



Engineering Program

Specialization	Common
Course Number	20207251
Course Title	Automotive diagnosis and maintenance
Credit Hours	3
Theoretical Hours	3
Practical Hours	0



❖ تطبق هذه الخطة الدراسية اعتباراً من بداية العام الجامعي 2009/2008

Brief Course Description:

- ❖ Introduction to automotive diagnostics, maintenance and repair, theoretical background about automotive diagnostics, maintenance and repair, types of automotive diagnostics, maintenance and repair, types of automotive maintenance Inspection and service of car components: engine, engine system, transmission, broke system, suspension system, steering

Course Objectives:

1. Name the diagnosis tools and equipments commonly used in vehicle repair works.
2. Describe the basic applications and operation of these tools.
3. Know the types of maintenance and repair of automobiles.



Detailed Course Description:

Unit Number	Unit Name	Unit Content	Time Needed
1.	Theoretical back ground of automotive service , types of service	<ul style="list-style-type: none"> ▪ Theoretical background ▪ Pre_delivery service ▪ Preventive maintenance ▪ Season maintenance ▪ 1st and 2nd maintenance 	
2.	Engine diagnostics ,maintenance and repair	<ul style="list-style-type: none"> ▪ Engine condition inspection and evaluation ▪ Engine maintenance engine systems maintenance ▪ Engine adjustments, engine systems adjustments 	
3.	Transmission diagnostics, maintenance and repair	<ul style="list-style-type: none"> ▪ Clutch inspection ▪ Clutch maintenance and adjustment ▪ Manual and automatic gear box inspection ▪ Manual and automatic gear box maintenance and adjustment ▪ Final drive inspection and service ▪ Final drive inspection and service ▪ Axis and wheel and service 	
4.	Suspension and steering inspection and service	<ul style="list-style-type: none"> ▪ Suspension components inspection and service ▪ Steering components inspection and service ▪ Wheel alignment 	
5.	Brake system inspection and service	<ul style="list-style-type: none"> ▪ Master cylinder inspection and service ▪ Wheel cylinder inspection and service ▪ Hand brake inspection and service ▪ Anti – lock brake system (ABS) inspection and service 	

❖ تطبق هذه الخطة الدراسية اعتباراً من بداية العام الجامعي 2009/2008



Evaluation Strategies:

Exams		Percentage	Date
Exams	First Exam	20%	--/------
	Second Exam	20%	--/------
	Assignments	10%	--/------
	Final Exam	50%	--/------
Discussions and lecture Presentations			

Teaching Methodology:

- ❖ Lectures and presentations

Text Books & References:

Textbook:

1. Jack ERJAVEC, AUTOMOTIVE Technology A system Approach, Delmar. U.S.A – 2005.
2. William H. Crouce and Donald Anglin, Automotive Mechanics, Hill school publishing company, USA, 1993.



❖ تطبق هذه الخطة الدراسية اعتباراً من بداية العام الجامعي 2009/2008



Engineering Program

Specialization	Common
Course Number	20207284
Course Title	Automotive diagnosis and maintenance Lab.
Credit Hours	1
Theoretical Hours	0
Practical Hours	3



❖ تطبق هذه الخطة الدراسية اعتباراً من بداية العام الجامعي 2009/2008

Brief Course Description:

- ❖ Equipments and devices for automotive diagnosis
Maintenance repair personal skills in performing inspection and service of cars
Components: engine, transmission, brake system, steering system, suspension system, suspension system and electrical equipments.

Course Objectives:

1. Studying the equipments for automotive diagnosis and repair.
2. Obtain the applied skills needed to come over the works related to automotive diagnosis, maintenance and repair.



Detailed Course Description:

lab Number	lab Name	lab Content	Time Needed
1.	Engine inspection and service	<ul style="list-style-type: none"> ▪ Engine condition inspection and evaluation thru :compression test, leakage test, vacuum test ▪ Engine applied service ▪ Engine applied adjustment : RPM, CO% ▪ In exhaust gases ▪ Engine systems applied service and adjustments 	
2.	Transmission inspection and service	<ul style="list-style-type: none"> ▪ Applied clutch inspection ▪ Clutch service and clutch pedal free travel adjustment ▪ Gear box and dire shaft inspection ▪ Final drive gear clearance adjustment ▪ Axes and wheel inspection and service ▪ Wheel bearing clearance adjustment 	
3.	Suspension and steering systems inspection and service Practically	<ul style="list-style-type: none"> ▪ Inspection and service of suspension system components ▪ Steering system inspection and service ▪ Wheel alignment 	
4.	Brake system inspection and service practically	<ul style="list-style-type: none"> ▪ Master cylinder and wheel cylinder inspection and service ▪ Shoes_ drum clearance adjustment ▪ Hand broke adjustment ▪ (abs) inspection and service 	

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Evaluation Strategies:

Exams		Percentage	Date
Exams	Midterm Exam	20%	--/------
	Reports	30%	--/------
	Final Practical Exam	50%	--/------

Teaching Methodology:

- ❖ Laboratory

Text Books & References:

Textbook:

1. Jack ERJAVEC, AUTOMOTIVE Technology A system Approach, Delmar. U.S.A – 2005.
2. William H. Crouce and Donald Anglin, Automotive Mechanics, Hill school publishing company, USA, 1993.



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