Instructor Information

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Office Hours M by appointment TWRF 7:00-7:30AM & 1:00-2:00PM

Course Title

AUMT-1319-23104 Automotive Engine Repair

Course Description

Fundamentals of engine operation, diagnosis and repair including lubrication systems and cooling systems. Emphasis on overhaul of selected engines, identification and inspection, measurements, and disassembly, repair, and reassembly of the engine. May be taught manufacturer specific. (2 Lec., 4 Lab.)

Prerequisites

AUMT 1305 - Introduction to Automotive Technology

Course Focus

The focus of this course is system diagnosis and repair. It will include component identification, operation, testing and service procedures. This is a blended course and content will be delivered via Today's class course and e-Book assignments.

Learning Outcomes*

Upon successful completion of this course, the student will be able to:

- Integrate and display professionalism.
- Describe and explain key terms, theories, concepts, and models of automotive engine systems.
- Locate and utilize service and resource information including Today's Class - Melior Online Training and e-Books.
- Analyze, appraise, select, and perform appropriate diagnostic, service, and repair procedures utilizing Industry Best Practices.

*Detailed in the Addendum
Text, References, and Resources

Students will be assigned Today's Class courses and e-Book material as e-learning assignments.

Student Contributions

Utilizing appropriate safety procedures, the student will explain the operation, diagnosis and repair of engine systems; describe the operation, diagnosis and repair of engine systems; and demonstrate proper use of advanced engine diagnostic equipment.

Course Goals*

The following list of goals will be addresses in the course. These goals are directly related to the performance objectives. (*designates a CRUCIAL goal)

1. demonstrates personal habits
2. exhibits safe work practices
3. demonstrates productivity
4. demonstrates quality work
5. explain base engine operation
6. explain lubrication system operation
7. explain cooling system operation
8. utilizes service information
9. utilize e-Books
10. complete Today's Class course
11. diagnose general engine concerns
12. perform engine repair procedures
13. diagnose engine mechanical concerns
14. diagnose lubrication system concerns
15. diagnose cooling system concerns

*Detailed in the Addendum
Course Evaluation

Grades will be earned as follows:

- Professionalism: 20%
- On-Line Training: 20%
- Skill Evaluation: 20%
- Exams: 20%
- Discussion Board: 20%

Professionalism includes all activities with the class. It includes, but is not limited to, personal habits, safe work practices, productivity, and quality of work. A daily grade will be assessed with a possible score of 8 points. The points will be averaged for 20% of the total grade.

On-Line Training assignments are the blended portion of the course. They include Today's Class - Melior On Line Training courses. The quizzes and final scores will be averaged for 20% of the total grade.

Each skill assignment will be grade for accuracy, completeness, and meets the criteria of the performance objective. These assignments will be averaged for 20% of the total grade.

Exams will cover the knowledge content for each seminar. Exam scores will be averaged for 20% of the total grade.

Each Discussion Board assignment typically includes a post and two responses (unless directed otherwise). The post and responses will be graded for content and completeness. The post score is 60 points and each response is 20 points for a total of 100 points. The assignments will be averaged for 20% of the total grade.

Course Schedule

The sequence of instruction is detailed under the heading Course Outline.
Performance Objectives

Performance objectives are directly related to the course goals and provide the criteria for evaluation.

Attitude Objectives

1. The student will demonstrate personal habits. Performance will be satisfactory if a daily score of 8 is assigned by the instructor. The document of record will be the professional evaluation scores in the LMS. The following Content Goals are related to this PO: 1, 2, 3, and 4

Knowledge Objectives

5. The student will not be allowed references. The student will explain base engine operation. Performance will be satisfactory if operation is explained and the explanation is consistent with assigned resources. The document of record will be exam scores in the LMS. The following Content Goals are related to this PO: 5, 6, and 7

10. The student will be allowed references. The student will complete Today's Class course and resource assignments. Performance will be satisfactory if assignments are completed by the published due date. The document of record will be quiz and final scores in the LMS. The following Content Goals are related to this PO: 8, 9, and 10

Skill Objectives

11. The student will be allowed references. The student will be provided tools. The student will diagnose general engine concerns. Performance will be satisfactory if concerns are diagnosed and performance is consistent with service information and completed in twice the flat rate time as published. The document of record will be completed repair orders in the LMS. The following Content Goals are related to this PO: 11, 13, 14, and 15

12. The student will be allowed references. The student will be provided tools. The student will perform engine repair procedures. Performance will be satisfactory if procedures are performed and performance is consistent with service information and completed in twice the flat rate time as published. The document of record will be completed repair order in the LMS.
On-Line Training

The listed Today's Class course is the blended portion of this course. These assignments must be completed by the due date as preparation for the application assignments.

Today's Class - Melior On Line Training

Engine Repair

Failure to complete these assignments by the end of the course will result in a failing course grade.

Course Outline

1.0 Base Engine
   1.1 Engine Classification
   1.2 Engine Components
   1.3 Terminology
   1.4 Operation

2.0 Mechanical Diagnosis
   2.1 Preliminary Inspection
   2.2 Diagnostic Testing

3.0 Repair
   3.1 Cylinder Head
   3.3 Engine Block
   3.3 In-Vehicle

4.0 Sub-Systems
   4.1 Lubrication System
   4.2 Cooling System
Class Policies

Attendance

This is a Blended Fast Track Course; one day absent is equal to more than three weeks of normal college courses. Additionally, on-vehicle assignments are completed in crews and may not be completed in one class period. Credit will not be given for partially completed assignments.

Students missing two (2) or more class sessions will receive a failing course grade.

Punctuality

Arriving late is disruptive to class activities. Additionally, content is evaluated at the beginning of class and cannot be made up. Arriving more than 1 hour late is considered an absence.

Personal Electronic Devices

Personal electronic devices are disruptive to class activities. Do not receive calls, make calls, or text during class.

Required Materials

Each day the student is expected to bring to class the following;

- safety glasses
- program required tools
- pencil
- plastic clipboard

NOTE: Proper attire is required (e.g. Long pants and closed toed shoes) during attendance at the automotive classes. Safety Glasses are required for all bench and shop activities. If the attire is not appropriate, you will be asked to make the corrections to the attire. It is for the safety of the technician, as well as others attending. This process will be enforced.

Students who are not prepared for class (does not have Required Materials, WBTs not completed by the due date) will not be allowed to participate in shop activities.

Institutional Policies

Brookhaven's institutional policies and procedures can be found via the link below.

http://www.brookhavencollege.edu/about/vpi/Pages/Syllabus-Addendum.aspx