

Auto Engine Repair

(Course Syllabus) Catalogue

2022-2023

College/ Institute	Erbil Technology Institute	
Department	Automotive Technique	
Module Name	Engine Repair I	
Module Code	ENR105	
Semester	1	
Credits	8	
Module type	Prerequisite	Core ¹ Assist.
Weekly hours	6	
Weekly hours (Theory)	(2)hr Class	(123)hr f Workload
Weekly hours (Practical)	(4)hr Class	(226)hr h Workload
Lecturer (Theory)	Sarkaut Ahmad Ameen	

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Lecturer (Practical)	Bary , Zhala , Venos
E-Mail & Mobile NO.	

Course Book

Course Description	the purpose of this course is to promote learning by examining underlying assumptions, seeking relevant information, and reaching final conclusions, thus understanding the implications of the diagnostic procedures in the following course concept areas: Engine Operation, Tools, Equipment, Service Information, and Work Orders, Electricity and Electronics for Engines, Shop Safety, Engine Types and Classifications and etc.
Course objectives	Upon completion of this course the student will be able to: <ul style="list-style-type: none"> - Identify vehicle information and observe Auto Engine safety procedures. - Inspect, diagnose and replace Engine components. - Diagnose Engine noise, vibration and harshness. - Diagnose and inspect Engine problems and replace components when necessary. - Inspect, replace and adjust Electricity and Electronics for Engines. - Service, inspect, and diagnose Auto Engine concerns. - Diagnose and adjust Engine alignment concerns
Student's obligation	The student must attendance the hall 1 hour and 2 hour in shop abidance the lecturer instruction wherein early attendance and bringing requisite tools and keep the hall clean and protect furniture.
Required Learning Materials	To avoid student bared in the hall lecturer uses several tools, whiteboard, data show and other demonstrate tools to interest student.
Assessment scheme	16% Mid Term (Theory and practical) 4% Quiz 40% Assignment (report, paper, homework, seminar..) 25% final practical 15% final theory

Specific learning outcome:	<p>Upon the completion of this course students will be able to complete the following:</p> <ol style="list-style-type: none"> 1. Identify Auto Engine concerns upon evaluation of the components. 2. Diagnosis and repair Auto Engine concerns 3. Analyse data collected from alignment equipment and make appropriate corrective actions. 4. Will demonstrate an understanding of Auto Engine systems 5. Research and validate appropriate service information pertaining to Auto Engine systems.
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Course References:	<ol style="list-style-type: none"> 1. Johanson,Chris Manual drive trains and axles /by Chris Johanson and James E. Duffy. _ 3rd edition 2. 1-Automobiles – Transmission devices. 2- Automobiles – Power, trains. I. Duffy, James E. II. Title. USA.
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Course topics (Theory)	Week	Learning Outcome
1. Lubrication System Operation and Service	1	1
2. Starting, Charging, and Ignition Systems	2	1
3 ASE Engine Certification	3	2
4. Turbocharging and Supercharging Systems	4	4
5 Engine Performance Problems	5	2
6. Engine Mechanical Problems	6	3
7. Engine Problem Diagnosis and Tune-Up	7	2
8 Engine Removal, Disassembly, and Cleaning	8	2
9 Short Block Rebuilding and Machining	9	2
10. Top End Rebuilding and Machining	10	4
11. Front End Service	11	4

12.. Engine Reassembly, Installation, Startup, and Break-In	12	4
Practical Topics	Week	Learning Outcome
1 introduction and types of Auto Engines	1	1
2. Job 6—Diagnose Engine Component Leakage + Job 7—Check and Correct Engine Run out	2	3
3.Job 11—Remove, Inspect, and Reinstall an engine.	3	4
4 Job 16—Diagnose engine Problems + Job 17—Adjust engine components	4	3
5. Job 18— Diagnose Fuel and Emission Control Systems problems.	5	2
6. Job 19—Remove an Engine + Job 20—Inspect and Repair an Engine + Job 21—Install an Engine.	6	3
7. Job 24—Disassemble and Inspect an engine + Job 25— Reassemble an engine	7	3
8. Job 28— Diagnose Engine Mechanical Problems + Job 29— Engine Problem Diagnosis and Tune-Up	8	3
9. Job 32— Short Block Rebuilding and Machining+ Job 33— Top End Rebuilding and Machining + Job 34— Disassemble Front End Service+ Job 35— Engine Reassembly, Installation, Startup, and Break-In.	9	5

Questions Example Design

Compositional:

- 1- List the parts of a piston.
- 2- Talk about The four stroke of an engine

2. True or false type of exams:

- 2- 1 Connecting rods can be reinstalled in any order, as long as the rod caps are not interchanged or reversed. **F**, Connecting rods cannot be interchanged.
- 2- An advantage of the two-piece piston is that the two pieces can be made of different materials. **T**

3. Multiple choices:

1. The amount of power formed in the engine combustion chamber is referred to as .
A. torque
B. indicated horsepower
C. frictional loss
D. mechanical efficiency

Extra notes:

Student must be any time ready for quizzes.

External Evaluator

I have read the terms of this article and acknowledge that it meets the required purpose.

Lecture : Yaseen Hamed Rashed

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