Ministry education High And search Scientific device Supervision And the calendar Scientific circle a guarantee the quality And accreditation Academic to divide Accreditation

Academic Program and Course Mechanical power department

2025-2024

The Introduction:

The educational program is considered a coordinated and organized package of academic courses that include 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 the teaching staff participates in writing it under the supervision of the scientific committees in the scientific departments.

This guide, in its second edition, includes a description of the academic program after updating the vocabulary and paragraphs of 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, quarterly), in addition to adopting the description of the academic program circulated according to the book of the Department of Studies T.M.3/2906 on 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:

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

Course description: It 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 has made the most of the available learning opportunities. It is derived from the program description.

Program vision: An ambitious picture for the future of the academic program to be an advanced, inspiring, motivating, realistic and applicable program.

Program message: It briefly explains the objectives and activities necessary to achieve them, and also identifies the program's development paths and directions.

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

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

Learning Outcomes: A compatible set of knowledge, skills, and values that the student has acquired after successfully completing the academic program. The learning outcomes for each course must be determined in a way that achieves the program objectives.

Teaching and learning strategies: They are the strategies used by the faculty member to develop the student's teaching and learning, and they are plans that

are followed to reach the learning goals. That is, it describes all curricular and extracurricular activities to achieve the learning outcomes of the programmer.

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**: Southern Technical. University*
***College:** Basra Technical Institute.*
***Department**: Power Mechanics Techniques. /Automobile*
***Date of Form Completion**: 9 / 5 / 2025*

Dean 's Name	***Dean 's Assistant For***	***Head of Department***
Assist. prof	*Scientific Affairs*	*Assist. prof*
Dr. Diyah Kammel Shary	*Dr. Abdel Nasser Abboud*	*Dr. Duna Tariq Yaseen*
Date: 9 /5 / 2025	*Date: 9 /5 /2025*	*Date: 9 /5 /2025*
Signature	*Signature*	*Signature*

Quality Assurance and University Performance Manager

Date: 9 / 5 /2025

Signature

1. See the program

The Department of Power Mechanics Technology seeks to be one of the leading higher education institutions at the Southern Technical University in the field of modern education and scientific research through its scientific, research and administrative activities. It also works to provide an integrated path for students and professors to make them effective and creative in serving the community in various educational fields.

2. Program message

To prepare and graduate pioneering scientific and leadership competencies in the field of automotive technology and to develop the knowledge base in the field of scientific research to serve the local, regional and international community, in addition to training and refining students' minds scientifically and cognitively, emphasizing social and cultural values and responding to the requirements of the local market.

3. Program Goals

1. Preparing and qualifying specialized technical personnel to meet the requirements of the private and public labor market in the automotive technology field by diversifying learning and teaching methods and training students to apply acquired knowledge and skills to solve real-life problems. Preparing specialized personnel capable of serving the community and preparing students for future specializations.
2. During the two academic years, students are provided with theoretical, applied, and practical information to enable them to:
   (a) Diagnose faults in automotive mechanical and electrical systems using modern technologies.
   (b) Perform periodic maintenance and mechanical and electrical repairs for gasoline and diesel-powered vehicles.
   (c) Manage and operate service stations and maintain vehicles.
3. Create a stimulating environment for faculty members to develop their educational and research knowledge and skills.
4. Build and develop partnerships with governmental and private sectors and the community with all its various institutions.

4. Program accreditation

ABET Engineering majors

5. **Other external influences**
Public sector and private sector

5. Other external influences
Training courses, field visits, and summer training

6. Program structure

Program structur	Number of courses	Study unit	percentage	* comments
Institutional requirements	First 10	65 units	40 %	Basic course
	Second 12	66 units	60 %	
College requirements	Yes			
Department requirements	Yes			
Summer training	Yes			
Other				

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

7. Program description

Year/Level	Course code	Course name	Credit hours	
			Theoretical	practical
2025 – 2024 / First		Cars 1 maintenance	2	3
		Cars 1 Electric	1	2
		Engineering drawing	-	3
		Mechanical	2	1
		Mechanical laboratories	-	4
		mathematics	2	-
		Computer Basics /1	-	2
		language English / 1	2	-
		Fluid Mechanics and Thermodynamics	2	1

		Arabic	2	-
		Human rights and democracy	2	-
2025 – 2024 / Second		Auto mechanics	**2**	–
		internal combustion engin	**2**	**2**
		Car bodies	**1**	**2**
		Maintenance Car	**2**	**6**
		Electric cars	**1**	**2**
		Industrial drawing	–	**3**
		modern automotive technology	**1**	**2**
		Management, occupational safety and service stations	**2**	–
		Computer Basics **2**	–	**2**
		English **2**	**2**	–
		The project	–	**2**

Cars Branch/First Phase **Technical Institute (Basra - Shatra)**

Curriculum for the Department of Power/ Automotive Mechanical Technologies for the academic year2024/2025

First year - First semester

T	Study material	Number of hours			Number of units	Material type	Notes
		theoretical	practical	The Total			
1	Maintenance of Automotive Engines /1	2	3	5	5	Specialized	
2	Fundamentals of Automotive Electrical and Electronic Circuit / 1	1	2	3	3	Specialized	
3	Engineering Mechanics	2	1	3	3	assistance	Study in English
4	1 /Mathematics	2	-	2	2	assistance	
5	Computer Fundamentals 1	-	2	2	2	assistance	
6	Engineering Drawing / 1	-	3	3	3	assistance	Study in English
7	Thermodynamics	2	1	3	3	Specialized	Study in English
8	English language / 1	2	-	2	2	General	
9	Mechanical Workshops	-	4	4	-	assistance	annual
10	Human Rights and Democracy	1	-	1	1	General	
	The Total	12	16	28	24		

Curriculum for the Department of Power Mechanics/Automotive Technology for the academic year 2024/2025							
First year - Second semester							
T	Study material	Number of hours			Number of units	Material type	Notes
		theoretical	practical	the total			
1	Maintenance of Automotive Engines/2	2	3	5	5	Specialized	
2	Fundamentals of Automotive Electrical and Electronic Circuit / 2	1	2	3	3	Specialized	
3	Heat Transfer and Fluids	2	1	3	3	assistance	Study in English
4	2 /Mathematics	2	-	2	2	assistance	
5	Engineering Drawing / 2	-	3	3	3	assistance	Study in English
6	Mechanical Workshops	-	4	4	8	assistance	annual
7	Thermodynamics	2	1	3	3	Specialized	Study in English
8	Engineering Mechanics / 2	2	1	3	3	assistance	Study in English
9	Human Rights and Democracy	1	-	1	1	General	
	the total	12	16	28	24		

Automobile Branch / Second Phase Technical Institute (Basra - Shatrah)

Curriculum for the Department of Power Mechanics/Automotive Technology for the academic year 2024/2025							
Second year - First semester							
T	Study material	Number of hours			Number of units	Material type	Notes
		theoretical	practical	The total			
1	Automotive Mechanics /1	2	-	2	2	Specialized	Study in English
2	Internal Combustion Engines / 1	2	2	4	4	Specialized	Study in English
3	Automotive Bodywork / 1	1	2	3	3	Specialized	
4	Maintenance Automotive /1	2	6	8	8	Specialized	
5	ElectricAutomotive /1	1	2	3	3	Specialized	
6	Computer Aided Industrial Drawing	-	3	3	3	Specialized	Study in English
7	Principle of Occupational Safety	2	-	2	2	assistance	
8	Modern Automotive Technology/1	1	2	3	3	assistance	
9	English Language	2	-	2	2	General	
10	Graduation Project	-	2	2	-	Specialized	annual
	the Total	13	19	32	30		

Curriculum for the Department of Power Mechanics/Automotive Technology for the academic year 2023/2024							
Second year - Second semester							
T	Study material	Number of hours			Number of units	Material type	Notes
		theoretical	practical	the total			
1	Automotive Mechanics / 2	2	-	2	2	Specialized	Study in English
2	Internal Combustion Engines / 2	2	2	4	4	Specialized	Study in English
3	Automotive Bodywork / 2	1	2	3	3	Specialized	
4	Automotive Maintenance 2	2	6	8	8	Specialized	
5	Automotive Electric 2	1	2	3	3	Specialized	
6	Computer Aided Industrial Drawing / 1	-	3	3	3	Specialized	Study in English
7	Service Station management	2	-	2	2	assistance	

8	Modern Automotive Technology/2	1	2	3	3	assistance	
9	Graduation Project	-	2	2	4		annual
10	Computer Fundamentals / 2	-	2	2	2	assistance	
	The Total	11	21	32	34		

8. Expected learning outcomes of the program	
Knowledge	
1 - Acquire basic skills in the operating principles of various types of internal combustion engines, hydraulic systems, and automotive transmission systems. 2 - Be able to understand occupational safety principles and avoid various hazards.	3- Gain experience in dealing with modern automotive inspection devices, electrical circuits, sensors, and smart systems in cars. 4- Gain experience in using Microsoft Office and AutoCAD computer programs for engineering and mechanical drawing.
Skills	
1- The ability to actively participate in maintenance, repair, and service operations for vehicle engines. 2- The ability to participate in transmission maintenance operations.	3- Ability to use electrical, electronic, and mechanical fault detection devices in modern vehicles. 4- Ability to use a computer, create mechanical drawings, and write scientific reports.
values	
Developing students' ability to share ideas	Monitor the interest of the student who interacted most with the material presented, by increasing this interaction by requesting other .programs and applications to display it
Capturing students' attention during lectures, workshops, and labs, and monitoring the student's	Meaning that the student reaches the top of the emotional ladder, has a .stable level in the lesson, and does not become lazy or fidgety

interaction with the material .displayed on the screen	

9. Teaching and learning strategies

Active participation in the classroom demonstrates a student's commitment and responsibility. Commitment to deadlines for submitting assignments and research. Midterm and final exams .demonstrate commitment, knowledge acquisition, and skill

10. Evaluation methods

Daily notes, student discussion, assignments, pop-up tests, laboratory experiments.

11. Faculty

Faculty members

Academic rank	Specialization		**Special requirements/skills (if any)**		Faculty preparation	
	general	private			**Employ**	lecturer
.Assistant Professor Dr	Mechanics	Heat			Yes	
.Assistant Professor Dr	Mechanics	nanomaterials			Yes	
Doctor teacher	Mechanics	Heat			Yes	
teacher	Calculators	Software			Yes	
Assistant lecturer	Mechanics	Mechatronics			Yes	

Lecturer / PhD	English literature	History			Yes	
Assistant lecturer Master/	Mechanics	Heat			Yes	
Assistant lecturer Master/	Mechanics	applied			Yes	
Assistant lecturer Bachelor's/	Mechanics	Cooling and air conditioning			Yes	
Assistant lecturer	Mechanics	Applied				Yes
Assistant lecturer	Etiquette	business management				Yes

Professional development
Orientation of new faculty members
Periodic meetings to hone academic skills
Professional development for faculty members
Participation in courses and workshops

12. Acceptance criteria

Central admission for middle school graduates and top vocational students in the automotive branch or specializations similar to the automotive branch.

13. The most important sources 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

14. Program Development Plan

1- The necessity of involving students in periodic maintenance as part of the curriculum.

-2- Emphasize summer training in government departments, providing financial and moral incentives for students and supervisors. -

3. Provide laboratory equipment that simulates developments in the automotive industry. -

4. Field visits to automotive manufacturing and maintenance companies.

Program Skills Map															
				Required learning outcomes of the program											
Year / Level	Course code	Course name	Essential or optional	knowledge				Skills				values			
				A **1**	**A2**	**A3**	**A4**	B 1	B 2	B 3	B 4	Part 1	Part 2	Part 3	Part 4
2023-2024 - First Stage		Car maintenance 1	**essential**	√	√	√		√	√	√	√	√	√	√	√
		Car Electricity 1	**essential**	√	√	√		√	√	√		√	√		
		Engineering drawing	**essential**				√				√		√		
		Mechanics	**essential**			√	√				√	√	√	√	√
		Mechanical laboratories	**essential**	√		√	√	√	√	√	√	√	√	√	√
		mathematics	**essential**	√	√	√		√	√	√		√	√	√	
		Computer Basics /1	**essential**				√				√		√		
		English language 1	**essential**								√		√		
		Fluid Mechanics and Thermodynamics	**essential**	√		√	√	√	√	√	√	√	√	√	√

		Human rights and democracy	**essential**				√				√				
2023-2024 – Second Stage		Auto mechanics	**essential**	√	√	√	√	√	√	√	√	√	√	√	√
		internal combustion engines	**essential**	√	√	√	√	√	√	√	√	√	√	√	√
		Car bodies	**essential**	√	√			√	√			√	√		
		Car maintenance 2	**essential**	√	√	√	√	√	√	√	√	√	√		
		Electric cars 2	**essential**	√	√	√	√	√	√	√	√	√	√	√	√
		Industrial drawing	**essential**				√				√		√		
		modern automotive technology	**essential**	√	√	√	√	√	√	√	√	√	√	√	√
		,Management occupational safety and service stations	**essential**			√	√				√		√		
		Computer Basics 2	**essential**	√	√	√		√	√			√			
		English 2	**essential**				√				√				
		The project	**essential**	√	√	√	√	√	√	√	√	√	√	√	√

Course Description Form

1. : Course name	
Car Maintenance / 1	
2. : Course code	
3. : semester / year	
Semester system	
4. Date this description was prepared:	
2025 / 5 /9	
5. Available attendance forms:	
Personal Only	
6. Number of study hours (total) / Number of units (total	
75 hours per semester (theoretical + practical) / 5 units	
7. Course Instructor Name	
Name: Basem Alwan	
8. Course objectives	
• The student learns about the types of cars. • The student learns about the importance of car maintenance. • The student learns about methods of maintaining and repairing car malfunctions.	• ..... • ..... • .....
Teaching and learning strategies .9	
Strategy	1- Collaborative concept planning education strategy. 2- Brainstorming education strategy. 3 -Note series education strategy

10. Course structure					
week	watc hes	Required learning outcomes	Name of unit or topic	Learning method	Evaluation method
Semester 1					
1	**5**	**A brief history of the car In addition to the main car**	General idea abou **Cars**	**Lecture and workshop**	,Daily exams assignments, and practical tests in the workshop
2	5	**Two-stroke and four-stroke gasoline engines.**	Engines benzene	**Lecture and workshop**	,Daily exams assignments, and practical tests in the workshop
3	5	Differences Basic between Engines Binary The Quartet The rounds.	Types Engines	**Lecture and workshop**	,Daily exams ,assignments and practical tests in the workshop
6-4	15	Diesel Engines and a Binary The rounds quartet And the differences Engines between By pressing Ignition And with the spark	Diesel Engines	**Lecture and workshop**	,Daily exams ,assignments and practical tests in the workshop
9-7	15	Engine ingredients , fixed basic parts (. parts Animated	Holidays Engines	**Lecture and workshop**	,Daily exams ,assignments and practical

					tests in the workshop
15-10	5	system Enter air And its parts, systen exhaust	Filters And silencers	**Lecture and workshop**	,Daily exams ,assignments and practical tests in the workshop
Semester 2					
17-16	20	fuel injection systems	fuel injection system	Lecture And the workshop	,Daily exams ,assignments and practical tests in the workshop
21-		Cooling and lubrication systems	Lubrication system and its maintenance	Lecture And the workshop	,Daily exams ,assignments and practical tests in the workshop
30-		Ignition system	Ignition system and its maintenance	Lecture And the workshop	,Daily exams ,assignments and practical tests in the workshop
11. Course Evaluation					
Tests Oral, tests Written, tests Scientific, reports, exams Quarterly, Exams Final, Evaluation Daily					
12. Learning and teaching resources					

Required textbooks (methodology if any)	book maintenance Cars
Main references (sources)	maintenance Cars .A.MWalid surgeon
Recommended supporting books and references (scientific journals, reports...)	some the reviewer Available in Library
Electronic references, websites	all books Scientific specialist With maintenance Cars

Course Description Form

1- : Course name
Auto Electric / 1
2- : Course code
3- : semester / year
Semester system
4- Date this description was prepared:
2025/5/9
5- Available attendance forms:
In-person only
6- :Number of study hours (total) / Number of units (total)
hours per semester (theoretical + practical) / 3 units 45
7- Course Instructor Name
Name : Walid Adnan Sadiq

8- Course objectives	
• The course aims to provide an understanding of complete No principles And the method a job Systems electrical and electronic For cars. • Scientific use and Correct No devices Examination And the test And diagnosis Malfunctions Systems electrical and electronic in The car. • One of the program's objectives is to implement Operations Examination And	• ..... • ..... • .....

maintenance Periodical For systems electrical and electronic For the car.	

9- Teaching and learning strategies

Strategy	1- .Educational strategy: planning the cooperative concept 2- .Brainstorming education strategy 3- Education Strategy Notes Series

10- Course structure

week	watches	Required learning outcomes	Learning method	Evaluation method
Chapter One				
5-1	15	**Introduction to the general principles of automotive electricity Introduction to the general principles of automotive electricity, the type of electrical power s upply, the main electrical sources of the car, the type of electricity used in the car, and also an introduction to the magnetic theory, the type of electrical power supply, the main electrical sources of the car, the type of electricity used in the car, and also an introduction to the magnetic theory**	Lecture and workshop	,Daily exams assignments, and practical tests in the workshop
7-6	3	**Car power system, closed electrical circuit, Ohm's ,law, electrical power, mathematical problems Kirchhoff's first and second laws, mathematical problems, set Definitions of vehicle power sources**	Lecture And the workshop	,Daily exams assignments, and practical tests in the workshop
15-8	24	,Magnetism, general properties of magnetism ,definitions of magnet types, magnetic lines of force magnetic flux density**B** magnetic field strength ,**Ĥ** , magnetic flux**ø** magnetic flux conductivity ,**θ,** *charging) circuit in a car, general idea about the direct current* ***DC*** *generator, its parts, components, working (principle, general diagram of the generator's electrical circuit*	Lecture And the workshop	,Daily exams assignments, and practical tests in the workshop
Chapter Two				

4-1		**Charging circuit of an alternating current AC ,generator, its parts, components, working principle general diagram of the generator's electrical circuit Starter motor, its parts, components, working principle, general diagram of the motor's electrical circuit**		,Daily exams assignments, and practical tests in the workshop
7-5		**,First generation ignition system (conventional), parts working principle, general diagram of the electrical circuit of the system ,Main, side and interior lighting system, components working principle, general scheme of systems**		,Daily exams assignments, and practical tests in the workshop
11-8	7	**The electrical circuit to control the car doors and windows (opening and closing)(** Car air conditionin and heating systems (electrical system)	Lecture And the workshop	,Daily exams assignments, and practical tests in the workshop
15-12	6	Audio and video audio circuit, early warning system against theft, electrical circuit		

11- Course Evaluation	
Tests Oral, tests Written, tests Scientific, reports, exams Quarterly, Exams Final, Evaluation Daily	
12- Learning and teaching resources	
Required textbooks (methodology if any)	book Electric Cars
Main references (sources)	Auto Electrical & Electronic System. Modern automotive Electricity
Recommended supporting books and references (scientific journals, reports...)	some the reviewer Available in Library
Electronic references, websites	all books Scientific specialist Electric Cars

Course Description Form

1- : Course name
mathematics
2- : Course code

3- : semester / year
Semester system
4- Date this description was prepared:
2025/5/9
5- Available attendance forms:
In-person only
6- :Number of study hours (total) / Number of units (total)
hours per semester (theoretical) / 2 units 30
7- Name of the course administrator (if more than one name is mentioned)
Name : Ashwaq Talib Abdul Nabi

8- Course objectives	
The course aims to acquire knowledge necessary For science mathematics How to Use mathematics Topics Scientific same The connection Specialization and topics Scientific Other And more His ability on thinking logical wh solution Issues And also more His ability in link Data with His information To g on solution Ideal for .math problems	• ..... • ..... • .....

9- Teaching and learning strategies	
Strategy	1- development ability on Conclusion And use Logic private With it 2- Absorption some Concepts Sports such as (relationship Function - Functions Trigonometric - Differentiation Integration) 3- Availability opportunity To practice Ways thinking

10-
11- Course structure

watches		Required learning outcomes	Name of unit or topic	Learning method	Evaluation method
Semester one					
5-1	10	Matrices, determinants and vectors	,Matrices determinants and vectors	Lecture	Daily exams and assignments

7-6	4	Logarithms	Logarithms	Lecture	Daily exams and assignments
9-8	4	functions	functions	Lecture	Daily exams and assignments
15-10	14	derivative	derivative	Lecture	Daily exams and assignments
semesterTwo					
25-16	16	Integration	Integration	Lecture	Daily exams and assignments
26	2	Differential equations	differential equations	Lecture	Daily exams and assignments
28-27	4	Statistics	Statistics	Lecture	Daily exams and assignments
30-29	4	Complex numbers	Complex numbers	Lecture	Daily exams and assignments

12- Course Evaluation	
Tests Oral, tests Written, tests Scientific, reports, exams Quarterly, Exams Final, Evaluation Daily	
13- Learning and teaching resources	
Required textbooks (methodology if any)	book mathematics Applied For the writer .Dr Imad Toma brown paunch
Main references (sources)	Calculus; Thomas
Recommended supporting books and references (scientific journals, reports...)	some the reviewer Available in Library
Electronic references, websites	all books Scientific specialist In mathematics

Course Description Form

1- : Course name
Auto Electric / 2
2- : Course code
3- : semester / year
Semester system
4- Date this description was prepared:
2025/5/9
5- Available attendance forms:
In-person only
6- :Number of study hours (total) / Number of units (total)
hours per semester (theoretical + practical) / 3 units 45
7- Name of the course administrator (if more than one name is mentioned)
Name : Walid Adnan Sadiq
8- Course objectives

• The course aims to provide an understanding of complete No principles And the method a job Systems electrical and electronic For cars • Scientific use and Correct No devices Examination And the test And diagnosis Malfunctions Systems electrical and electronic The car. • One of the program's objectives is to implemen Operations Examination And maintenance Periodical For systems electrical and electronic For the car.	• ..... • ..... • .....

9- Teaching and learning strategies	
Strategy	1- acquire Skills electrical necessary in Operations Examination and diagnosis For the elements electrical and electronic For systems The car 2- Used In a way scientific correct Techniques Devices Modern in Detection on Malfunctions electrical and electronic For the network electrical For the car

3− Course structure

week	watches	Required learning outcomes	Name of unit or topic	Learning method	Evaluation method
First Semester					
1-5	15	Principles and operation of semiconductors and transistors	Semiconductors and transistors	Lecture and workshop	,Daily exams assignments, and practical tests in the workshop
6-7	3	Transformers and measuring) instruments inductive power ,transformers Flow energy converters	Transformers and measuring devices	Lecture and workshop	,Daily exams assignments, and practical tests in the workshop

15-8	24	Control units and integrated circuits	Control units	Lecture and workshop	,Daily exams ,assignments and practical tests in the workshop
Second Semester					
30-16	75	Ignition system	Ignition system	Lecture and workshop	,Daily exams assignments, and practical tests in the workshop

4- Course Evaluation	
Tests Oral, tests Written, tests Scientific, reports, exams Quarterly, Exams Final, Evaluation Daily	
5- Learning and teaching resources	
Required textbooks (methodology if (any	book Electric Cars
Main references (sources)	Auto Electrical & Electronic System. Modern automotive Electricity
Recommended supporting books ,and references (scientific journals (...reports	some the reviewer Available in Library
Electronic references, websites	all books Scientific specialist Auto electrical

Course Description Form

1- Course name:
Modern automotive technology
2- Course code
3- semester / year

Semester system
4- Date this description was prepared:
2025/5/9
5- Available attendance forms:
In-person only
6- :Number of study hours (total) / Number of units (total)
hours per semester (theoretical + practical) / 3 units 45
7- Name of the course administrator (if more than one name is mentioned)
Name : Walid Adnan Sadiq

8- Course objectives	
• The course aims to provide an understanding of complete No principles And the method a job Systems electrical and electronic For cars • Scientific use and Correct No devices Examination And the test And diagnosis Malfunctions Systems electrical and electronic in The car • One of the program's objectives is to implement Operations Examination And maintenance Periodical For systems electrical and electronic For the car.	• ..... • ..... • .....

9- Teaching and learning strategies	
Strategy	1- acquire Skills electrical necessary in Operations Examination and diagnosis Fo the elements electrical and electronic For systems The car 2- Used In a way scientific correct Techniques Devices Modern in Detection on Malfunctions electrical and electronic For the network electrical For the car

3- Course structure

week	watches	Required learning outcomes	Name of unit or topic	Learning method	Evaluation method
Semester One					
1-5	15	Principles and operation of semiconductors and transistors	Semiconductors and transistors	Lecture and workshop	,Daily exams assignments, and practical tests in the workshop

6-7	3	Transformers and measuring) instruments inductive power ,transformers Flow energy converters	Transformers and measuring devices	Lecture and workshop	,Daily exams assignments, and practical tests in the workshop
15-8	24	Control units and integrated circuits	Control units	Lecture and workshop	,Daily exams assignments, and practical tests in the workshop
Semester Two					
30-16	75	Ignition system	Ignition system	Lecture and workshop	,Daily exams assignments, and practical tests in the workshop

4- Course Evaluation	
Tests Oral, tests Written, tests Scientific, reports, exams Quarterly, Exams Final, Evaluation Daily	
5- Learning and teaching resources	
Required textbooks (methodology if any)	book Electric Cars
Main references (sources)	Auto Electrical & Electronic System. Modern automotive Electricity
Recommended supporting books and references (scientific journals, reports...)	some the reviewer Available in Library
Electronic references, websites	all books Scientific specialist Auto electrical

Course Description Form

1- Course name
Car Maintenance / 2
2- Course code

3- semester/year	
Semester system	
4- Date this description was prepared:	
2025/5/9	
5- Available attendance forms:	
presence	
6- :Number of study hours (total) / Number of units (total)	
hours per semester (theoretical + practical) / 8 units 120	
7- Name of the course administrator (if more than one name is mentioned)	
Name : Hassan Ali Mohsen	
8- Course objectives	
• The course aims to provide an understanding of complete For principles Basic And the method a job Systems Mechanical in The car. • Usage The scientific The correct one No devices Examination And the test And diagnosis Malfunctions Systems Mechanical In the picture General in The car. • Recognition on Parts Home that It consists of From it Systems Mechanical in The car gesticulate she job all part And the method Diagnosis vacation And fix it or Replace it	• ..... • ..... • .....
9- Teaching and learning strategies	
	1- .Educational strategy: planning the cooperative concept 2- .Brainstorming education strategy 3- Education Strategy Notes Series

10- Course structure

Week	Hours	Required learning outcomes	Name of unit or topic	Learning method	Evaluation method
Semester One					
2-1	16	Clutch group	clutch	Lecture and workshop	,Daily exams assignments, and practical tests in the workshop
8-3	48	Transmission group	Motion transmission	Lecture and workshop	,Daily exams assignments, and practical tests in the workshop
10-9	16	Management column	Management column	Lecture and workshop	,Daily exams assignments, and practical tests in the workshop
12-11	16	rear axle	rear axle	Lecture and workshop	,Daily exams assignments, and practical tests in the workshop
15-13	16	hydraulic system	hydraulic system	Lecture and workshop	,Daily exams assignments, and practical tests in the workshop
Semester Two					

17	16	Suspension systems	Suspension systems	Lecture and workshop	,Daily exams ,assignments and practical tests in the workshop
18	16	Command system	Command system	Lecture and workshop	,Daily exams ,assignments and practical tests in the workshop
19	8	springs	springs	Lecture and workshop	,Daily exams ,assignments and practical tests in the workshop
20	8	Wheel angles	Wheel angles	Lecture and workshop	,Daily exams ,assignments and practical tests in the workshop
24-21	32	brakes	brakes	Lecture and workshop	,Daily exams ,assignments and practical tests in the workshop
25	8	Tires	Tires	Lecture and workshop	,Daily exams ,assignments and practical tests in the workshop

26	8	diesel injection systems	diesel injection systems	Lecture and workshop	,Daily exams ,assignments and practical tests in the workshop
28-27	16	Hybrid cars	Hybrid cars	Lecture and workshop	,Daily exams ,assignments and practical tests in the workshop
30-29	16	Car air conditioning	air conditioner	Lecture and workshop	,Daily exams ,assignments and practical tests in the workshop

11- Course Evaluation	
Tests Oral, tests Written, tests Scientific, reports, exams Quarterly, Exams Final, Evaluation Daily	
12- Learning and teaching resources	
Required textbooks (methodology (if any	book maintenance Cars
Main references (sources)	maintenance Cars .A.MWalid surgeon Automotive Technology Curriculum
Recommended supporting books and references (scientific (...journals, reports	ADVANCED AUTOMOTIVE TECHNOLOGY
Electronic references, websites	all books Scientific specialist With maintenance Cars

Course Description Form

1- Course name:
Auto mechanics
2- Course code:
3- semester / year:
Semester system
4- Date this description was prepared:
2025/5/9
5- Available attendance forms:
In-person only
6- :Number of study hours (total) / Number of units (total)
hours per semester (theoretical) / 2 units 30
7- Name of the course administrator (if more than one name is mentioned)

Name : Talib Zahir Mahdi

8- Course objectives

• **study And learn impact Forces and stresses on Cars** • **design system various and ability Movable from various the components.**	• **.....** • **.....** • **.....**

9- Teaching and learning strategies

Strategies	1- recognize the student on parts Systems Link (column) and gears and chairs Download The position and the spring. 2- Recognize the student on design parts Systems different Components ofthe column and gears and chairs Download And the position and the spring

10- Course structure

		Required learning outcomes	Name of unit or topic	Learning method	Evaluation method
1-4	8	Car performance	Car performance	Lecture and workshop	,Daily exams assignments, and practical tests in the workshop
6-5	4	gears	gears	Lecture and workshop	,Daily exams assignments, and practical tests in the workshop
7	2	Loading chairs	Loading chairs	Lecture and workshop	,Daily exams assignments, and practical tests in the workshop
8	16	Column and its types	Column and its types	Lecture and workshop	,Daily exams assignments, and

					practical tests in the workshop
11-9	20	Clutch, belts and brakes	Clutch, belts and brakes	Lecture and workshop	,Daily exams assignments, and practical tests in the workshop
12	4	Suspension system	Suspension system	Lecture and workshop	,Daily exams assignments, and practical tests in the workshop
15-13	16	Types of accidents	Types of accidents	Lecture and workshop	,Daily exams assignments, and practical tests in the workshop
Second Semester					
6-1	4	car driving system	car driving system	Lecture and workshop	,Daily exams assignments, and practical tests in the workshop
8-7	8	coup and slide	coup and slide	Lecture and workshop	,Daily exams assignments, and practical tests in the workshop
10-9	32	brakes	brakes	Lecture and workshop	,Daily exams assignments, and practical tests in the workshop
13-11	8	piston and crankshaft	piston and crankshaft	Lecture and workshop	,Daily exams assignments, and

					practical tests in the workshop
15-14	8	Engine system design	Engine system design	Lecture and workshop	,Daily exams assignments, and practical tests in the workshop

11- Course Evaluation	
Tests Oral, tests Written, tests Scientific, reports, exams Quarterly, Exams Final, Evaluation Daily	
12- Learning and teaching resources	
Required textbooks (methodology if (any	books theory machines
Main references (sources)	books theory machines
Recommended supporting books ,and references (scientific journals (...reports	some the reviewer Available in Library
Electronic references, websites	all books Scientific specialist Auto mechani

Course Description Form

1- Course name
Computer Applications / 2
2- Course code
3- semester / year
Semester system
4- Date this description was prepared:
2025/5/9

5- Available attendance forms:
In-person only
6- :Number of study hours (total) / Number of units (total)
hours per semester (practical) / 2 units 30
7- Name of the course administrator (if more than one name is (mentioned
Name : Lamaan Radhi Sultan

8- Course objectives	
• Empowerment The student from Mastery program AutoCAD • knowledge The student from Mastery The drawing and design Engineering . • Rehabilitation The student to draw Maps and the objects Different	• ..... • ..... • .....

9- Teaching and learning strategies	
strategies	1- Empowerment The student from Use computer in The drawing Engineering . B2 Acquisition Skill in style solution problems In ways Scientific 2- Application exercises in Forms Engineering

10- Course structure

Week	Hour	Required learning outcomes	Name of unit or topic	Learning method	Evaluation method
3-1	6	Checks	Networks	Lecture and lab	Daily exams and assignments

10-4	14	Excel	Excel	Lecture and lab	Daily exams and assignments
11-30	80	Networks	Networks	Lecture and lab	Daily exams and assignments

11- Course Evaluation	
Tests Oral, tests Written, tests Scientific, reports, exams Quarterly, Exams Final, Evaluation Daily	
12- Learning and teaching resources	
Required textbooks (methodology (if any	Binder Drawing section tripartite Dimensions of the subject teacher
Main references (sources)	to learn AutoCAD2000 Sami on blessing - * Evidence Complete AutoCAD2000 George They did it
Recommended supporting books and references (scientific (...journals, reports	some the reviewer Available in Library
Electronic references, websites	all books Scientific specialist With computers

Course Description Form

1. name Course
Engines internal combustion
2. code Course
3. Semester / Year : Annual
Semester system
4. date numbers this Description:
2025/10/9
5. Available attendance forms:
presence only
6. :Number of study hours (total) / Number of units (total)
hours per week / 8 units 4

7. Name of the course administrator (if more than one name is mentioned)	
Name : Hadeel Haitham Salem	
8. Course objectives	
1- Adding a scientific balance to the student that includes all information related to internal combustion engines .and their working principle 2- Testing the performance parameters of internal combustion engines and solving all issues related to them and their relationship to each other for all types Engines 3- So that the student can understand the combustion process and the most .important factors that affect it	• ..... • ..... • .....
9. Teaching and learning strategies	
strategies	1- Educational strategy: planning the cooperative concept 2- Brainstorming education strategy 3- Education Strategy Notes Series

week	Hour	Outputs learning Required	name Unit or the topic	Teaching method	Evaluation method

first	4	recognize On components and terms And all what engine related Combustion Internal How to Classification	Terms Main engine	Lecture	**daily**
second	4	recognize on How to performance Four- stroke gasoline and diesel	engine Ignite quadruple heat The rounds Four-stroke compression ignition engine The rounds	Lecture	**daily**
third	4	recognize on importance How to time it valves For engine Quadrilateral The rounds	timing valves For four-stroke engine	Lecture	**daily**
Fourth	4	Learn about the two- stroke engine How to timing Exhaust and intake ports with piston movement And compare it with four-stroke engine	Dual engine Strokes Comparison between a four- stroke engine and timing -valves For engine Two stroke	Lecture	**daily**
Fifth	4	Learn about exhaust gas scavenging systems in engines. Two- stroke And comparison between This is amazing Systems	Systems palsy exhaust -gases For two stroke engines	Lecture	**daily**
, Sixth ,seventh and eighth	12	recognize on Transactions Engine performance The Quartet The double lap How to account Value it measuring devices. This is amazing Transactions	performance And test Engine, Transactions Performance For four-stroke engines Duality The stages are shown Measurements Basic	Lecture	**daily**
, Ninth , tenth and eleventh	12	recognize on curves Behavior and changes in various engine parameters It changes conditions Engine operation Quality Diesel And gasoline Solution Examples Miscellaneous	ignition and compression ignition :engine performance illustrative examples	Lecture	**daily**
Twelve	4	recognize on parts Incoming energies And the outside from And the engine	Thermal balance of engine energies	Lecture	**daily**
thirteenth	4	recognize on impact power Mix (	Power effect MixFr ( ) on Transactions performance Engine	Lecture	**daily**

		air and fuel) on Engine performance parameters			
fourteen	4	recognize on How to Combustion in a spark ignition engine and stages this Combustion	Combustion in Spark ignition engines, combustion stages in Engines Ignition With sparks	Lecture	**daily**
fifteenth	4	Recognizes the effect of different engine variables on Stages of combustion in Engine	The effect of engine variables on stages Combustion In a spark ignition engine	Lecture	**daily**
Second course					
sixteenth	4	recognize on phenomenon Roads In the spark ignition engine, how it occurs and its effect	phenomenon The drum or Roads precedence phenomenon Ignition , pre- effect Ignition on Engine	Lecture	**daily**
seventeen th	4	Learn the ways Control over phenomenon Roads The impact of the phenomenon preceded Ignition on engine Ignition With sparks	How to control on Roads phenomenon preceded Ignition impact preceded Ignition On the engine	Lecture	**daily**
The eighth ten	4	recognize on designs Different for the room Combustion in Engines Ignition With sparks	Combustion chamber designs in spark ignition engines	Lecture	**daily**
nineteent h	4	recognize on The feeder How it works To prepare a suitable mixture for the engine	to equip mixture By incense burner	Lecture	**daily**
Twenty	4	recognize on Simple feeder parts and calculations rate Air:fuel	The feeder Simple Calculate the ratio Air: fuel For feeder basic	Lecture	**daily**
twenty - one	4	recognize on Systems Electronic injection in the engine spark ignition	Injection systems Electronic in Ignition engine With sparks	Lecture	**daily**
twenty- second	4	Do you know? How combustion occurs in engine Compression ignition and stages this Combustion and its impact Variables Engine On these stages	Combustion in compression ignition engines, combustion stages in compression ignition engines Impactof variables Engine On the stages of combustion	Lecture	**daily**

twenty - third	4	Learn about the phenomenon .of knocking in an engine Diesel and methods control it	Roads in engine Diesel and control on The drum In the engine Ignition By pressing (diesel)	Lecture	**daily**
twenty - fourth	4	recognize on designs Different For combustion chambers in spark ignition engines By pressing	Combustion chamber designs in compression ignition engines	Lecture	**daily**
twenty - fifth	4	recognize on How to System , work injection fuel Diesel its types, and types of injectors and extruders used	injection fuel in Engines Compression ignition requirements system Fuel injection, types of injection systems Types Injectors and extruders	Lecture	**daily**
twenty - sixth	4	recognize on fuel User in engine Combustion Internal and how Extract it Spark and compression ignition engine fuel specifications	Fuel specifications and ignition engine Sparks, Number Requirements Octane For fuel, improved additives for engine fuel Ignition The pressure and cetane number of the fuel - ons The benefactor	Lecture	**daily**
twenty - seventh	**4**	**recognize on system Supercharging , its types and its impact on performance engine Combustion Internal**	**impact shipping The superior On engine performance, types of supercharging systems**	**Lecture**	**daily**
distribution As follows : 25 degrees Exams monthly and daily For separation First . 25 points Exams monthly and daily For separation Second . 50 degrees For exams Final					
11. Learning and Teaching Resource					

Main references (sources)	1- P. L.Ballaney "internal combustion engine", 1980. 2- Chorles FT"the internal combustion engine in theory & practice", 1986. 3- Thermodynamics & heat engines"thermal engineering 4- M. L.Mathur "acourse in internal combustion engines", 1984 5- "Internal combustion engine fundamentals, by: John Heywood pub., Ma Graw- Hill, 1988, USA. 6- Introduction to internal combustion engines", by: Richard Stone pub., Mac Millan, 1992, USA. 7- John Wiley "internal combustion engines, Applied Thermodynamics, by: Colin R. Ferguson &Allan T. Kirkpatrick, pub.,2001
Recommended supporting books and references (...scientific journals, reports)	All specialized scientific books internal combustion engines
Electronic references, websites	Many from reality in specialty Cars and related With engines Combustion Internal

Course Description

1- name Course
Thermodynamics / F1 Heat and Fluid Transfer/F2
2- code Course
3- Semester / Year : Annual
Semester system
4- date numbers this Description: 2025/9/5/
5- Available attendance forms:
My presence only
6- :Number of study hours (total) / Number of units (total)
45 hour, 4 hour per week
7- Name of the course administrator (if more than one name is mentioned)
Mohammed Jassim Mohammed : Name
8- Course objectives

Knowing the principles and basics of thermodynamics 1- Knowledge of the first law of thermodynamics and its applications 2- Knowledge of the second law of thermodynamics and its applications 3- ,Knowledge of the Carnot cycle Rankine, and steam compression 4- . Knowledge of boiler/fuel types	

9- Teaching and learning strategies	
	1- Strategy for using various types of measuring devices 2- Reviewing practical applications of various systems Testing boiler operation -3

10- Course structure					
week	watches	Required learning outcomes	Name of unit/course or topic	Teaching method	Evaluation method
Chapter One					
6-1	18		Thermodynamic terms	Theoretical Practical +	Theoretical and practical exams
8-7	6		The first law of thermodynamics	Theoretical Practical +	Theoretical and practical exams
14-9	18		Applications of the first law of thermodynamics	Theoretical Practical +	Theoretical and practical exams
15	3		The second law of thermodynamics	Theoretical Practical +	Theoretical and practical exams
			Chapter Two		
17-16	6		Carnot cycle	Theoretical Practical +	Theoretical and practical exams
22-18	15		Steam properties and calculations	Theoretical Practical +	Theoretical and practical exams
24-23	6		Rankine cycle	Theoretical Practical +	Theoretical and practical exams
25	3		steam compression cycle	Theoretical Practical +	Theoretical and practical exams
30-26	15		Fuel/Boilers	Theoretical Practical +	Theoretical and practical exams

1. infrastructure	
1. Required textbooks	
Main references (sources)	1. Applied engineering thermodynamics, Choudhury 2- Thermodynamics, Holman 3- Introduction to Thermodynamics, Sonntag 4- Applied Thermodynamics, Eastop
A. Recommended books and ,references (scientific journals (.reports, etc	Virtual Library of the Ministry of Higher Education and Research Scientific
b. Electronic references, websites	The Virtual Library of the Ministry of Higher - Education and scientific research The Institute's electronic library -

Course Description Form

2. Curriculum Development Plan
- Updating the course vocabulary periodically to keep pace with scientific developments - Updating laboratory equipment

1- : name Course
human rights
2- : code Course
3- Semester / Year : Annual
Semester system
4- date numbers this Description: 2025/5/9
5- Available attendance forms:
My presence only
6- :Number of study hours (total) / Number of units (total)
hours (theoretical) per semester 30
7- Name of the course administrator (if more than one name is mentioned)

Name : M.D. Zainab Mahmoud Nasser	
8- Course objectives	
1- Equality among individuals 2- Respecting the rights of others	• ..... • ..... • .....
9- Teaching and learning strategies	
Strategies	Continuous educational support. Guidance and follow-up lectures. Online seminars and workshops.

Decision structure

Semester One

week	Vocabulary details
1	Human rights, definition, objectives
2	The Roots of Human Rights and Their Development in Human History: Human Rights in Ancient and Medieval Times
3	Human rights in ancient civilizations, especially the civilization of Mesopotamia
4	Human rights in divine laws with a focus on human rights in Islam
5	Human Rights in the Middle Ages: Human Rights in Doctrines, Schools, and ,Political Theories, Human Rights in Corporations and Their Declarations Revolutions, and Constitutions (English Documents, American Revolution, French (Revolution, Russian Revolution
6	Human Rights in Contemporary and Modern History: International Recognition of Human Rights since World War I and the League of Nations
7	Regional recognition of human rights: European Convention on Human Rights American Convention on Human Rights 1969 African Charter on Human 1950 Rights 1981 Arab Charter on Human Rights 1994

9-8	NGOs and human rights (ICRC, Amnesty International, Human Rights Watch) National human rights organizations
10	Human Rights in Iraqi Constitutions: Between Theory and Reality
12-11	:The relationship between human rights and public freedoms 1- In the Universal Declaration of Human Rights 2- In regional charters and national constitutions
13	Essential human rights and collective human rights
14	Economic, social and cultural human rights and civil and political human rights
15	,Modern human rights: the facts in development, the right to a clean environment the right to solidarity, the right to religion

Semester Two

1-2	Guarantees of respect for 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
3-4	Guarantees, respect and protection of human rights at the international :level - The role of the United Nations and its specialized agencies in providing guarantees - The role of regional organizations (the Arab League, the European Union, the African Union, the Organization of (American States, and ASEAN - The role of international non-governmental organizations and public opinion in respecting and protecting human rights

5	The General Theory of Liberties: The origin of rights and liberties, the project's position on declared rights and liberties, the use of the term "public liberties"
6	The functional nature of the concept of public liberties: philosophical considerations of functional right, structural considerations of positive right, economic considerations and public liberties
7-8	The legal basis of the rule of law
9	Regulation of public freedoms by public authorities
10	litigation or non-judicial grievance
11	Judicial appeal, determining the state's responsibility for its legitimate actions
12	- The impact of the duality of the judiciary on public freedoms - Public freedoms under administrative jurisprudence
13	Equality: The historical development of the concept of equality
14	Modern development of the idea of equality
15	- gender equality - Equality among individuals according to their beliefs and race

3. infrastructure	
1- Required textbooks	
2. Main references (sources)	**Virtual Library of the Ministry of Higher Education and Research Scientific**
A. Recommended books and ,references (scientific journals (.reports, etc	Virtual Library of the Ministry of Higher Education and Research Scientific

b. Electronic references, websites	The Virtual Library of the Ministry of Higher - Education and scientific research The Institute's electronic library -
4. Curriculum Development Plan	
Updating the course vocabulary periodically to keep pace with scientific developments -	

Course Description Form

1- : name Course	
engineering drawing	
2- : code Course	
3- Semester / Year : Annual	
Semester system	
4- date numbers this Description: 2025/5/9	
5- Available attendance forms:	
My presence only	
6- :Number of study hours (total) / Number of units (total)	
hours (practical) per semester, three hours per week 45	
7- Name of the course administrator (if more than one name is mentioned)	
Name : Dr. Donia Tariq Yassin	
8- Course objectives	
1- Identify maps 2- Identify isometric shape 3. Conducting mechanical drawing	
.	

9- Teaching and learning strategies	
Strategies	Continuous educational support. Guidance and follow-up lectures. Online seminars and workshops.

Structure The decision					
The week	watches		name Unity/ or the topic	road education	**road** Evaluation
First Semester					
3 – 1	**3 hours weekly**		**drawing boards**	**practical**	**Practical exams**
5 – 4	**3hours weekly**		**Maps**	**practical**	**Practical exams**
9 – 6	**3hours weekly**		**Operations Engineering**	**practical**	**Practical exams**
15 - 10	**3hours weekly**		**fee Shapes Engineering**	**practical**	**Practical exams**
Chapter Two					
22 - 1 6	**3hours weekly**		**fee Shapes Engineering**	**practical**	**Practical exams**
27 - 23	**3hours weekly**		**The drawing Isometric**	**practical**	**Practical exams**
30 - 28	**3hours weekly**		**Shapes Isometry**	**practical**	**Practical exams**

infrastructure .5	
1. Required textbooks	
2.Main references (sources)	Virtual Library of the Ministry of Higher1 Education and Research Scientific
A. Recommended books and references (scientific (.journals, reports, etc	Virtual Library of the Ministry of Higher Education and Research Scientific

,b. Electronic references websites	**The Virtual Library of the Ministry of - Higher Education and scientific research The Institute's electronic library -**
6. Curriculum Development Plan	
Updating the course vocabulary periodically to keep pace with scientific developments -	

Course Description Form

1- : name Course	
The administration Peace be upon you Professional/stage Second	
2- : code Course	
3- Semester / Year : Annual	
Semester system	
4- date numbers this Description: 2025/5/9	
5- Available attendance forms:	
My presence only	
6- :Number of study hours (total) / Number of units (total)	
hours (theoretical) per semester 30	
7- Name of the course administrator (if more than one name is mentioned)	
Name : Heba Abdel Hussein	
8- Course objectives	
1. Identify the . management system 2. Identify the importance of industrial .management	• ..... • ..... • .....
9- Teaching and learning strategies	

strategies	Ongoing educational seminars. Guidance and follow-up lectures. Online seminars and workshops.

First Semester	
week	Vocabulary details
1	Management
2	Principles of Management – Levels of Management and the Factory Factory Organization –
3	Administrative jobs
4	Facility functions
5	Factory site selection and factors affecting it
6	Purchasing – The relationship of purchasing to other organization functions and purchasing steps
7	Warehouse – Inventory – Types of Inventory
8	Types of warehouses – warehouse inventory
9	Determine the economic order quantity
10	Basic Cost Concepts
11	Wages – Types
12	Methods of calculating wages
13	Training – The Importance of Training
14	Training methods
15	– Leadership, the competent manager, and types of managers characteristics and traits of managers and signs of good and poor management

Second Semester	
1	Basic concepts in quality control (the concept of control) The concept of quality – the quality of quality control – the importance and benefits of quality control
2	Quality Elements – Design Quality
3	Implementation quality – reliability – quality control costs
4	Standardization – Standard Specifications (Definition of Specification)
5	Types of standard specifications
6	Data and information collection – frequency table – frequency histogram
7	Quality control methods – the sample method – types of charts
8	Applications in using one of the types of charts
9	Maintenance – its objectives – its types
10	Preventive maintenance – its benefits – sudden maintenance
11	Organization of the maintenance department
12	Industrial safety and security, the impact of industrial safety on production efficiency
13	Industrial safety quality methods, general rules and regulations for accident prevention
14	Industrial accidents and ways to prevent them
15	Personal Protective Equipment – Fires and Fire Fighting Methods

12.plans development The decision Academic
1- Benefit from Virtual Library Subordinate For the Ministry education The family And research Scientific - 2 benefit from Locations Electronic Scientific in development the decision from during an offer Movies Scientific And developments in the field of the decision