluation methods
Using achievement tests: • Daily • Monthly • Quarterly Final
C- Emotional and value goals C1 - Presenting new ideas on the topic by the student. C 2- The student's ability to evaluate the topic and give solutions. C 3 - differentiate between problems. C4- Explain and analyze phenomena and problems.
Teaching and learning methods
1 - Use the presentation and presentation method 2 - Draw illustrations. 3 - Brainstorming method.
D - Transferred general and qualifying skills (other skills related to employability and personal development). D 1 - Skills of using references and terminology. D 2 - Skills in collecting and analyzing data on the subject. D 3 - the skills of exploiting the available capabilities. D 4 - Skills of making comparisons on the topic.

10. Course structure					
The week	**Hours**	**Unit name and / or topic**	**Required learning outcomes**	**Education method**	**Evaluation method**
1	2	Safety	Introduction, definitions, OSHA, safety objectives, purpose of OSHA, OSHA instructions and laws, inspection of various work sites, violations.	lecture	Self and peer evaluation
2	2	Escape routes	Components of escape routes, display of escape routes, locations of emergency exits	Discussion and dialogue	oral exams
3	2	Electricity hazards	General requirements, personal protective equipment when working with electricity, shutting off power sources and placing signs on them.	lecture	Self and peer evaluation
4	2	Equipment protection barriers.	Common types of injuries when handling equipment, equipment protection barriers.	lectureDiscussion and dialogue	oral exams
5	2	Sound measurements	OSHA hearing protection program, personal protective safety equipment, personal protective	lecture	Self and peer evaluation

			equipment (head protection, hand protection).		
6	2	Types of fires	Types of fire extinguishers, extinguishing fires, introduction to flammable liquids, containers and portable tanks for liquids, introduction to compressed cylinders, safety instructions for handling (use and storage).	Discussion and dialogue	oral exams
7	2	Confined Space	The type of devices that are installed in dangerous areas, an introduction to working in closed spaces, procedures for entering and working inside closed spaces.	lecture	Self and peer evaluation
8	2	Types of chemical pollutants	Types of chemical pollutants, medical services and first aid, lighting	Discussion and dialogue	oral exams
9	2	Safety instructions for forklifts	Introduction and safety instructions for hand tools, introduction to the information delivery system for hazardous chemicals and its purpose, special risks, safety tasks for personal protection.	Lecture	Self and peer evaluation

10	2	Welding and safety	General requirements, types of welding and safety methods followed	Discussion and dialogue	oral exams
11	2	Instructions for stairs	Instructions for stairs, rules for stairs	Lecture	Self and peer evaluation
12	2	Scaffolds	Types of scaffolds, scaffolding bases, scaffold attachments, protection from fall hazards, their general requirements, means and systems for preventing falls. Hazards of falling materials and equipment. Introduction to lifting devices and general instructions, metal chains, and fabric lifting devices.	Discussion and dialogue	oral exams
13	2	Introduction to radiation	Introduction to radiation, how radiation arises, types of radiation, and means of protection.	Lecture	Self and peer evaluation
14	2	Industrial management	Administrative functions, industrial management, its functions, industrial engineering, characteristics of industrial management.	Discussion and dialogue	oral exams
15	2	Industrial unit arrangement	-Location and arrangement of the industrial unit	Lecture	Self and peer evaluation

			-The main factors affecting the selection of industrial project sites. -Arrangement of the industrial unit (initial arrangement of the factory). Classification of types of industrial unit arrangements. Advantages, limitations, and cases in which it is applied (commodity, functional, mixed, and joint arrangement).		

11. Infrastructure	
1- Required prescribed books	
2- Main references (sources)	1.Occupational Safety and Health US Department of Labor, Occupational Safety and Health Administration. 2.Prof. Dr. Ahmed Lotfy Ibrahim Wanes, Occupational Safety and Health, Damietta. 3.Technical Guide for Training Occupational Safety and Health Inspectors, International Labor Organization 2017. 4.Industrial Administration - Authority of Technical Institutes 1990, written by: Ayser Soussan, Fares Jabbar Shalash. 5. Industrial Engineering - Dr. Adel Abdul Malik Kurial, Dar Al-Kutub for Printing and Publishing, University of Basra, first edition 2000. 6. Total quality management and ISO requirements 2000-2009, Dr. Khalil Al-Ani, Dr. Ismail Ibrahim Al-Qazzaz, Dr. Adel Abdul Malik Kurial, Al-Ashqar Press - Baghdad, first edition, 2001.

3- Reputable international sites specialized and sober publishing sites	Recommended books and references, scientific journals ، reports.
4- Discreet publishing sites	Electronic references ، Internet sites...

12- course development plan
Providing the student with available recent research as far as the topic of the lecture is concerned .

Description Mode

Course description: Arabic Language **A. Lecturer: Muna Razzaq**

This course description provides a summary of the most important lessons necessary for learning Arabic grammar, especially in the language of administrative discourse.

1- Educational institution	Middle Technical University, KUT Technical Institution
2- Scientific Department / Center	Department of Petroleum Equipment Inspection and Welding Techniques
3- Course name/code	**Arabic Language**
4- Attendance type available	Mandatory
5- Semester / year	The first semester of the academic year 2024-2023
6- Number of hours of study (total)	(30) hours of study, 2 hours per week
7- The date this description was made	21/12/2023
8- Course objectives: At the end of the academic year, the student will be able to: The student becomes familiar with the rules of the Arabic language in the language of administrative discourse.	

9 - Course outcomes and teaching, learning and evaluation methods
A- Cognitive objectives A1- Knows the concept of Arabic grammar. A2- Applying what you have learned practically. A3- Shows the impact of language learning on administrative correspondence.

B - The skills objectives of the course. B1 - Understands grammar instructions. B2 - Analyze the damages resulting from not following instructions. B3 - Communication and communication skills.
Teaching and learning methods
1 - Objective questions are divided into: multiple choice questions, true and false questions, or approximation questions 2 - Self-evaluation and evaluation of the colleague. 3- The tests include: A - Constructive achievement tests accompanying the teaching plans. B - Final achievement tests and include: • Monthly final exams at the end of each academic month. • Final final exams at the end of a semester. • Final final exams at the end of the academic year.
Evaluation methods
Using achievement tests: • Daily • Monthly • Quarterly Final
C- Emotional and value goals C1 - Presenting new ideas on the topic by the student. C 2- The student's ability to evaluate the topic and give solutions. C 3 - differentiate between problems. C4- Explain and analyze phenomena and problems.
Teaching and learning methods
1 - Use the presentation and presentation method 2- Draw illustrations. 3 - Brainstorming method.
D - Transferred general and qualifying skills (other skills related to employability and personal development). D 1- Skills of using references and terminology. D 2 - Skills in collecting and analyzing data on the subject. D 3 - the skills of exploiting the available capabilities. D 4- Skills of making comparisons on the topic D 5 - Skills of preparing special concepts on the subject.

10. Course structure					
The week	**Hours**	**Unit name and / or topic**	**Required learning outcomes**	**Education method**	**Evaluation method**
1	2	الأخطاء اللغوية	مقدمة عن الأخطاء اللغوية التاء المربوطة والطويلة والتاء المفتوحة.	lecture	Self and peer evaluation
2	2	كتابة الالف الممدودة	قواعد كتابة الالف الممدودة والمقصورة – الحروف الشمسية والقمرية.	Discussion and dialogue	oral exams
3	2	الضاد والظاء	الضاد والظاء	lecture	Self and peer evaluation
4	2	كتابة الهمزة	كتابة الهمزة	lectureDiscussion and dialogue	oral exams
5	2	علامات الترقيم	علامات الترقيم	lecture	Self and peer evaluation
6+7	4	الاسم والفعل	الاسم والفعل والتفريق بينهما	Discussion and dialogue	oral exams
8+9	4	المفاعيل	المفاعيل	lecture	Self and peer evaluation
10	2	العـــدد	العـــدد	Discussion and dialogue	oral exams
11+12	4	الأخطاء اللغوية	تطبيقات الأخطاء اللغوية الشائعة، النون والتنوين، معاني حروف الجر.	Lecture	Self and peer evaluation
13-15	6	الجوانب الشكلية للخطاب الإداري	لغة الخطاب الإداري، نماذج من المراسلات الإدارية	Discussion and dialogue	oral exams

11. Infrastructure	
1- Required prescribed books	
2- Main references (sources)	Mandatory Arabic language, Dr. Safaa Kazem Makki, Dr. Lama Muhammad Younis, printed by: Zeina Sabih Jassim, Central Technical University, Ministry of Higher

	Education and Scientific Research, 2019.
3- Reputable international sites specialized and sober publishing sites	Recommended books and references, scientific journals ، reports.
4- Discreet publishing sites	Electronic references ، Internet sites...

12- course development plan
Providing the student with available recent research as far as the topic of the lecture is concerned .