Republic of Iraq
Ministry of higher education & scientific research
Supervision and scientific evaluation directorate
Quality assurance and academic accreditation

Academic Program Specification Form
For The Academic

University : Northern Technical University
College or Institute: Kirkuk Technical Institute
Department: Production Mechanics
Date of form completion: 16/1/2024

Assit.Prof. Dr. : Ashty Mahdi Aarif Dr. Sawash shaheen ibrahim

Dean`s Name	Dean`s Assistant for Scientific Affairs	Head of Department
		D. sameen fadhil
Date: 16/1/2024	Date: 17/1/2024	Date: 17/1/2024
Signature ashty	Signature	Signature

Assis. Prof. Zuhair Shakor
Quality Assurance and University performance manager

Date: 14/1/2024
Signature

Academic Program Description

Academic Program Description

This academic program description provides a brief summary of the most important characteristics of the program and the learning outcomes expected of the student to achieve, proving whether he has made the most of the available opportunities. It is accompanied by a description of each course within the program.

1- Name of university	Northern Technical university
2- Name of Department	Electronics techniques
3-Name of academic program	Mechanical techniques
4- Name of Final certificate	Technical Diploma / Study period is two calendar years equivalent to three academic years
5-Study system	Yearly
6-Accredited Academic Program	ABET
7- Other external influences	1-There Is A Close Relationship Between The Department's Output And The Labor Market, And A Market Opinion Is Taken To Create Curriculum Study . 2-Continuous Follow-Up Of The Curricula Of Industry Prep For The Purpose Of Matching is Outputs To Fit The Continuity Of The Vocabulary Of The Section
8- Description creation date	30/5/2021
9- Academic Program Objectives:	
1- Graduating qualified technical staff to operate mechanical machines and manufacture spare parts and be a link between the specialist and the worker	

2- To contribute to the preparation of operating cards, whether for workshops or mechanical machines, and according to operating elements

3- Familiarity with drawings, maps and industrial plans

4- Contribute to the repair of damaged mechanical parts and conduct laboratory

5- Carry out preventive and periodic maintenance of mechanical machines

10- Required program outcomes and methods of teaching, learning and assessment

A- Cognitive aims

A1- Clarify the theoretical information of mechanical forces generated during operational processes

A2- Learn about manufacturing methods and accounts for spare parts

A3- Studying changes in mechanical forces on welded and manufactured parts, manufacturing methods, and appropriate engineering materials

A4- Learn about mechanical machines in the workshops and laboratories of the department

B-Subject-specific skills.

The topic aims to graduate qualified cadres to work in the operation, maintenance and construction :

B1 - Study mechanical devices and learn how to operate and maintain them

B 2 - Study of devices for measuring the mechanical properties of metals and alloys.

B3 - Familiarity with industrial drawings, maps and plans and using AutoCAD software to implement them.

B4- The use of computer technology and the Internet within the field of competence.

Teaching and learning methods

The following methods are followed

Theoretical lecture (with various means of explanation) By using Google class room and YouTube and Google meet and others , practical lecture (with various means of explanation), workshops (with various means of explanation), presentation of scientific films, seminars for students, student research, scientific reports, scientific visits, summer training.

Evaluation methods

The work of the year, which includes: 1-the exam at the beginning of the lecture using Google forms and includes the topic of the previous lecture, oral exams during the lecture with the same topic as the lecture, scientific reports, student seminars, student research, 2) the first semester exam, 3) the second semester exam, 4 The final exam in turn

C- Emotional and value aims.

C1- Attention/ Attracting students' attention by implementing an application program on the display screen.

C2 – Response/ Follow up the student's interaction with the material displayed on the screen.

C3- interest/ Follow up the interest of the student who interacted more with the presented material, by increasing this interaction by requesting other programs and applications to be presented.

C4- Direction configuration/ meaning that the student is sympathetic to the

D- Transferred general and rehabilitative skills (other skills related to employability and personal development)

D 1- Welding

D 2- Plumbing

D 3- Turning

D 4- The refrigerator

D 5- Search on the Internet

Teaching and learning methods

Lecture style, workshop, computer simulation, summer training

Evaluation methods

The work of the year, which includes: 1-the exam at the beginning of the lecture using Google forms and includes the topic of the previous lecture, oral exams during the lecture with the same topic as the lecture, scientific reports, student seminars, student research, 2) the first semester exam, 3) the second semester exam, 4 The final exam in turn

11-program structure

Educational level	Subject or course code	Name of department	Credit hours	
		Mechanical Department	Practice	Theoretic
First stage			13	20
Second stage			11	21

12-Planning for personal development

Specialized courses, scientific symposium, seminars, scientific developments, research, scientific conferences

13- Acceptance standard (setting regulations related to college or institute enrollment)
1)The total degree that the student obtained after passing the general exams for the sixth . 2) To be a graduate of the scientific or industrial branch (specializing in electronics or computer maintenance and assembly). 3) The results of the medical examination that the student is healthy and fit to study in the department. 4)-Desire
14-The most important references of information about the program
- Websites of Iraqi and foreign universities - Workshops held by the Ministry of Higher Education in addition to the Ministry's standards -Twinning with the University of Oklahoma The American Academic Accreditation Program ABET - IEEE Computer Engineering Body of Knowledge

Curriculum Skills Outline
kindly put a mark on the boxes corresponding to the individual learning outcomes from the program subject to evaluation

Learning outcomes required from the program																
year	**code of course**	**name of subject**	**basic or optional**	**cognitive aims**				**skill aims related to the program**				**Emotional and value goals**				OTHER SKILLS RELATED TO employability and personal development
2023-2024				A 1	A 2	A 3	A 4	B 1	B 2	B 3	B 4	C 1	C 2	C 3	C 4	D
		Mechanics	**basic**	√	√	√	√	√	√	√	√	√	√	√	√	√
		Material properties	**basic**	√	√	√	√	√	√	√	√	√	√	√	√	√
		Workshops(1)	**basic**	√	√	√	√	√	√	√	√	√	√	√	√	√
		Manufacturing Processes	**basic**	√	√	√	√	√	√	√	√	√	√	√	√	√
		Engineering drawing	**basic**	√	√	√	√	√	√	√	√	√	√	√	√	√
		Computer application(1)	**optional**	√	√	√	√	√	√	√	√	√	√	√	√	√
		Electrical technology	**optional**	√	√	√	√	√	√	√	√	√	√	√	√	√
		Mathematics	**optional**	√	√	√	√	√	√	√	√	√	√	√	√	√
		Human rights	**optional**	√	√	√	√	√	√	√	√	√	√	√	√	√
		English	**optional**	√	√	√	√	√	√	√	√	√	√	√	√	√
		Machine Parts	**basic**	√	√	√	√	√	√	√	√	√	√	√	√	√
		Metallurgy	**basic**	√	√	√	√	√	√	√	√	√	√	√	√	√
		Industrial drawing	**basic**	√	√	√	√	√	√	√	√	√	√	√	√	√
		Manufacturing Processes(2)	**basic**	√	√	√	√	√	√	√	√	√	√	√	√	√
		Workshops	**Basic**	√	√	√	√	√	√	√	√	√	√	√	√	√
		Computer application	**Optiona**	√	√	√	√	√	√	√	√	√	√	√	√	√
		Management & Vocational safety	**Optionl**	√	√	√	√	√	√	√	√	√	√	√	√	√
		Project	**Optiona**	√	√	√	√	√	√	√	√	√	√	√	√	√
		English	**Optiona**	√	√	√	√	√	√	√	√	√	√	√	√	√

COURSE DESCRIPTION FORM

Description Course: - Manufacturing Processes(1) Manufacturing Processes(2 (first stage)

This course description provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the student to achieve, demonstrating whether he has made maximum use of the available learning opportunities.

1-Name of university	Northern Technical university
2-Name of Department	Mechanical techniques
3-Name of subject	Manufacturing Processes(1) METP122 Manufacturing Processes(2) METP123
4-Available forms of attendance	In the lecture hall and laboratories
5-Course/year	2024-2023
6-Total number of hours of study	120hours in the year (4 hours in week)
7-Description creation date	2024/1/7

8- Academic Program Objectives:

Graduating an intermediate cadre capable of working in the fields of manufacturing and production and contributing to the following businesses:

1- The ability to analyze operations into operating elements.
2- Preparing the technology between the production units
3- Determining the elements of control and quality control.
4- Make preliminary calculations for operating costs

9-Course outcomes and methods of teaching, learning and assessment

A- Cognitive goals

A1- Identifying metal production processes and their types.
A2- Understand the formation of minerals and the theory of formation.
A3- Learn about metal fabrication methods

B - Subject-specific skill objectives
B 1- The ability to produce in the fields of manufacturing and production. B 2- The ability to work on the group for the purpose of completing the work
Teaching and learning methods
The theoretical lecture (with various means of explanation), the google class room, the practical lecture (with various means of explanation), scientific reports. google meet. Department's YouTube.
Evaluation methods
The work of the year, which includes: 1-the exam at the beginning of the lecture using Google forms and includes the topic of the previous lecture, oral exams during the lecture with the same topic as the lecture, scientific reports, student seminars, student research 2) the first semester exam, 3) the second semester exam, 4)The final exam in turn
Emotional and value aims
1-The student listens carefully to the teacher's explanation 2-That the student cares about calm and the order of the class 3-That the student recognize the importance of learning the material, manufacturing processes, and its relationship to engineering techniques
B- Transferred general and rehabilitative skills (other skills related to employability and personal development)
B1- Welding B 2- Plumbing B 3- Turning B 4- The refrigerator B 5- Search on the Internet
Teaching and learning methods.
Lecture style, workshop, computer simulation, summer training
Evaluation methods

The work of the year, which includes:
1-the exam at the beginning of the lecture using Google forms and includes the topic of the previous lecture, oral exams during the lecture with the same topic as the lecture, scientific reports, student seminars, student research, 2) the first semester exam, 3) the second semester exam, 4 The final exam in turn

10- structure of subject

Weeks	Hours	Required learning outcomes	name / course or topic	education method	Evaluation method
Weekly	4	Manufacturing Processes(1)	Mechanical department	Theoretical + practical	oral exams

11-Infrastructure	
1-Required references books	1-introduction to production engineering Written by - Hassan Hussein (Fahmy, Jalal Shawky (1966) 2-Principles of Metal Casting Translation - Dr. Salah Al-Din Muhammad Al-Muhanni
2- Main References (Sources)	1-Metal forming methods Written by - Dr. Anwar Abdel (Wahed (1963 2-Manufacturing Methods Written by Dr. Aref Abu Safiya, d. Abdul Razzaq Ismail Khader
3- Recommended books and references (scientific journals, reports)	The virtual library of the Ministry of Higher Education and Scientific Research
12- Study course development plan: The development plan is carried out through studies submitted annual scientific plan for the development of the study course	

1-Description Course: - Material Properties(1) Material properties (2)(first stage)

This course description provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the student to achieve, demonstrating whether he has made maximum use of the available learning opportunities.

1-Name of university	Northern Technical university
2-Name of Department	Mechanical techniques
3-Name of subject	Material Properties(1) METP124 Material properties (2) METP125
4-Available forms of attendance	In the lecture hall and laboratories
5-Course/year	2023-2024
6-Total number of hours of study	60 hours in the year (2 hours in week)
7-Description creation date	2024/1/7
8- Academic Program Objectives: 1- The ability to identify the properties of engineering materials 2- Prepare samples of these materials 3- Supervising the parts of the various manufacturing processes according to the engineering properties 4- Supervising operations and tests of engineering properties and crystalline and amorphous structures 5-The ability to supervise the measurement of engineering properties	
9-Course outcomes and methods of teaching, learning and assessment Cognitive goals 1- Acquisition of theoretical and practical knowledge in various practical curricula in the field of mechanical engineering 2- Reading various diagrams and graphs in engineering disciplines 3-Carrying out accounts for various issues of competencehardness, toughness, yield point ..... etc)	

Teaching and learning methods The theoretical lecture (with various means of explanation), the google class room, scientific reports. google meet. Department's YouTube.
Evaluation methods The work of the year, which includes: 1-the exam at the beginning of the lecture using Google forms and includes the topic of the previous lecture, oral exams during the lecture with the same topic as the lecture, scientific reports, student seminars, student research 2) the first semester exam, 3) the second semester exam, 4)The final exam in turn
Emotional and value aims 1-The student listens carefully to the teacher's explanation 2-That the student cares about calm and the order of the clas 3-That the student recognize the importance of learning the specific material and its relationship to engineering techniques
Transferred general and rehabilitative skills (other skills related to employability and personal development) 1- Welding 2- Plumbing 3- Turning 4- The refrigerator 5- Search on the Internet
Teaching and learning methods. Lecture style, workshop, computer simulation, summer training
Evaluation methods **The work of the year, which includes:** 1-the exam at the beginning of the lecture using Google forms and includes the topic of the previous lecture, oral exams during the lecture with the same topic as the lecture, scientific reports, student seminars, student research, 2) the first semester exam, 3) the second semester exam, 4 The final exam in turn

10- structure of subject

Weeks	Hours	Required learning outcomes	name / course or topic	education method	Evaluation method
Weekly	2	Material Properties	Mechanical department	Theoretical + practical	oral exams

11-Infrastructure	
1-Required references books	Principles of Metallurgical . Engineering Bailey, translated by Dr. Hussein Baqer
2- Main References (Sources)	Ignition of metals - technological foundations Written by - Abdel Moneim (Akef (1977
3-Recommended books and references (scientific journals, reports)	The virtual library of the Ministry of Higher Education and Scientific Research

12- Study course development plan: The development plan is carried out through studies submitted annual scientific plan for the development of the study course

Description Course: - Mathematics(1) Mathematics(2) (first stage)

This course description provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the student to achieve, demonstrating whether he has made maximum use of the available learning opportunities.

1-Name of university	Northern Technical university
2-Name of Department	Mechanical techniques
3-Name of subject	Mathematics(1) TIKI110 Mathematics(2) TIKI111
4-Available forms of attendance	In the lecture hall and laboratories
5-Course/year	2023-2024
6-Total number of hours of study	60 hours in the year (2 hours in week)
7-Description creation date	2024/1/7

8- Academic Program Objectives:

1-Types of logarithmic functions
2-Types of matrices and how to solve them
3-Types of vectors and their solutions
4-Derivatives and their forms
5-Integration and differentiation
6-The Seven Methods of Integration

9-Course outcomes and methods of teaching, learning and assessment
Cognitive goals

1- Learn about logarithmic functions and their types
2- Making use of matrices in the treatment of mathematical problems on the practical side
3-To develop a student's ability to solve complex problems

Teaching and learning methods

The theoretical lecture (with various means of explanation), the google class room, scientific reports. google meet. Department's YouTube.

Evaluation methods

The work of the year, which includes:
1-the exam at the beginning of the lecture using Google forms and includes the
topic of the previous lecture, oral exams during the lecture with the same topic
as the lecture, scientific reports, student seminars, student research
2) the first semester exam,
3) the second semester exam,
4)The final exam in turn

Emotional and value aims

1-Develop a student's ability to find solutions to complex problems
2-Mathematics applications in reality
3-Using Matlab and linking them to math equations

Transferred general and rehabilitative skills (other skills related to employability and personal development)

1- Welding
2- Plumbing
3- Turning
4- The refrigerator
5- Search on the Internet

Teaching and learning methods.

Lecture style, workshop, computer simulation, summer training

Evaluation methods

The work of the year, which includes:
1-the exam at the beginning of the lecture using Google forms and includes the topic of the previous lecture, oral exams during the lecture with the same topic as the lecture, scientific reports, student seminars, student research,
2) the first semester exam, 3) the second semester exam, 4 The final exam in turn

10- structure of subject

Weeks	Hours	Required	name /	education	Evaluation

		learning outcomes	course or topic	method	method
Weekly	2	Mathematics	Mechanical department	Theoretical + practical	oral exams

11-Infrastructure	
1-Required references books	- Mathematics -Saad Al-Jumaily
2- Main References (Sources)	Thomas' Calculus ,7th Edition
3- Recommended books and references (scientific journals, reports)	The virtual library of the Ministry of Higher Education and Scientific Research

12- Study course development plan: The development plan is carried out through studies submitted annual scientific plan for the development of the study course

Description Course: - Mechanics(1) Mechanics(2)(first stage)

This course description provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the student to achieve, demonstrating whether he has made maximum use of the available learning opportunities.

1-Name of university	Northern Technical university
2-Name of Department	Mechanical techniques
3-Name of subject	Mechanics(1) METP120 Mechanics(2) METP121
4-Available forms of attendance	In the lecture hall and laboratories
5-Course/year	2023-2024
6-Total number of hours of study	150hours in the year (5 hours in week)
7-Description creation date	2024/1/7

8- Academic Program Objectives:

1- Provide basic definitions and introductory concepts to statistics and dynamics

2-Give a review of vector analyses

3 -Giving the principles of the force system in two and three dimensions and the kinetics of particles and the solid body in two and three dimensions

4-Explanation of Newton's laws for the equilibrium of particles and the solid body in two and three dimensions and the kinetics of particles in two and three dimensions and the solid body in two dimensions.

9-Course outcomes and methods of teaching, learning and assessment

Cognitive goals

1-Understand the methods of calculating the force system

2-Analyze the balance of the body and structures

3-Analyze and understand the procedures for calculating the center and center of gravity of a body and the second moment of area and mass

4-Understand the methods of kinetic investigation of particles and solid bodies

5-Understand the kinetic investigation methods of particles and solid bodies

6-The ability to apply modern knowledge and apply mathematics, science, engineering and technology to problems and applications of engineering mechanics
Work in groups and work in multidisciplinary teams 7-

Teaching and learning methods

The theoretical lecture (with various means of explanation), the google class room, the practical lecture (with various means of explanation), scientific reports. google meet. Department's YouTube.

Evaluation methods

The work of the year, which includes:

1-the exam at the beginning of the lecture using Google forms and includes the
topic of the previous lecture, oral exams during the lecture with the same topic
as the lecture, scientific reports, student seminars, student research
2) the first semester exam,
3) the second semester exam,
4)The final exam in turn

Emotional and value aims

1-Develop a student's ability to calculate the types of forces
2-Developing the capabilities of the science student into an application technology
3-Understand and develop professional, social and ethical responsibilities
4-Ensuring effective communication

Transferred general and rehabilitative skills (other skills related to employability and personal development)

1- Welding
2- Plumbing
3- Turning
4- The refrigerator
5- Search on the Internet

Teaching and learning methods.

Lecture style, workshop, computer simulation, summer training

Evaluation methods

The work of the year, which includes:

1-the exam at the beginning of the lecture using Google forms and includes the topic of the previous lecture, oral exams during the lecture with the same topic as the lecture, scientific reports, student seminars, student research, 2) the first semester exam, 3) the second semester exam, 4 The final exam in turn

10- structure of subject

Weeks	Hours	Required learning outcomes	name / course or topic	education method	Evaluation method
Weekly	5	Mechanics	Mechanical department	Theoretical + practical	oral exams

11-Infrastructure	
1-Required references books	1-Lecture Notes Powerpoint files ((available at the course website 2- Beer, F. P. and Johnston, E. R. Vector Mechanics for Engineers: Statics and Dynamics, TATA McGraw-Hill
2- Main References (Sources)	1-Lecture Notes Powerpoint files ((available at the course website 2-Beer, F. P. and Johnston, E. R. Vector Mechanics for Engineers: Statics and Dynamics, TATA McGraw-Hill
Recommended books and references (scientific journals, reports)	The virtual library of the Ministry of Higher Education and Scientific Research
12- Study course development plan: The development plan is carried out through studies submitted annual scientific plan for the development of the study course	

Description Course: - Computer Principles (1) Computer Principles (2) (first stage)

This course description provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the student to achieve, demonstrating whether he has made maximum use of the available learning opportunities.

1-Name of university	Northern Technical university
2-Name of Department	Mechanical techniques
3-Name of subject	Computer Principles (1) NTU102 Computer Principles (2) NTU103
4-Available forms of attendance	In the lecture hall and laboratories
5-Course/year	023-2024
6-Total number of hours of study	90 hours in the year (3hours in week)
7-Description creation date	2024/1/7
8- Academic Program Objectives: 1-Introducing the student to the basic introductory operations of computers: their generations, their components 2-Introducing the student to the computer operating system 3-Teaching the student how to use the calculator and apply programs 4-Introduce the student to software 5-Teaching the student to implement the program using the calculator 6-Learn about the parts of the calculator and its accessories	
9-Course outcomes and methods of teaching, learning and assessment Cognitive goals 1- The student will be familiar with the parts and accessories of the calculator 2-That the student understand how to operate the calculatorw 3-That the student learns to implement the program 4-The student should distinguish between computer programs 5-The student understands the implementation of the program 6-The student should be familiar with the computer operating systems	
Teaching and learning methods The theoretical lecture (with various means of explanation), the google	

class room, the practical lecture (with various means of explanation), scientific reports. google meet. Department's YouTube.

Evaluation methods
The work of the year, which includes: 1-the exam at the beginning of the lecture using Google forms and includes the topic of the previous lecture, oral exams during the lecture with the same topic as the lecture, scientific reports, student seminars, student research 2) the first semester exam, 3) the second semester exam, 4)The final exam in turn
Emotional and value aims
1-The ability to deal with a calculator 2-Using Microsoft Office in a calculator 3-Knowing the specifications and features of different types of computers 4-Learn about computer programming methods
Transferred general and rehabilitative skills (other skills related to employability and personal development)
1- Welding 2- Plumbing 3- Turning 4- The refrigerator 5- Search on the Internet
Teaching and learning methods.
Lecture style, workshop, computer simulation, summer training
Evaluation methods The work of the year, which includes:
1-the exam at the beginning of the lecture using Google forms and includes the topic of the previous lecture, oral exams during the lecture with the same topic as the lecture, scientific reports, student seminars, student research, 2) the first semester exam, 3) the second semester exam, 4 The final exam in turn

10- structure of subject

Weeks	Hours	Required learning outcomes	name / course or topic	education method	Evaluation method
Weekly	3	Computer application(1)	Mechanical department	Theoretical + practical	oral exams

11-Infrastructure	
1-Required references books	computer principles
2- Main References (Sources)	
Recommended books and references (scientific journals, reports)	The virtual library of the Ministry of Higher Education and Scientific Research

12- Study course development plan: The development plan is carried out through studies submitted annual scientific plan for the development of the study course

Description Course: - Electrical technology (first stage)

This course description provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the student to achieve, demonstrating whether he has made maximum use of the available learning opportunities.

1-Name of university	Northern Technical university
2-Name of Department	Mechanical techniques
3-Name of subject	Electrical technology METP128
4-Available forms of attendance	In the lecture hall and laboratories
5-Course/year	2023-2024
6-Total number of hours of study	90 hours in the year (3hours in week)
7-Description creation date	2024/1/7

8- Academic Program Objectives:

1-Helping the student to understand the laws and mathematical equations necessary for the purpose of analyzing electrical circuits
2-Helping the student to analyze the working mechanism of electrical circuits of both types in various ways
3-Helping the student to understand the mechanism of controlling electrical circuits of both types in various ways
4-Helping the student to understand the working mechanism of electronic circuits to convert electrical power as needed
5-Develop sound thinking methods and release the latent energies of the student and apply them in the engineering field

9-Course outcomes and methods of teaching, learning and assessment

Cognitive goals

1- That the student understand the mechanism of electrical circuits according to their feeding
2-That the student distinguish between theories of electrical circuits
3-That the student uses more than one analysis circuit for different devices
4-That the student understand how to control electrical circuits
5-The student judges the validity of the conclusions he reaches
6-The student should be familiar with the computer operating systems

Teaching and learning methods The theoretical lecture (with various means of explanation), the google class room, the practical lecture (with various means of explanation), scientific reports. google meet. Department's YouTube.
Evaluation methods The work of the year, which includes: 1-the exam at the beginning of the lecture using Google forms and includes the topic of the previous lecture, oral exams during the lecture with the same topic as the lecture, scientific reports, student seminars, student research 2) the first semester exam, 3) the second semester exam, 4)The final exam in turn
Emotional and value aims 1-The student listens carefully to the teacher's explanation 2-That the student calmly care in the classroom 3-That the student knows the impact of science and scientists on life 4-The student should describe the importance of the material
Transferred general and rehabilitative skills (other skills related to employability and personal development) 1- Welding 2- Plumbing 3- Turning 4- The refrigerator 5- Search on the Internet
Teaching and learning methods. Lecture style, workshop, computer simulation, summer training
Evaluation methods The work of the year, which includes: 1-the exam at the beginning of the lecture using Google forms and includes the topic of the previous lecture, oral exams during the lecture with the same topic as the lecture, scientific reports, student seminars, student research, 2) the first semester exam, 3) the second semester exam, 4 The final exam in turn

10- structure of subject

Weeks	Hours	Required learning outcomes	name / course or topic	education method	Evaluation method
Weekly	3	Electrical technology	Mechanical department	Theoretical + practical	oral exams

11-Infrastructure	
1-Required references books	1-Introductory Circuit Analysis 2014 Robert Boytested 2-Electrical technology 1975 .B.L. Theraja Basic electrical Technology , india
2- Main References (Sources)	Power electronic part 242 , Technically, faculty of K.A.S
Recommended books and references (scientific journals, reports)	The virtual library of the Ministry of Higher Education and Scientific Research

12- Study course development plan: The development plan is carried out through studies submitted annual scientific plan for the development of the study course

Description Course: - Workshops(1) Workshops(2) (first stage)

This course description provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the student to achieve, demonstrating whether he has made maximum use of the available learning opportunities.

1-Name of university	Northern Technical university
2-Name of Department	Mechanical techniques
3-Name of subject	Workshops(1) TIKI113 Workshops(2) METP127
4-Available forms of attendance	In the lecture hall and laboratories
5-Course/year	2023-2024
6-Total number of hours of study	240 hours in the year (8 hours in week)
7-Description creation date	2024/1/7
8- Academic Program Objectives: 1-Providing and qualifying the student with basic information in the engineering workshops subject 2-Familiarity with the operation and knowledge of the parts of the workshop (machines (turning, welding, and carpentry 3-Conducting practical exercises and how to use the number	
9-Course outcomes and methods of teaching, learning and assessment Cognitive goals 1-Learn about the various methods and installation of the parts of the machines found in the workshops 2-Knowing how to deal with numbers, machines and their parts, as well as how to make measurements 3-The ability to optimally test the appropriate method of work among the above methods.	
Teaching and learning methods	

The theoretical lecture (with various means of explanation), the google class room, the practical lecture (with various means of explanation), scientific reports. google meet. Department's YouTube.

Evaluation methods

The work of the year, which includes:
1-the exam at the beginning of the lecture using Google forms and includes the
topic of the previous lecture, oral exams during the lecture with the same topic
as the lecture, scientific reports, student seminars, student research
2) the first semester exam,
3) the second semester exam,
4)The final exam in turn

Emotional and value aims

1-Analyze, analyze and compare
2-Accuracy of observation and depth of thinking
3-The speed of information retrieval and the intuition of conclusion
4-Speed and accuracy of decision-making
5- Optimizing numerical values

Transferred general and rehabilitative skills (other skills related to employability and personal development)

1- Welding
2- Plumbing
3- Turning
4- The refrigerator
5- Search on the Internet

Teaching and learning methods.

Lecture style, workshop, computer simulation, summer training

Evaluation methods The work of the year, which includes:

1-the exam at the beginning of the lecture using Google forms and includes the topic of the previous lecture, oral exams during the lecture with the same topic as the lecture, scientific reports, student seminars, student research,
2) the first semester exam, 3) the second semester exam, 4 The final exam in turn

10- structure of subject

Weeks	Hours	Required learning outcomes	name / course or topic	education method	Evaluation method
Weekly	8	Workshops(1)	Mechanical department	Theoretical + practical	oral exams

11-Infrastructure	
1-Required references books	Foundation Workshops / General Organization for Technical Education and Vocational Training / Kingdom of Saudi Arabia
2- Main References (Sources)	Principles of Production Operations/Dr. Qahtan behind Al-Khazraji
Recommended books and references (scientific journals, reports)	The virtual library of the Ministry of Higher Education and Scientific Research

12- Study course development plan: The development plan is carried out through studies submitted annual scientific plan for the development of the study course

Description Course: - **Engineering drawing(1) Engineering drawing(2)** (first stage)

This course description provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the student to achieve, demonstrating whether he has made maximum use of the available learning opportunities.

1-Name of university	Northern Technical university
2-Name of Department	Mechanical techniques
3-Name of subject	Engineering drawing(1) TIKI112 Engineering drawing(2) METP126
4-Available forms of attendance	In the lecture hall and laboratories
5-Course/year	2023-2024
6-Total number of hours of study	90 hours in the year (3 hours in week)
7-Description creation date	2024/1/7

8- Academic Program Objectives:

1-Introducing the student to the importance of engineering drawing and its relationship with other engineering subjects

2-Develop the student's mental and motor abilities in drawing simple and complex shapes

3-Expanding the horizons of his imagination of geometric shapes and assemblies to identify their components, parts, mechanics and the principle of their work

4-Organizing the student's thought to develop a specific and sequential strategy for drawing, assembling and dismantling geometric shapes and parts of machines and equipment.

9-Course outcomes and methods of teaching, learning and assessment

Cognitive goals

1-The student will know the importance of engineering drawing

2-The student learns how to imagine geometric shapes

3-The student should distinguish mechanical components and parts and their working principle

Teaching and learning methods

The theoretical lecture (with various means of explanation), the google class room, the practical lecture (with various means of explanation), scientific reports. google meet. Department's YouTube.

Evaluation methods

The work of the year, which includes:

1-the exam at the beginning of the lecture using Google forms and includes the topic of the previous lecture, oral exams during the lecture with the same topic as the lecture, scientific reports, student seminars, student research

2) the first semester exam,

3) the second semester exam,

4)The final exam in turn

Emotional and value aims

1-The student listens attentively to the teacher's explanation

2-That the student cares about calmness and class order

3-That the student recognize the importance of engineering drawing and its relationship with other engineering subjects

Transferred general and rehabilitative skills (other skills related to employability and personal development)

1- Welding
2- Plumbing
3- Turning
4- The refrigerator
5- Search on the Internet

Teaching and learning methods.

Lecture style, workshop, computer simulation, summer training

Evaluation methods The work of the year, which includes:

1-the exam at the beginning of the lecture using Google forms and includes the topic of the previous lecture, oral exams during the lecture with the same topic as the lecture, scientific reports, student seminars, student research,

2) the first semester exam, 3) the second semester exam, 4 The final exam in turn

10- structure of subject

Weeks	Hours	Required learning outcomes	name / course or topic	education method	Evaluation method
Weekly	3	Engineering drawing	Mechanical department	Theoretical + practical	oral exams

11-Infrastructure	
1-Required references books	Engineering Drawing - Abdul Rasoul Al Khafaf
2- Main References (Sources)	Internet and books
Recommended books and references (scientific journals, reports)	The virtual library of the Ministry of Higher Education and Scientific Research

12- Study course development plan: The development plan is carried out through studies submitted annual scientific plan for the development of the study course

Description Course: - **Humans Rights and Democracy** (first stage)

This course description provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the student to achieve, demonstrating whether he has made maximum use of the available learning opportunities.

1-Name of university	Northern Technical university
2-Name of Department	Mechanical techniques
3-Name of subject	Humans Rights and Democracy NTU100
4-Available forms of attendance	In the lecture hall and laboratories
5-Course/year	2023-2024
6-Total number of hours of study	60 hours in the year (2 hours in week)
7-Description creation date	2024/1/7

8- Academic Program Objectives:

1-Introducing the principles of human rights
2-Learn about the historical development of human rights
3-Introducing human rights to the monotheistic religions
4-Recognizing human rights in international constitutions
5-Get to know the universal declarations of human rights

9-Course outcomes and methods of teaching, learning and assessment
Cognitive goals

1-Identify the most important features of modern trends in human rights 2-Identifying the objective reasons for the emergence of human rights principles
3-Knowing the importance of the types of rights
4-A comparison between the factors of the historical development of human rights
5- Knowing the importance of studying law
6-Recognize the hierarchy of rights

Teaching and learning methods

The theoretical lecture (with various means of explanation), the google class

room,o scientific reports. google meet. Department's YouTube.

Evaluation methods

The work of the year, which includes:
1-the exam at the beginning of the lecture using Google forms and includes the
topic of the previous lecture, oral exams during the lecture with the same topic
as the lecture, scientific reports, student seminars, student research
2) the first semester exam,
3) the second semester exam,
4)The final exam in turn

Emotional and value aims

1- The student listens carefully to the teacher's explanation
2-That the student cares about calmness and class order
3-The student should know the impact of science and scientists on life
4-Describe the importance of human rights

Transferred general and rehabilitative skills (other skills related to employability and personal development)

1- Welding
2- Plumbing
3- Turning
4- The refrigerator
5- Search on the Internet

Teaching and learning methods.

Lecture style, workshop, computer simulation, summer training

Evaluation methods The work of the year, which includes:

1-the exam at the beginning of the lecture using Google forms and includes the topic of the previous lecture, oral exams during the lecture with the same topic as the lecture, scientific reports, student seminars, student research,
2) the first semester exam, 3) the second semester exam, 4 The final exam in turn

10- structure of subject

Weeks	Hours	Required learning outcomes	name / course or topic	education method	Evaluation method

Weekly	2	Human rights	Mechanical department	Theoretical + practical	oral exams

11-Infrastructure	
1-Required references books	An overview of human rights
2- Main References (Sources)	United Nations Books
Recommended books and references (scientific journals, reports)	Human rights under Iraqi, Arab and international laws The virtual library of the Ministry of Higher Education and Scientific Research

12- Study course development plan: The development plan is carried out through studies submitted annual scientific plan for the development of the study course

Description Course: - **Metallurgy(1) Metallurgy(2)** (second stage)

This course description provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the student to achieve, demonstrating whether he has made maximum use of the available learning opportunities.

1-Name of university	Northern Technical university
2-Name of Department	Mechanical techniques
3-Name of subject	Metallurgy(1) METP216 Metallurgy(2) METP217
4-Available forms of attendance	In the lecture hall and laboratories
5-Course/year	2023-2024
6-Total number of hours of study	120 hours in the year (4 hours in week)
7-Description creation date	2024/1/7
8- Academic Program Objectives: 1-Providing the student with theoretical information related to the subject (metal) 2-(Getting to know the devices for checking (metal) 3-Operating devices to know the mechanical properties and conducting .practical experiments	
9-Course outcomes and methods of teaching, learning and assessment Cognitive goals 1- Providing the student with theoretical information related to the subject (metal) 2- Introducing the student to the scientific laboratory equipment 3- Introduce the student to the methods of measuring mechanical properties 4- Carrying out special calculations by examining and finding the values of (.hardness, toughness, yield point……..etc	
Teaching and learning methods T The theoretical lecture (with various means of explanation), the google class room, the practical lecture (with various means of explanation), .scientific reports. google meet. Department's YouTube	
Evaluation methods	

The work of the year, which includes:
1-the exam at the beginning of the lecture using Google forms and includes the
topic of the previous lecture, oral exams during the lecture with the same topic
as the lecture, scientific reports, student seminars, student research
2) the first semester exam,
3) the second semester exam,
4)The final exam in turn

Emotional and value aims

1- The student listens carefully to the teacher's explanation
2-That the student cares about calmness and class order
3-The student should know the impact of science and scientists on life
4-Describe the importance of human rights

Transferred general and rehabilitative skills (other skills related to employability and personal development)

1- Welding
2- Plumbing
3- Turning
4- The refrigerator
5- Search on the Internet

Teaching and learning methods.

Lecture style, workshop, computer simulation, summer training

Evaluation methods The work of the year, which includes:

1-the exam at the beginning of the lecture using Google forms and includes the topic of the previous lecture, oral exams during the lecture with the same topic as the lecture, scientific reports, student seminars, student research,
2) the first semester exam, 3) the second semester exam, 4 The final exam in turn

10- structure of subject

Weeks	Hours	Required learning outcomes	name / course or topic	education method	Evaluation method
Weekly	4	Metallurgy	Mechanical department	Theoretical + practical	oral exams

11-Infrastructure	
1-Required references books	Introduction to Production Engineering, written by Hassan Hussein Fahmy. Jalal (Shawky(1966)
2- Main References (Sources)	- Principles of Metal Casting, translation - Dr. Salah Al-Din Muhammad Al-Muhanni
Recommended books and references (scientific journals, reports)	The virtual library of the Ministry of Higher Education and Scientific Research

12- Study course development plan: The development plan is carried out through studies submitted annual scientific plan for the development of the study course

Description Course: - Manufacturing Processes(1) Manufacturing Processes(2) (secondstage)

This course description provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the student to achieve, demonstrating whether he has made maximum use of the available learning opportunities.

1-Name of university	Northern Technical university
2-Name of Department	Mechanical techniques
3-Name of subject	Manufacturing Processes(1) METP212 Manufacturing Processes(2) METP213
4-Available forms of attendance	In the lecture hall and laboratories
5-Course/year	2023-2024
6-Total number of hours of study	120 hours in the year (4 hours in week)
7-Description creation date	2024/1/7
8- Academic Program Objectives: 1- A graduate of an intermediate cadre who is able to work in the fields of manufacturing and production to contribute 2-Ability to analyze manufacturing processes into operating items 3-Enumerate the technological path between production units 4-Preparing operating cards and orders for each unit and each machine, calculating the operating time and downloading programs for the units 5-Determining the elements of control and quality control 6-Make preliminary calculations for operating costs	
9-Course outcomes and methods of teaching, learning and assessment Cognitive goals 1-Learn about the production and manufacture of metals and their types 2-Learn about metal formation and formation theory 3-Learn about metal fabrication methods	

Teaching and learning methods
The theoretical lecture (with various means of explanation), the google class room, the practical lecture (with various means of explanation), scientific reports. google meet. Department's YouTube.
Evaluation methods
The work of the year, which includes: 1-the exam at the beginning of the lecture using Google forms and includes the topic of the previous lecture, oral exams during the lecture with the same topic as the lecture, scientific reports, student seminars, student research 2) the first semester exam, 3) the second semester exam, 4)The final exam in turn
Emotional and value aims
1- Building a technological path between production units 2-The use of basic equipment in the manufacturing process 3-Knowing the specifications and features of metal cutting 4-Identifying the types of minerals and some components and implementing them
Transferred general and rehabilitative skills (other skills related to employability and personal development)
1- Welding 2- Plumbing 3- Turning 4- The refrigerator 5- Search on the Internet
Teaching and learning methods.
Lecture style, workshop, computer simulation, summer training
Evaluation methods The work of the year, which includes:
1-the exam at the beginning of the lecture using Google forms and includes the topic of the previous lecture, oral exams during the lecture with the same topic as the lecture, scientific reports, student seminars, student research, 2) the first semester exam, 3) the second semester exam, 4 The final exam in turn

10- structure of subject

Weeks	Hours	Required	name /	education	Evaluation

		learning outcomes	course or topic	method	method
Weekly	4	Manufacturing Processes(2)	Mechanical department	Theoretical + practical	oral exams

11-Infrastructure	
1-Required references books	1-An introduction to production engineering 2-Production engineering technology and dimensional design
2- Main References (Sources)	Metalworking books Metal Forming Books Scientific reports on the Internet
Recommended books and references (scientific journals, reports)	The virtual library of the Ministry of Higher Education and Scientific Research

12- Study course development plan: The development plan is carried out through studies submitted annual scientific plan for the development of the study course

Description Course: - Design of Machines (1) Design of Machines (2) (secondstage)

This course description provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the student to achieve, demonstrating whether he has made maximum use of the available learning opportunities.

1-Name of university	Northern Technical university
2-Name of Department	Mechanical techniques
3-Name of subject	Design of Machines (1) METP210 Design of Machines (2) METP211
4-Available forms of attendance	In the lecture hall and laboratories
5-Course/year	2023-2024
6-Total number of hours of study	90 hours in the year (3 hours in week)
7-Description creation date	2024/1/7

8- Academic Program Objectives:

1-Explaining the importance of studying engine parts
2-Derivation of mathematical formulas that govern the movement of engine parts
3-Develop the student's ability and ability to translate academic information into practice

9-Course outcomes and methods of teaching, learning and assessment
Cognitive goals

1- Studying the basic concepts of engines
2-Learn the characteristics of engine parts
3-Learn about the laws of controlling the movement of motors

Teaching and learning methods

The theoretical lecture (with various means of explanation), the google class room, scientific reports. google meet. Department's YouTube.

Evaluation methods The work of the year, which includes: 1-the exam at the beginning of the lecture using Google forms and includes the topic of the previous lecture, oral exams during the lecture with the same topic as the lecture, scientific reports, student seminars, student research 2) the first semester exam, 3) the second semester exam, 4)The final exam in turn
Emotional and value aims 1-Building a technological path between engine parts 2-The use of basic devices in the movement of motors 3-Know the specifications and features of the engine parts 4-Identifying the types of engines and some components and their implementation
Transferred general and rehabilitative skills (other skills related to employability and personal development) 1- Welding 2- Plumbing 3- Turning 4- The refrigerator 5- Search on the Internet
Teaching and learning methods. Lecture style, workshop, computer simulation, summer training
Evaluation methods The work of the year, which includes: 1-the exam at the beginning of the lecture using Google forms and includes the topic of the previous lecture, oral exams during the lecture with the same topic as the lecture, scientific reports, student seminars, student research, 2) the first semester exam, 3) the second semester exam, 4 The final exam in turn

10- structure of subject

Weeks	Hours	Required learning	name / course or	education method	Evaluation method

		outcomes	topic		
Weekly	3	Machine Parts	Mechanical department	Theoretical + practical	oral exams

11-Infrastructure	
1-Required references books	Machine parts Zablonski ،V. Dobrovolsky fishmonger،
2- Main References (Sources)	Metalworking books Metal Forming Books Scientific reports on the Internet
Recommended books and references (scientific journals, reports)	The virtual library of the Ministry of Higher Education and Scientific Research

12- Study course development plan: The development plan is carried out through studies submitted annual scientific plan for the development of the study course

Description Course: - Computer application(1) Computer application(2) (secondstage)

This course description provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the student to achieve, demonstrating whether he has made maximum use of the available learning opportunities.

1-Name of university	Northern Technical university
2-Name of Department	Mechanical techniques
3-Name of subject	Computer application(1) METP220 Computer application(2) METP221
4-Available forms of attendance	In the lecture hall and laboratories
5-Course/year	2023-2024
6-Total number of hours of study	90 hours in the year (3 hours in week)
7-Description creation date	2024/1/7
8- Academic Program Objectives: 1-Introduce the student to the concept of the Internet 2-Introducing the student to networks and their types 3-Introduce the student to flowcharts and algorithms 4-Introducing the student to the language of visual basic 5-Introduce the student to the use of important keys in the program	
9-Course outcomes and methods of teaching, learning and assessment Cognitive goals 1-To familiarize the student with the concept of the Internet1 2-That the student understand how to distinguish between Internet networks 3-The student learns the technique of drawing using the program visual basic 4-That the student knows how to search for and access information	
Teaching and learning methods The theoretical lecture (with various means of explanation), the google class room, the practical lecture (with various means of explanation), scientific reports. google meet. Department's YouTube.	
Evaluation methods	

The work of the year, which includes:
1-the exam at the beginning of the lecture using Google forms and includes the
topic of the previous lecture, oral exams during the lecture with the same topic
as the lecture, scientific reports, student seminars, student research
2) the first semester exam,
3) the second semester exam,
4)The final exam in turn

Emotional and value aims

1-The student listens attentively to the teacher's explanation
2-That the student cares about calmness and class order
3-That the student knows the impact of science and scientists on life

Transferred general and rehabilitative skills (other skills related to employability and personal development)

1- Welding
2- Plumbing
3- Turning
4- The refrigerator
5- Search on the Internet

Teaching and learning methods.

Lecture style, workshop, computer simulation, summer training

Evaluation methods The work of the year, which includes:

1-the exam at the beginning of the lecture using Google forms and includes the topic of the previous lecture, oral exams during the lecture with the same topic as the lecture, scientific reports, student seminars, student research,
2) the first semester exam, 3) the second semester exam, 4 The final exam in turn

10- structure of subject

Weeks	Hours	Required learning outcomes	name / course or topic	education method	Evaluation method
Weekly	3	Computer application(2)	Mechanical department	Theoretical + practical	oral exams

11-Infrastructure	
1-Required references books	online books
2- Main References (Sources)	Visual Basic Asmaa Abdul Jalil Shaima Ali Kazem -
Recommended books and references (scientific journals, reports)	The virtual library of the Ministry of Higher Education and Scientific Research

12- Study course development plan: The development plan is carried out through studies submitted annual scientific plan for the development of the study course

Description Course: - Industrial drawing(1) - Industrial drawing(2) (secondstage)

This course description provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the student to achieve, demonstrating whether he has made maximum use of the available learning opportunities.

1-Name of university	Northern Technical university
2-Name of Department	Mechanical techniques
3-Name of subject	Industrial drawing(1) METP218 Industrial drawing(2) METP219
4-Available forms of attendance	In the lecture hall and laboratories
5-Course/year	2023-2024
6-Total number of hours of study	90 hours in the year (3 hours in week)
7-Description creation date	2024/1/7
8- Academic Program Objectives: 1-Introducing the student to the basics of industrial drawing so that the student can translate the engineering drawings he faces 2-Teaching students how to draw electronically . 3- Preparing students to learn mechanical drawing for the second stage .	
9-Course outcomes and methods of teaching, learning and assessment Cognitive goals 1-Learn about industrial drawing and how it works 2-Benefiting from industrial drawings for projects	
Teaching and learning methods The theoretical lecture (with various means of explanation), the google class room, the practical lecture (with various means of explanation), scientific reports. google meet. Department's YouTube.	
Evaluation methods The work of the year, which includes: 1-the exam at the beginning of the lecture using Google forms and includes the	

topic of the previous lecture, oral exams during the lecture with the same topic
as the lecture, scientific reports, student seminars, student research
2) the first semester exam,
3) the second semester exam,
4)The final exam in turn

Emotional and value aims

1- The student listens carefully to the teacher's explanation
2-That the student cares about calm and the order of the class
3-That the student recognize the importance of industrial drawing and its relationship with other engineering materials

Transferred general and rehabilitative skills (other skills related to employability and personal development)

1- Welding
2- Plumbing
3- Turning
4- The refrigerator
5- Search on the Internet

Teaching and learning methods.

Lecture style, workshop, computer simulation, summer training

Evaluation methods The work of the year, which includes:

1-the exam at the beginning of the lecture using Google forms and includes the topic of the previous lecture, oral exams during the lecture with the same topic as the lecture, scientific reports, student seminars, student research,
2) the first semester exam, 3) the second semester exam, 4 The final exam in turn

10- structure of subject

Weeks	Hours	Required learning outcomes	name / course or topic	education method	Evaluation method
Weekly	3	Industrial drawing	Mechanical department	Theoretical + practical	oral exams

11-Infrastructure	
1-Required references books	Manual of engineering drawing - Simmons C.H., Maguire D. E.
2- Main References (Sources)	Manual of engineering drawing - Simmons C.H., Maguire D. E
Recommended books and references (scientific journals, reports)	The virtual library of the Ministry of Higher Education and Scientific Research

12- Study course development plan: The development plan is carried out through studies submitted annual scientific plan for the development of the study course

Description Course: Industrial Management (secondstage)

This course description provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the student to achieve, demonstrating whether he has made maximum use of the available learning opportunities.

1-Name of university	Northern Technical university
2-Name of Department	Mechanical techniques
3-Name of subject	Industrial Management
4-Available forms of attendance	In the lecture hall and laboratories
5-Course/year	2023-2024
6-Total number of hours of study	60 hours in the year (2hours in week)
7-Description creation date	2024/1/7

8- Academic Program Objectives:

1-Familiarize yourself with the scientific methods and means of occupational management and safety

2-Achieving the best possible settlement of resources within the limits of time, cost and availability of resources

3-Learn about the scientific methods of financial planning for the project

4-Learn about special scientific methods and methods of evaluating alternatives to choose the best alternative

9-Course outcomes and methods of teaching, learning and assessment

Cognitive goals

1- The student learns about the most important means and methods of construction management

2-Familiarize students with how to plan and schedule projects

3-The student knows how to reach the best settlement of resources

4-The student learns how to plan financially for the project and forecast cash flow

5-The student learns how to evaluate alternatives and make economic .comparisons

6-The student learns how to calculate depreciation by different methods

Teaching and learning methods The theoretical lecture (with various means of explanation), the google class room, scientific reports. google meet. Department's YouTube.
Evaluation methods The work of the year, which includes: 1-the exam at the beginning of the lecture using Google forms and includes the topic of the previous lecture, oral exams during the lecture with the same topic as the lecture, scientific reports, student seminars, student research 2) the first semester exam, 3) the second semester exam, 4)The final exam in turn
Emotional and value aims 1-Develop the student's ability to work on the duties and complete them on the due date 2-Trying to apply concepts by solving different types of exercises 3-Develop the student's ability to dialogue and discussion
Transferred general and rehabilitative skills (other skills related to employability and personal development) 1- Welding 2- Plumbing 3- Turning 4- The refrigerator 5- Search on the Internet
Teaching and learning methods. Lecture style, workshop, computer simulation, summer training
Evaluation methods The work of the year, which includes: 1-the exam at the beginning of the lecture using Google forms and includes the topic of the previous lecture, oral exams during the lecture with the same topic as the lecture, scientific reports, student seminars, student research, 2) the first semester exam, 3) the second semester exam, 4 The final exam in turn

10- structure of subject

Weeks	Hours	Required learning outcomes	name / course or topic	education method	Evaluation method

Weekly	2	Management & Vocational safety	Mechanical department	Theoretical + practical	oral exams

11-Infrastructure	
1-Required references books	1-Principles of Construction Management by:Roy Pilcher 2-Modren Construction Management by :F.Harris.
2- Main References (Sources)	1-Construction planning ,Equipment and Methods 2.Critical Path Method in Construction Practice by:Antill 3.Engineering Economy by De Garms
Recommended books and references (scientific journals, reports)	The virtual library of the Ministry of Higher Education and Scientific Research

12- Study course development plan: The development plan is carried out through studies submitted annual scientific plan for the development of the study course

Description Course: - Workshops(3) Workshops(4) (first stage)

This course description provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the student to achieve, demonstrating whether he has made maximum use of the available learning opportunities.

1-Name of university	Northern Technical university
2-Name of Department	Mechanical techniques
3-Name of subject	Workshops(3) METP214 Workshops(4) METP215
4-Available forms of attendance	In the lecture hall and laboratories
5-Course/year	2023-2024
6-Total number of hours of study	240 hours in the year (8 hours in week)
7-Description creation date	2024/1/7

8- Academic Program Objectives:

1-Providing and qualifying the student with basic information in the engineering workshops subject

2-Familiarity with the operation and knowledge of the parts of the workshop (machines (turning, welding, and carpentry

3-Conducting practical exercises and how to use the number

9-Course outcomes and methods of teaching, learning and assessment

Cognitive goals

1-Learn about the various methods and installation of the parts of the machines found in the workshops

2-Knowing how to deal with numbers, machines and their parts, as well as how to make measurements

3-The ability to optimally test the appropriate method of work among the above methods.

Teaching and learning methods

The theoretical lecture (with various means of explanation), the google class room, the practical lecture (with various means of explanation), scientific reports. google meet. Department's YouTube.

Evaluation methods

The work of the year, which includes:

1-the exam at the beginning of the lecture using Google forms and includes the topic of the previous lecture, oral exams during the lecture with the same topic as the lecture, scientific reports, student seminars, student research

2) the first semester exam,

3) the second semester exam,

4)The final exam in turn

Emotional and value aims

1-Analyze, analyze and compare

2-Accuracy of observation and depth of thinking

3-The speed of information retrieval and the intuition of conclusion

4-Speed and accuracy of decision-making

5- Optimizing numerical values

Transferred general and rehabilitative skills (other skills related to employability and personal development)

1- Welding

2- Plumbing

3- Turning

4- The refrigerator

5- Search on the Internet

Teaching and learning methods.

Lecture style, workshop, computer simulation, summer training

Evaluation methods The work of the year, which includes:

1-the exam at the beginning of the lecture using Google forms and includes the topic of the previous lecture, oral exams during the lecture with the same topic as the lecture, scientific reports, student seminars, student research,

2) the first semester exam, 3) the second semester exam, 4 The final exam in turn

10- structure of subject

Weeks	Hours	Required learning outcomes	name / course or topic	education method	Evaluation method
Weekly	8	Workshops(2)	Mechanical	Theoretical	oral exams

			department	+ practical	

11-Infrastructure	
1-Required references books	Foundation Workshops / General Organization for Technical Education and Vocational Training / Kingdom of Saudi Arabia
2- Main References (Sources)	Principles of Production Operations/Dr. Qahtan behind Al-Khazraji
Recommended books and references (scientific journals, reports)	The virtual library of the Ministry of Higher Education and Scientific Research

12- Study course development plan: The development plan is carried out through studies submitted annual scientific plan for the development of the study course