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

Academic Program and Course Description

2024

the introduction

The educational program is a coordinated and organized package of courses that include procedures and experiences organized in the form of study 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 academic program description 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 in 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 version, includes a description of the academic program after updating the vocabulary and paragraphs of the previous guide in light of the developments and changes in the educational system in Iraq, which included a description of the academic program in its traditional form (annual, semester) in addition to adopting the description of the academic program circulated pursuant to the letter of the Department of Studies TM3/2906 dated 5/3/2023 regarding programs that adopt the Bologna process as a basis for their work.

In this regard, we cannot but emphasize the importance of writing a description of academic programs and courses to ensure the smooth running of the educational process.

Concepts and terms:

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

Course Description:Provides a concise summary of the main characteristics of the course and the learning outcomes expected of the student, demonstrating whether the student has made the most of the learning opportunities available. It is derived from the programme description.

Program vision: An ambitious vision 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 the activities required to achieve them, and it also identifies the paths and directions of the programme's development.

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

Curriculum structure: All courses/subjects included in the academic program according to the approved learning system (semester, year, Bologna track) whether they are required (ministry, university, college and scientific department) with the number of academic units.

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

Teaching and learning strategies: It is the strategies used by the faculty member to develop the teaching and learning of the student and they are plans that are followed to reach the learning objectives. That is, it describes all the classroom and extracurricular activities to achieve the learning outcomes of the program.

Academic Program Description Form

University name: Southern Technical University
College/Institute: Technical Institute of Technology in Basra
Scientific Department: Department Power mechanics techniques
Name of academic or professional program: Power Mechanics/Automotive Technology Department
Final Certificate Name: Automotive Technical Diploma.
Academic system: Semester
Description preparation date:5/10/2024
Date of filling the file:17/10/2024

Signature:

Head of Department Name:

Dr. Duna Tariq Yaseen

the date: 17/10/2024

Signature

Scientific Assistant Name:

Dr. Abdel Nasser Abdel Gabbar Abbod

the date: 17/10/2024

The file is checked by

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department

Anwar Abdul Khaliq Aboud

the date 17-10-2024

Signature

Dean's approval

Dr. Arkan Yacoub Youssef

1. Program vision

The Department of Power Mechanics Technologies seeks To be One Leading higher education institutions in Southern Technical University In the field of modern education and scientific research through His activities Scientific, research and administrative, as well as He works To provide an integrated path For students And the professors To make Some of them are active and creative in serving the community in the fields of Diverse Education

2. Program message

Working to prepare and graduate pioneering scientific and leadership competencies in Automotive Technology Field In developing the knowledge base in the field of scientific research to serve the local, regional and international community, in addition to training and refining the minds of students scientifically and cognitively, emphasizing social and cultural values and responding to the requirements of the local market.

3. Program objectives

1. **Numbers And rehabilitationTechnical staffSpecializationTo meet the requirements of the labor market in both the private and public sectors inAutomotive Technology Specialization By diversifying learning and teaching methods and training students to apply acquired knowledge and skills to solve problems. Realism: Preparing specialized cadres capable of serving the community and preparing for future specializations.**
2. **During the two academic years, Dress upThe studentWith theoretical, applied and practical informationSo that he can:**

(أ) **abilityDiagnosing faults in mechanical and electrical systems of cars using modern technologies. (for)to implementPeriodic maintenance and mechanical and electrical repairs for fuel-powered vehicles. benzeneMy parentsto. (c)On the management and operation of service stations and car maintenance.**

3. **numbersstimulating environmentFor membersFaculty to develop their teaching and research knowledge and skills.**
4. **buildingDeveloping partnerships with government and civil sectors and society in all its various institutions.**

4. Programmatic accreditation

There is

5. Other external influences

Training courses, field visits and summer training

6. Program Structure

comments *	percentage	Study unit	Number of courses	Program Structure
Basic course	40%	56 units	First 10	Institutional Requirements
	60%	66 units	12 second	
			Yes	College Requirements
			Yes	Department Requirements
			Yes	Summer training
				Other

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

7. Program Description

Credit hours		Course name	Course code	Year/Level
practical	theoretical			
3	2	maintenanceAutomotive1		2023-2024 / AFirst
2	1	ElectricCars1		
3	-	The fee the geometric		
1	2	The Mechanics		
4	-	Mechanical laboratories		
-	2	The mathematics		
2	-	Computer Basics /1		
-	2	The language Ano English /1		
1	2	Fluid mechanics and thermodynamics		
-	2	Human rights and democracy		
-	2	Auto mechanics		2023-2024 /Second
2	2	internal combustion engines		
2	1	Automotive Bodies		
6	2	Automotive maintenance 2		
2	1	Electric cars 2		
3	-	Industrial drawing		

2	**1**	**modern car technology**		
-	**2**	**Management, occupational safety and service stations**		
2	**-**	**Computer Basics 2**		
-	**2**	**English 2**		
2	**-**	**The project**		

Expected learning outcomes of the program .8	
	Knowledge
3- AAs a gainExperience in dealing with modern car inspection devices and types of electrical circuits And sensorsAnd smart systems in cars 4- acquisitionExperienceonUseComputer programs: Microsoft Office, and AutoCAD programs in engineering and mechanical drawing.	1- Acquiring basic skillsThe principles of operation of internal combustion engines of various types, hydraulic systems and transmission systems in cars. 2- ThatBe able to understand the principles of occupational safety and avoid various hazards..
Skills	
3- capacityon UseDevices for detecting electrical, electronic and mechanical faults in modern cars. 4- abilityOn the use of computer and implementation of mechanical drawingsandWriting scientific reports.	1- a bilityOn sharingThe actorIn maintenance, repair and service operations required for enginesCars. 2- t hatBe able to participate in transmission maintenance operations.
Values	
trackingThe interest of the student who interacted more with the presented material, by increasing this interaction by requesting other programs and applications to display it.	Developing students' ability to share ideas
MeaningThe student reaches the top of the emotional ladder, so that he has a stable level in the lesson and does not become lazy or restless.	stirStudents attentionIn the theoretical lecture or workshops and laboratories and mSubordinateThe extent of student interaction with

	the material displayed on the screen.

9. **Teaching and learning strategies**
Participation- The active role in the classroom is evidence of the student's commitment and responsibility. Commitment- By the deadline specified for submitting the assignments and research required of the student. Express- Midterm and final exams on commitment and cognitive achievement andSkill

10. Evaluation methods
NotesDaily, student discussion, assignments, pop-up tests, laboratory experiments.

11. **Faculty**

Faculty members

Faculty preparation		**Special requirements/skills (if any)**		**Specialization**		**Academic Rank**
lecturer	**angel**			**private**	**general**	
	Yes			Thermals	Mechanics	Dr. Assistant Professor
	Yes			Nanomaterials	Mechanics	Dr. Assistant Professor
	Yes			Software	Calculators	Assistant Lecturer
	Yes			Mechatronics	Mechanics	Assistant Lecturer
	Yes			date	Etiquette	Assistant Lecturer
	Yes			Thermals	Mechanics	Assistant Lecturer

	Yes			applied	Mechanics	Assistant Lecturer
	Yes			Cooling and air conditioning	Mechanics	Assistant Lecturer
Yes				applied	Mechanics	Assistant Lecturer

Professional development
Orientation of new faculty members
Professional development for faculty members

12. **Acceptance Criteria**
Acceptance Central 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**
–LocationsElectronic for Iraqi and foreign universities **– WorkshopsWork conducted by the Ministry of Higher EducationIn additionTo the Ministry's standards**

14. Program development plan

1- Necessity Involvement Students in periodic maintenance within the systematic training

-2 interest Summer training in government departments with material and moral incentives for students And the supervisors.

-3 to provide Laboratory devices that simulate the development of the science of industry Cars.

4-VisitsFieldFor car manufacturing and maintenance companies .

Program Skills Chart															
Required learning outcomes of the program															
Values				Skills				Knowledge				Essential or optional?	Course name	Course code	Year/Level
A4	A3	A2	A1	B4	B3	B2	B1	A4	A3	A2	A1				
√	√	√	√	√	√	√	√		√	√	√	essential	**Automotive** maintenance1		2023-2024 – The first stage
		√	√		√	√	√		√	√	√	essential	Electric cars1		
		√		√				√				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**	Auto mechanics		2023-2024 – Stage 2
√	√	√	√	√	√	√	√	√	√	√	√	**essential**	internal combustion engines		
		√	√			√	√			√	√	**essential**	Car bodies		
		√	√	√	√	√	√	√	√	√	√	**essential**	**Automotive**maintenance 2		
√	√	√	√	√	√	√	√	√	√	√	√	**essential**	Electric cars 2		
		√		√				√				**essential**	Industrial drawing		
√	√	√	√	√	√	√	√	√	√	√	√	**essential**	modern car technology		
		√		√				√	√			**essential**	Management, occupational safety and service stations		
			√			√	√		√	√	√	**essential**	Computer Basics 2		
				√				√				**essential**	English 2		
√	√	√	√	√	√	√	√	√	√	√	√	**essential**	The project		

Please tick the boxes corresponding to the individual learning outcomes of the programme being assessed.

Course Description Form

1. Course name:	
Automotive Maintenance / 1	
2. Course code:	
3. Chapter/Year :	
semester	
4. Date this description was prepared:	
17/10/2024	
5. Available attendance forms:	
In-person only	
6. Number of study hours (total) / Number of units (total):	
75 hours per semester (theoretical + practical) / 5 units	
7. Course Instructor Name	
the name: Baseem Alwan	
8. Course objectives	
• ..... • ..... •	• Recognize Student on types of cars T • The student learns about the importance of car maintenance. • Recognize Student on methods of maintenance and repair of car faults
9. Teaching and learning strategies	
1-Education strategy planning collaborative concept. 2-Brainstorming teaching strategy. 3-Education Strategy Notes Series	**Strategy**

10. Course structure

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	**hours**	**The week**
Chapter One					
Daily exams, assignments and practical tests in the workshop	The lecture And the workshop	General idea about Ca	About the history of ca And parts of the Sy Home page	**5**	**1**
Daily exams, assignments and practical tests in the workshop	The lecture And the workshop	Engines benzene	Engines Coffee-like- - - -N) Binary Rounds, Quad The runs(.	**5**	**2**
Daily exams, assignments and practical tests in the workshop	The lecture And the workshop	Types Engines	Differences Basic between binary engines And the quartet The runs.	**5**	**3**
Daily exams, assignments and practical tests in the workshop	The lecture And the workshop	Engines Diesel	Engines Two and four stroke diesel And the differences Between compression ignition engines And with the spark	**15**	**4-6**
Daily exams, assignments and	The lecture And the workshop	Holidays Engines	Ingredients Engine Basic Fixed parts, parts Animated(.	**15**	**7-9**

practical tests in the workshop					
Daily exams, assignments and practical tests in the workshop	The lecture And the workshop	Filters And silencers	System Air intake And its parts, system exhaust	**5**	**10-15**
Chapter Two					
Daily exams, assignments and practical tests in the workshop	The lecture And the workshop	Fuel injection system	Fuel injection systems	**20**	**16-17**
Daily exams, assignments and practical tests in the workshop	The lecture And the workshop	Lubrication system an its maintenance	Cooling and lubrication systems	**20**	**18-21**
Daily exams, assignments and practical tests in the workshop	The lecture And the workshop	Ignition system and maintenance	Ignition system	**50**	**19-30**

11. Course Evaluation

Tests Orality,Tests Editorial,Tests Scientific,Reports,Exams Quarterly,
Exams Final,Evaluation Daily

12. Learning and teaching resources

Book Car maintenance	Required textbooks (methodology if any)
Maintenance Cars A.M. Walid Al-Jarrah	Main References (Sources)
Some References available in the library	Recommended supporting books and references (scientific journals, reports, etc.)

All Scientific books on car maintenance	Electronic references, websites

Course Description Form

1- Course name:	
Automotive Electric / 1	
2- Course code:	
3- Chapter/Year :	
semester	
4- Date this description was prepared:	
17/10/2024	
5- Available attendance forms:	
In-person only	
6- Number of study hours (total) / Number of units (total):	
45 hours per semester (theoretical + practical) / 3 units	
7- Course Instructor Name	
the name: Hassan Ali Mohsen	
8- Course objectives	
• ..... • ..... •	• The course aims to provide an understanding ofcompletetoprinciplesHow electrical and electronic systems workFor cars. • Scientific use and And theHey noReadyInspection, testing and troubleshooting of electrical systems And electronicIn the car. • One of the program's objectives is to implementPeriodic inspection and

	maintenance of electrical and electronic systemsFor the car.

9- Teaching and learning strategies	
1-Education strategy planning collaborative concept. 2-Brainstorming teaching strategy. 3-Education Strategy Notes Series	**Strategy**

10- Course structure

Evaluation method	Learning method	Name of the unit or topic	**Required learning outcomes**	**hour**	**The week**
Chapter One					
Daily exams, assignments and practical tests in the workshop	The lecture And the workshop	Semiconductors And the transistor	Principles and operation of semiconductors and transistors	**15**	**1-5**
Daily exams, assignments and practical tests in the workshop	The lecture And the workshop	Transformers and measuring devices	Transformers and measuring devicesInductive power transformers flow energy converters)	**3**	**6-7**
Daily exams, assignments and practical tests in the workshop	The lecture And the workshop	Control units	Control units and integrated circuits	**24**	**8-15**
Chapter Two					
Daily exams, assignments and	The lecture And the workshop	Ignition system	Ignition system	75	16-30

practical tests in the workshop					

11- Course Evaluation
Tests Orality,Tests Editorial,Tests Scientific,Reports,Exams Quarterly, Exams Final,Evaluation Daily

12- Learning and teaching resources	
book Electric Cars	Required textbooks (methodology if any)
Auto Electrical & Electronic System. Modern automotive Electricity	Main References (Sources)
Some References available in the library	Recommended supporting books and references (scientific journals, reports, etc.)
All Specialized scientific books Electric Cars	Electronic references, websites

Course Description Form

1- Course name:	
Mathematics	
2- Course code:	
3- Chapter/Year :	
Semester	
4- Date this description was prepared:	
17/10/2024	
5- Available attendance forms:	
In-person only	
6- Number of study hours (total) / Number of units (total):	
30 hours per semester (theoretical) / 2 units	
7- Name of the course administrator (if more than one name is mentioned)	
the name: Ashwaq Talib Abdul Nabi	
8- Course objectives	
•	The course aims to: acquisition Knowledge of mathematics and how to use mathematics in related

• ..... •	scientific subjects Specialized And scientific topics Other And increase his ability to think logically when solving problems as well. more His ability to link data with his information to get a solution Ideal for problems Sports.

9- Teaching and learning strategies

1- Develop the ability to infer and use its own logic. 2- AbsorptionSome mathematical concepts such as) the relationship-function-Functions-Trigonometry-differentiation-integration(3- AvailabilityThe opportunity to practice ways of thinking.	**Strategy**

10- Course structure

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Watches	The week
Chapter One					
Daily exams and assignments	The lectu	Matrices, determinants and vectors	Matrices, determinants an vectors	10	1-5
Daily exams and assignments	The lectu	Logarithms	Logarithms	4	6-7
Daily exams and assignments	The lectu	Functions	Functions	4	8-9

Daily exams and assignments	The lectu	Derivative	Derivative	14	10 -15
Chapter Two					
Daily exams and assignments	The lecture	integration	integration	16	16-25
Daily exams and assignments	The lecture	Differential equations	Differential equations	2	26
Daily exams and assignments	The lecture	Statistics	Statistics	4	27-28
Daily exams and assignments	The lecture	Complex numbers	Complex numbers	4	29-30

11- Course Evaluation

Tests Orality,Tests Editorial,Tests Scientific,Reports,Exams Quarterly,
Exams Final,Evaluation Daily

12- Learning and teaching resources

bookApplied Mathematics by Dr. Imad Touma Bani Karsh	Required textbooks (methodology if any)
Calculus; Thomas	Main References (Sources)
someReferences available in the library	Recommended supporting books and references (scientific journals, reports, etc.)
allSpecialized scientific booksIn mathematics	Electronic references, websites

Course Description Form

1- Course name:	
Automotive Electric / 2	
2- Course code:	
3- Chapter/Year :	
Semester	
4- Date this description was prepared:	
17/10/2024	
5- Available attendance forms:	
In-person only	
6- Number of study hours (total) / Number of units (total):	
45 hours per semester (theoretical + practical) / 3 units	
7- Name of the course administrator (if more than one name is mentioned)	
the name: Walid Adnan Sadiq	
8- Course objectives	
• ..... • ..... •	• The course aims to provide an understanding of complete to principles How electrical and electronic systems work For cars. • Scientific use and the Hey no Ready Inspection, testing and troubleshooting of electrical systems And electronic in the car. • One of the program's objectives is to implementPeriodic inspection and maintenance electrical and electronic systemsFor the car.
9- Teaching and learning strategies	

1- Acquire Electrical skills required for inspection and diagnosis electrical components And electronic For car systems 2- UsedScientifically correct techniques of modern devices in detecting electrical and electronic faults in the car's electrical network	**Strategy**

3− Course structure

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Watches	The week
Chapter One					
Daily exams, assignments and practical tests in the workshop	The lecture And the workshop	Semiconductors and transistors	Principles and work Semiconductors and transistors	15	1-5
Daily exams, assignments and practical tests in the workshop	The lecture And the workshop	Transformers and measuring devices	Transformers and measuring devices Inductive power transformers, flow energy converters)	3	6-7
Daily exams, assignments and practical tests in the workshop	The lecture And the workshop	Control units	Control units and integrated circuits	24	15-8
Chapter Two					
Daily exams, assignments and	The lecture And the workshop	Ignition system	Ignition system	75	16-30

practical tests in the workshop					

4− Course Evaluation	
Tests Orality,Tests Editorial,Tests Scientific,Reports,Exams Quarterly, Exams Final,Evaluation Daily	
5− Learning and teaching resources	
book Electric Cars	Required textbooks (methodology if any)
Auto Electrical & Electronic System. Modern automotive Electricity	Main References (Sources)
Some References available in the library	Recommended supporting books and references (scientific journals, reports, etc.)
All Specialized scientific books Auto Electrician	Electronic references, websites

Course Description Form

1- Course name:
Modern **Automotive** technology
2- Course code:
3- Chapter/Year :
Semester
4- Date this description was prepared:
17/10/2024
5- Available attendance forms:
In-person only
6- Number of study hours (total) / Number of units (total):
45 hours per semester (theoretical + practical) / 3 units
7- Name of the course administrator (if more than one name is mentioned)
the name: Walid Adnan Sadiq
8- Course objectives

• ..... • ..... •	• The course aims to provide an understanding of complete to principles How electrical and electronic systems work For cars. • Scientific use and the Hey no Ready Inspection, testing and troubleshooting of electrical systems And electronic In the car. • One of the program's objectives is to implementPeriodic inspection and maintenance of electrical and electronic systemsFor the car.

9- Teaching and learning strategies

1- Acquire Electrical skills required for inspection and diagno of electrical components And electronic For car systems 2- UsedScientifically correct techniques of modern devices in detecting electrical and electronic faults in the car's electrical network	**Strategy**

3− Course structure

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Watches	The week
Chapter One					
Daily exams, assignments and practical tests in the workshop	The lecture And the worksh op	Semiconductors and transistors	Principles and work Semiconductor s and transistors	15	1-5
Daily exams, assignments and practical tests in the workshop	The lecture And the worksh op	Transformers and measuring devices	Transformers and measuring devices Inductive power transformers, flow energy converters)	3	6-7

Daily exams, assignments and practical tests in the workshop	The lecture And the worksh op	Control units	Control units and integrated circuits	24	15-8
Chapter Two					
Daily exams, assignments and practical tests in the workshop	The lecture And the worksh op	Ignition system	Ignition system	75	16-30

4- Course Evaluation	
Tests Orality,Tests Editorial,Tests Scientific,Reports,Exams Quarterly, Exams Final,Evaluation Daily	
5- Learning and teaching resources	
book Electric Cars	Required textbooks (methodology if any)
Auto Electrical & Electronic System. Modern automotive Electricity	Main References (Sources)
Some References available in the library	Recommended supporting books and references (scientific journals, reports, etc.)
All Specialized scientific books Auto Electrician	Electronic references, websites

Course Description Form

1- Course name	
Automotive Maintenance / 2	
2- Course code:	
3- Chapter/Year :	
semester	
4- Date this description was prepared:	
17/10/2024	
5- Available attendance forms:	
presence	
6- Number of study hours (total) / Number of units (total):	
120 hours per semester (theoretical + practical) / 8 units	
7- Name of the course administrator (if more than one name is mentioned)	
the name: Taleb Zahir Mahdi	
8- Course objectives	
..... • ..... • ..... •	• The course aims to provide an understanding of complete to For principles The basics and how the mechanical systems in the car work. • Usage The For me the correct no Ready Inspection, testing and diagnosis of mechanical systems faults In the picture General in the car. • Recognition On the main parts that make up the mechanical systems in the

	car and what is the function of all Part and method of diagnosing a fault and repairing or replacing it

9- Teaching and learning strategies

1-Education strategy planning collaborative concept. 2-Brainstorming teaching strategy. 3-Education Strategy Notes Series	**Strategy**

10- Course structure

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Watches	The week
Chapter One					
Daily exams, assignments and practical tests in the workshop	The lecture And the workshop	clutch	Clutch set	16	1-2
Daily exams, assignments and practical tests in the workshop	The lecture And the workshop	Motion transfer	Powertrain	48	3-8
Daily exams, assignments and practical tests in the workshop	The lecture And the workshop	Management column	Management column	16	9-10

Daily exams, assignments and practical tests in the workshop	The lecture And the worksh op	rear axle	rear axle	16	11-12
Daily exams, assignments and practical tests in the workshop	The lecture And the worksh op	Hydraulic system	Hydraulic system	16	13-15
Chapter Two					
Daily exams, assignments and practical tests in the workshop	The lecture And the worksh op	Suspension systems	Suspension systems	16	17
Daily exams, assignments and practical tests in the workshop	The lecture And the worksh op	Leadership system	Leadership system	16	18
Daily exams, assignments and practical tests in the workshop	The lecture And the worksh op	Springs	Springs	8	19
Daily exams, assignments and practical tests in the workshop	The lecture And the worksh op	Wheel angles	Wheel angles	8	20
Daily exams, assignments	The lecture And	Brakes	Brakes	32	21-24

and practical tests in the workshop	the worksh op				
Daily exams, assignments and practical tests in the workshop	The lecture And the worksh op	Tires	Tires	8	25
Daily exams, assignments and practical tests in the workshop	The lecture And the worksh op	Diesel injection systems	Diesel injection systems	8	26
Daily exams, assignments and practical tests in the workshop	The lecture And the worksh op	Hybrid cars	Hybrid cars	16	27-28
Daily exams, assignments and practical tests in the workshop	The lecture And the worksh op	air conditioner	Car air conditioning	16	29-30

11- Course Evaluation	
Tests Orality,Tests Editorial,Tests Scientific,Reports,Exams Quarterly, Exams Final,Evaluation Daily	
12- Learning and teaching resources	
bookCar maintenance	Required textbooks (methodology if any)
maintenanceCars A.M. Walid Al-Jarrah Automotive Technology Curriculum	Main References (Sources)
ADVANCED AUTOMOTIVE TECHNOLOGY	Recommended supporting books and references (scientific journals, reports, etc.)

IIScientific books on car maintenance	Electronic references, websites

Course Description Form

1- Course name:	
Automotive mechanics	
2- Course code:	
3- Chapter/Year :	
Semester	
4- Date this description was prepared:	
17/10/2024	
5- Available attendance forms:	
In-person only	
6- Number of study hours (total) / Number of units (total):	
30 hours per semester (theoretical) / 2 units	
7- Name of the course administrator (if more than one name is mentioned)	
The name: Taleb Zahir Mahdi	
8- Course objectives	
• ..... • ..... •	• **study And learn impact Powers and stresses on Cars.** • **design system various and ability Movable from various the components.**
9- Teaching and learning strategies	

1- recognize The student on parts Systems Link)Column and Gears And chairs Download And the position And the spring(. 2- recognize The student on design parts Systems Different For components)Column and Gears And chairs Download The position and the pulse(	**Strategy**

10- Course structure

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Watches	The week
Daily exams, assignments and practical tests in the workshop	The lectureAnd the workshop	Car performance	Car performance	8	1-4
Daily exams, assignments and practical tests in the workshop	The lectureAnd the workshop	Gears	Gears	4	5-6
Daily exams, assignments and practical tests in the workshop	The lectureAnd the workshop	Loading chairs	Loading chairs	2	7
Daily exams, assignments and practical tests in the workshop	The lectureAnd the workshop	Column and its types	Column and its types	16	8
Daily exams, assignments and practical tests in the workshop	The lectureAnd the workshop	Clutch, belts and brakes	Clutch, belts and brakes	20	9-18

Daily exams, assignments and practical tests in the workshop	The lectureAnd the workshop	Suspension system	Suspension system	4	19-20
Daily exams, assignments and practical tests in the workshop	The lectureAnd the workshop	Types of accidents	Types of accidents	16	21-22
Daily exams, assignments and practical tests in the workshop	The lectureAnd the workshop	Car driving system	Car driving system	4	23-24
Daily exams, assignments and practical tests in the workshop	The lectureAnd the workshop	Rollover and slide	Rollover and slide	8	25-26
Daily exams, assignments and practical tests in the workshop	The lectureAnd the workshop	Brakes	Brakes	32	21-24
Daily exams, assignments and practical tests in the workshop	The lectureAnd the workshop	piston and crankshaft	piston and crankshaft	8	27-28
Daily exams, assignments and practical tests in the workshop	The lectureAnd the workshop	Engine system design	Engine system design	8	29-30
11- Course Evaluation					
Tests Orality,Tests Editorial,Tests Scientific,Reports,Exams Quarterly, Exams Final,Evaluation Daily					
12- Learning and teaching resources					

books theory Machines	Required textbooks (methodology if any)
books theory Machines	Main References (Sources)
someReferences available in the libra	Recommended supporting books and references (scientific journals, reports, etc.)
allSpecialized scientific booksWith au mechanics	Electronic references, websites

Course Description Form

1- Course name:	
Computer Applications / 2	
2- Course code:	
3- Chapter/Year :	
semester	
4- Date this description was prepared:	
17/10/2024	
5- Available attendance forms:	
In-person only	
6- Number of study hours (total) / Number of units (total):	
30 hours per semester (practical) / 2 units	
7- Name of the course administrator (if more than one name is mentioned)	
the name: Lamaen Radi Sultan	
8- Course objectives	
• ..... • ..... •	• EmpowermentStudent mastering AutoCAD • knowledgeThe student has mastered drawing and engineering design. • QualificationStudent to draw maps and different models.
9- Teaching and learning strategies	

1- EmpowermentThe student uses the computer in engineering drawing. B2 Acquire the skill in the problem-solving method.In waysScientific 2- applicationExercises in geometric shapes.	**Strategy**

10- Course structure

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Watches	The week
Daily exams and assignments	The lecture And the laboratory	Networks	Checks	6	1-3
Daily exams and assignments	The lecture And the laboratory	Excel	Excel	14	4-10
Daily exams and assignments	The lecture And the laboratory	Networks	Networks	80	11-30

11- Course Evaluation

Tests Orality,Tests Editorial,Tests Scientific,Reports,Exams Quarterly,
Exams Final,Evaluation Daily

12- Learning and teaching resources

Binder Section forThe drawing3DSubject teacher's	Required textbooks (methodology if any)
to learn AutoCAD 2000 Sami Ali Ne'meh- * The Complete Guide AutoCAD 2000 George Amoroa	Main References (Sources)
Some References available in the library	Recommended supporting books and references (scientific journals, reports, etc.)

All Specialized scientific books With computers	Electronic references, websites

Course Description Form

1. Coursename:	
Engines internal combustion	
2. Course code:	
3. the chapter/Year	
Semester	
4. date numbers this Description:	
17/10/2024	
5. Available attendance forms:	
My presence only	
6. Number of study hours (total) / Number of units (total):	
4Hours per week / 8 units	
7. Name of the course administrator (if more than one name is mentioned)	
the name: Hadeel Haitham	
8. Course objectives	
• ..... • ..... •	1-Adding a scientific balance for the student that includes all the information related to internal combustion engines and their operating 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	
1-Education strategy planning collaborative concept. 2-Brainstorming teaching strategy. 3-Education Strategy Notes Series	**Strategy**

roadEvaluation	roadeducation	nameUnit or topic	Outputs Learning Required	Watches	unlessweek
daily	The lecture	Basic Engine Terminology	recognize On components, terminology and everything related to the internal combustion engine How to Classify it	4	**unlessAnd**
daily	The lecture	Four-stroke heat ignition engine and four-stroke compression ignition engine The rounds	recognizeOn how to workengineGasoline and diesel four-stroke	4	**the second**

daily	The lecture	Valve timing for a four-stroke engine	recognize on importance How to time the valves for an engine QuadThe rounds	4	**the third**
daily	The lecture	Dual engine Stroke Comparison between four-stroke engine and timing Valves for two-stroke engine	Learn about the two-stroke engineHow to time the intake and exhaust ports with the piston movement and compare it to a four-stroke engine	4	**Fourth**
daily	The lecture	Exhaust gas scavenging systemsFor two-stroke engines	Identify the exhaust gas scavenging systems in a two-stroke engine and compare them. Systems	4	**Fifth**
daily	The lecture	Engine performance and testingPerformance parameters for 4-stroke and 2-stroke engines Measurements Basic	Learn about engine performance parametersQuadruple and double strokes and how to calculate their values And also to identify the devicesMeasure these transactions	12	**Sixth, Seventh, Eighth**
daily	The lecture	Spark ignition and compression ignition engine performance illustrative examples	recognizeOn behavior curvesAnd change the various engine parameters It changes conditions Diesel engine operation And gasoline Solution Examples Miscellaneous	12	**Ninth, tenth, eleventh**
daily	The lecture	Thermal balance of engine energies	Learn about the parts of energyIn and out of the engine	4	**the second ten**

daily	The lecture	Power effect Mix Fr( ) On engine performance parameters	recognize on impact power Mix (Air and fuel) on transactionsEngine performance	4	**the thirdten**
daily	The lecture	Combustion in spark ignition enginesCombustion stages in engines Ignition With sparks	recognizeOn how to getCombustion in a spark ignition engine and the stages of this combustion	4	**Fourthten**
daily	The lecture	The effect of engine variables on the combustion stages in a spark ignition engine	Understand the effect of different engine variables on the combustion stages in the engine.	4	**fifteenth**
Second course					
daily	The lecture	phenomenon The beat or Roads , precedence phenomenon IgnitionThe effect of pre-ignition on the engine	recognize onThe phenomenon of knocking in a spark ignition engine, how it occurs and its effects	4	**Sixteenth**
daily	The lecture	How to Road control Pre-ignition phenomenon, effect Previously Ignition onEngine	Learn the waysControlling the phenomenon of knocking and the effect of the phenomenon of pre-ignition on engine Ignition With sparks	4	**Seventhten**
daily	The lecture	Combustion chamber designs in spark ignition engines	recognizeOn the different designs of the combustion chamber in engines Ignition With sparks	4	**The eighthten**
daily	The lecture	to equip Mixture By incense burner	recognize on The feeder How it works To prepare a suitable mixture for the engine	4	**Ninthten**
daily	The lecture	Simple feeder, calculate the percentage Air	Recognize On simple feeder parts and air	4	**Twenty**

		:Fuel for feeder basic	ratio calculations :fuel		
daily	The lecture	Injection systems Electronic in engine Spark ignition	Learn about electronic injection systems in engines. Spark ignition	4	**twenty one**
daily	The lecture	Combustion in compression ignition engines Combustion stages in compression ignition engines The effect of engine variables on combustion stages	Do you know? On how combustion occurs in a compression ignition engine, the stages of this combustion, and the effect of engine variables on these stages.	4	**Twenty-second**
daily	The lecture	Roads in diesel engine And control the knock in the compression ignition engine (diesel)	Learn about the phenomenon of knocking in a diesel engine and ways to control it.	4	**Twenty-third**
daily	The lecture	Combustion chamber designs in compression ignition engines	recognize on Designs Different For combustion chambers in compression ignition engines	4	**Twenty-fourth**
daily	The lecture	injection Fuel in Engines Pressure ignition Fuel injection system requirements, types of injection systems, types of injectors and extruders	Learn how diesel fuel injection systems work, their types, and the types of injectors and ejectors used.	4	**Twenty-fifth**
daily	The lecture	Fuel specifications and ignition engine With sparks, Fuel octane number requirements, improved additives, compression ignition engine	Learn about the fuel used in the internal combustion engine, how to extract it, and the specifications of fuel for spark ignition and compression ignition engines.	4	**Twenty-sixth**

		fuels and fuel cetane number Add-ons The benefactor			
daily	**The lecture**	Impact **Supercharging on engine performance Types of supercharging systems**	**Get to know the charging system Superchargers, their types and their effect on engine performance Internal combustion**	**4**	**twenty-seventh**

distribution as follows: 25degree Exams Monthly And the daily For separation the first. 25degree Exams Monthly And the daily For separation the second. 50degree For exams Final

11Learning and teaching resources

1- Bason & Whit "internal combustion engine" vol. 1& vol.2, 1979. 2- PLBallaney "internal combustion engine", 1980. 3- Chorles FT "the internal combustion engine in theory & practice", 1986. 4- Thermodynamics & heat engines"thermal engineering" 5- MLMathur"acourse in internal combustion engines", 1984 6- "Internal combustion engine fundamentals, by: John Heywood pub., Ma Graw - Hill, 1988, USA. 7- "Introduction to internal combustion engines", by: Richard Stone pub., Mac Millan, 1992, USA. John Wiley "internal combustion engin Applied Thermodynamics, by: Colin Ferguson &Allan T. Kirkpatrick, pub.,20(	Main References (Sources)

All specialized scientific books Internal combustion engines	Recommended supporting books and references (scientific journals, reports, etc.)
Many from reality in specialty Cars And related With engines Internal combustion	Electronic references, websites

Course Description

1- Course Name:	
Thermodynamics	
2- Cours code:	
3- the semester/Year:	
semester	
4- date numbers this Description: 17/10/2024	
5- Available attendance forms:	
My presence only	
6- Number of study hours (total) / Number of units (total):	
45 hours.4 hour weekly	
7- Name of the course administrator (if more than one name is mentioned)	
the name: Mohamed Jasim Mohamed	
8- Course objectives	
	Knowing the principles and basics of thermodynamics - Knowledge of the first law of thermodynamics and its applications. - Knowledge of the second law of thermodynamics and its applications. - Knowledge of the Carnot cycle, Rankine, and steam compression. - Know the types of boilers / fuel.
9- Teaching and learning strategies	
1- strategyUse of various types of measuring devices 2 2- Reviewing the practical applications of various systems. 3- Boiler operation test	**Strategy**

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

Infrastructure.1	
	1. Required textbooks
1. Applied engineering thermodynamics, Choudhury 2- Thermodynamics, Holman 3- Introduction to Thermodynamics, Sonntag 4- Applied Thermodynamics, Eastop	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 scientific research - The Institute's electronic library	B. Electronic references, websites

2. Curriculum Development Plan

- Update the course vocabulary periodically to keep pace with scientific developments.
- Laboratory equipment update

Course Description Form

1- Course name	
human rights	
2- Course code	
3- Semester/Year:	
Semester	
4- date numbers this Description:17/10/2024	
5- Available attendance forms:	
My presence only	
6- Number of study hours (total) / Number of units (total):	
30 hours (theoretical) per semester	
7- Name of the course administrator (if more than one name is mentioned)	
the name: Dr. Zainab Mahmoud	
8- Course objectives	
• ..... • ..... •	1-1 Equality among individuals. -2 Respect the rights of others
9- Teaching and learning strategies	
They called T Educational ongoing. Lectures guidance And follow up. Seminars Workshops Electronic	**Strategy**

Decision structure

Chapter One

Vocabulary details	The week
Human rights, definition, objectives	1
The Roots of Human Rights and Their Development in Human History: Human Rights in Ancient and Medieval Times	2
Human rights in ancient civilizations, especially the civilization of Mesopotamia	3
Human rights in divine laws with a focus on human rights in Islam	4
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)	5
Human Rights in Contemporary and Modern History: International Recognition of Human Rights since World War I and the League of Nations	6
Regional recognition of human rights: European Convention on Human Rights 1950 American Convention on Human Rights 1969 African Charter on Human Rights 1981 Arab Charter on Human Rights 1994	7
NGOs and Human Rights (ICRC, Amnesty International, Human Rights Watch) National Human Rights Organizations	8-9
Human Rights in Iraqi Constitutions: Between Theory and Reality	10
The relationship between human rights and public freedoms: 1- In the Universal Declaration of Human Rights 2- In regional charters and national constitutions	11-12
Essential human rights and collective human rights	13
Economic, social and cultural human rights and civil and political human rights	14
Modern human rights: facts in development, the right to a clean environment, the right to solidarity, the right to religion	15

Chapter Two

Guarantees of respect and protection of human rights at the national level, guarantees in the constitution and laws, guarantees in the principle of the rule of law Guarantees in constitutional oversight, guarantees in freedom of the press and public opinion, the role of non-governmental organizations in respecting and protecting human rights	1-2
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 (Arab League, European Union, African Union, Organization of American States, ASEAN) - The role of international non-governmental organizations and public opinion in respecting and protecting human rights	3-4
General Theory of Liberties: The Origin of Rights and Liberties, the Project's Position on the Declared Rights and Liberties, the Use of the Term Public Liberties	5
The functional nature of the concept of public freedoms: philosophical considerations of functional right, structural considerations of positive right, economic considerations and public freedoms	6

The legal basis of the rule of law	7-8
Regulation of public freedoms by public authorities	9
litigation or non-judicial grievance	10
Judicial appeal, determining the state's responsibility for its legitimate actions	11
- The impact of the duality of the judiciary on public freedoms - Public freedoms under administrative jurisprudence	12
Equality: The historical development of the concept of equality	13
Modern development of the idea of equality	14
- gender equality - Equality among individuals according to their beliefs and race	15

	Infrastructure .3
	1. Required textbooks
1- The Virtual Library of the Ministry of Higher Education and Research Scientific	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 scientific research - The Institute's electronic library	B. Electronic references, websites
	Curriculum Development Plan .4
Update the course vocabulary periodically to keep pace with scientific developments.	-

Course Description Form

1- Course name:	
Engineering drawing	
2- Course code:	
3- Semester/Year	
semester	
4- date numbers this Description:17/10/2024	
5- Available attendance forms:	
My presence only	
6- Number of study hours (total) / Number of units (total):	
45 hours (practical) per semester, three hours per week	
7- Name of the course administrator (if more than one name is mentioned)	
the name: Dr.Duna Tariq Yassin	
8- Course objectives	
	1. Identify maps. 2 Identify isometric shapes. Conducting mechanical drawings.
.	

9- Teaching and learning strategies	
They called T Educational ongoing. Lectures guidance And follow up. Seminars Workshops Electronic	**Strategy**

-structure The decision					
road Evaluation	road education	nameUnity/or topic	)utputsLearning Required	hour	The week
Chapter One					
Practical exams	**practical**	**BoardsThe drawing**		**3hours weekly**	3 - 1
Practical exams	**practical**	**Maps**		**3hours weekly**	5 - 4
Practical exams	**practical**	**Operations Engineering**		**3hours weekly**	9 - 6
Practical exams	**practical**	**fee Shapes Engineering**		**3hours weekly**	15 - 10
Chapter Two					
Practical exams	**practical**	**fee Shapes Engineering**		**3hours weekly**	22 - 16
Practical exams	**practical**	**The drawingIsometric**		**3hours weekly**	27 - 23
Practical exams	practical	ShapesIsometry		3hours weekly	30 - 28

Infrastructure .5	
	1. Required textbooks
1- The Virtual Library of the Ministry of Higher Education and Research Scientific	**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 scientific research - The Institute's electronic library	**B. Electronic references, websites**

Curriculum Development Plan .6
Update the course vocabulary periodically to keep pace with scientific developments. -

Course Description Form

1- Course name:	
Management And safety Professional/ Stage Second	
2- Course code:	
3- semester/Year:	
Semester	
4- date numbers this Description:17/10/2024	
5- Available attendance forms:	
My presence only	
6- Number of study hours (total) / Number of units (total):	
30 hours (theoretical) per semester	
7- Name of the course administrator (if more than one name is mentioned)	
the name: Imad Abdel Wahed	
8- Course objectives	
• ..... • ..... •	.1-Identify the management system 2-Recognizing the importance of industrial management.
9- Teaching and learning strategies	
They called T Educational ongoing. Lectures guidance And follow up. Seminars Workshops Electronic	**Strategy**

First semester

Vocabulary details	The week
Management	1
Principles of Management-Management and Factory Levels - Factory Organization	2
Administrative jobs	3
Facility Jobs	4
Factory site selection and factors affecting it	5
Purchases-The relationship of purchasing to other functions of the establishment and the purchasing steps	6
The warehouse-Stock-Stock Types	7
Types of warehouses-warehouse inventory	8
Determine the economic order quantity	9
Basic Cost Concepts	10
Wages-Its types	11
Methods of calculating wages	12
Training-The importance of training	13
Training methods	14
Leadership, the efficient manager and types of managers-Characteristics and traits of managers and signs of good and poor management	15

Second semester

Basic concepts in quality control (control concept) quality concept-Quality control quality-Importance and benefits of quality control	1
Quality elements-Design quality	2
Quality of implementation-Reliability-Quality control costs	3
standardization-Standard Specifications (Definition of Specification)	4
Types of Standard Specifications	5
Data and information collection-Frequency table-iterative runway	6
Quality control methods-The ocular method-Types of charts	7
Applications in using one of the types of charts	8
Maintenance-Its objectives-Its types	9
Preventive maintenance-Its benefits-Sudden maintenance	10
Maintenance Department Organization	11
Industrial safety and security, the impact of industrial safety on production efficiency	12
Industrial safety quality methods, general rules and regulations for accident prevention	13
Industrial accident and prevention methods	14
Personal Protective Equipment - Fires and Fire Fighting Methods	15

-12 plan development The decision Academic
1- Benefit from Virtual Library Affiliated to the Ministry of Higher Education and Scientific Research. -2anoYou will benefit from Locations Ano Electronic Scientific in development The decision from during an offer Movies Scientific and Developments in the course field