



South Portland, Maine 04106

Automotive Technology

Title: Light Duty Diesel Technology

Catalog Number:

Credit Hours: 2

Total Contact Hours: 15/30

Lecture (or Lab): 1 hour lecture, 1 hours lab

Instructor: Joe Moore

Office Hours – Location: Transportation Technology

Contact Information: 207-741-5859

Email: Jmoore2@smcme.edu

Course Syllabus

Course Description

This course will introduce the student to basic diesel engine operation and diagnosis. Students will be exposed to the newest diesel technology used in the light duty diesel market. Students will study fuel controls, diagnostics systems, and emission controls. Students will learn service procedures for common diesel faults. Students will utilize blackboard online learning in addition to the course textbook. Note: Participants of this class should have experience working with automotive electricity, basic drivability diagnosis, and engine repair.

Course Objectives

This course will follow ASE standards for light duty diesel A9 ASE.

Upon completion of this course the student should be able to:

1. Describe differences between Diesel and Gasoline engines.
2. Determine proper maintenance techniques and materials to be used in LDD.
3. Explain damage resulting from improper maintenance.
4. Demonstrate basic engine testing methods.
5. Demonstrate Diesel component servicing
6. Test Diesel emission systems: to include DPF, DEF, EGR, VGT and Throttle plate relation to emissions.
7. Demonstrate diagnosis process related to LDD.

Topical Outline of Instruction

- A. Introduction of diesel engine differences from gasoline engines (class 1)
- B. Maintenance specific to LDD. Maintenance charts, fluid requirements, importance of proper maintenance to include: type of oil importance, coolant, fuel quality (class 2)
- C. Introduction of fuel system types (class 2, class 3)

- D. 6.0L Powerstroke component service and inspection (class 4, 5)
- E. Introduction of LDD diagnosis process (class 6, 7, 8)
- F. Discuss importance of emission systems on LDD, intro to systems in use (class 9, class 10)
- G. VW, Duramax, Powerstroke, Cummins engines- new technology (class 11, 12)
- H. Demonstration of diagnostic understanding/stations (class 13)
- I. Final Exam/ finish stations (class 14)

Course Requirements

Students will successfully complete homework, quizzes and tests.

Students will successfully complete shop projects as assigned and approved by instructor and maintain documentation of completion.

Student Evaluation and Grading

10% Attendance and Participation

10% Homework

20% Quizzes

30% Tests

30%: Practice of Safety and Shop Participation and Portfolio

Text, Tools and / or Supplies

Automotive Diesel Technology by Gus Wright (ISBN-10: 0131574531) Student must purchase.

- Blackboard online for tests and quizzes
- Personal protective equipment must be worn at all times in lab. Leather, steel-toe work boots; clear safety glasses with side shields; and work clothes are required for this course.
- Students must use their tool tags when they remove tools from the tool room.

Please note: The following items are required to participate in lab:

1. Leather steel-toe work boots
2. Clear safety glasses with side shields (or if prescription glasses clip on side shield must be purchased-available in college bookstore)
3. Tool tags

If a student does not bring or use the items on the above list, the following consequences will result:

- The student can not participate in lab.
- The student will be marked absent.
- The attendance grade will reflect the absence.
- The hours missed will figure into a student's Administrative Failure for 15% absence.

- The student will earn a grade of 0 for the assignments during that lab session.

Attendance Policy

Students will be dropped a letter grade from their final grade for 10% of total hours. Students will be dropped an additional letter grade at 13%. (For example: Received A for class but 10% absences now translates to a B for the final grade. 13% absence would translate to a C.) Students missing 15 % of the total hours for the course, tardy or absent will result in an administrative failure (AF) for the class. For this course meeting 3 hours per day once a week, means 15% is 6.75 hours. Tardies will count as .5 hours no matter time missed unless greater than .5 hours which then will be counted as time missed. Tardies are considered not seated at the time of the start of class. Tardies will add up. Students will be removed with an AF if three consecutive absences.

Example A final grade

10%	4.5 hours	B final grade
13%	5.8 hours	C final grade
15%	6.75 hours	AF

End-of-Course Evaluation

Students complete evaluations for each course attended at SMCC. Evaluations are submitted online and can be accessed through the student portal. Students can access the course evaluations beginning one week before the end of classes. The deadline for submission of evaluations occurs Monday at 5 p.m. following the last day of the class. You will receive an e-mail to your student e-mail account when course evaluations are available.

ADA Syllabus Statement

Southern Maine Community College is an equal opportunity/affirmative action institution and employer. For more information, please call (207) 741-5798. If you have a disabling condition and wish to request accommodations in order to have reasonable access to the programs and services offered by SMCC, you must register with the Disability Services Coordinator, Sandra Lynham, who can be reached at 741-5923. Further information about services for students with disabilities and the accommodation process is available upon request at this number. Course policies about online testing are modified to suit each individual's accommodations.

SMCC Pay-for-Print Policy

Each semester students receive a \$20 printing credit. The balance resets at the end of the semester and any remaining credits are removed. The College's pay-for-print system monitors printing on all printers (including those in general access labs, library printers, Tutoring Services, Campus Center Lounge and technology labs). Be sure to log OUT of the system when you've finished your printing, to prevent unauthorized access to your account. Students can check the number of pages they have printed by using the Printing Balance tool available on SMCC computers (located in the lower right corner of the screen, near the clock). Departments with work study students who need to print documents for the department should contact the Help Desk at 741-5696 to have a special account set up. To find ways to reduce your printing charges, please go to the IT Help tab on My SMCC. If you have questions about the pay-for-printing policy or your printing charges, please contact the Help Desk at 741-5696 or send an e-mail to helpdesk@smccme.edu.

Refunds

Print jobs are eligible for a refund in the event of mechanical or electronic error on the part of the printer, print server, or software used to submit the job. Jobs are not eligible for a refund in cases where the job was not set up correctly, was submitted multiple times, or the student is not satisfied with the result. To request a refund, please bring the offending print to the IT Department in the basement of the Ross Technology Center. Refunds will be granted in the form of a credit to the student's account.

Add-Drop Policy

Students who drop a course during the one-week "add/drop" period in the fall and spring semesters and the first three days of summer sessions receive a 100% refund of the tuition and associated fees for that course. Please note any course that meets for less than the traditional semester length, i.e., 15 weeks, has a pro-rated add/drop period. There is no refund for non-attendance.

Withdrawal Policy

A student may withdraw from a course only during the semester in which s/he is registered for that course. The withdrawal period is the second through twelfth week of the Fall and Spring semesters and the second through ninth week of twelve-week Summer courses. This period is pro-rated for shorter-length courses (usually 75 percent of course meeting times; please check with the Registration Office. To withdraw from a course, a student must complete and submit the appropriate course withdrawal form, available at the Registration Office. This process must be completed either in person or by using SMCC e-mail accounts.

Plagiarism Statement

If an instructor suspects that a student has knowingly committed a violation defined in the Maine Community College System Policy on Student Grade Appeals and Academic Misconduct, the instructor has the authority to review the alleged misconduct and determine the grade that the student should receive for the assignment and the course. The instructor may assign a failing grade for the assignment or course

and may require the student to complete additional work for the course. The instructor may consult with the department chair and/or the College's chief academic officer prior to making such decisions. If a student seeks to challenge an instructor's determination, the student should submit a grade appeal. Grade appeal forms are available in the Advising Office on the South Portland Campus or in the administrative offices in the Learning Commons on the Midcoast Campus. An instructor may also refer the matter to the College's disciplinary officer for review under the procedures of the MCCS Student Code of Conduct