COURSE TITLE (Diesel Engines II (DEMR 1449 3&5A3)

CREDIT
4 Semester Credit Hours (3 hours lecture, 4 hours lab)

MODE OF INSTRUCTION
Face to Face

PREREQUISITE/CO-REQUISITE:
None

COURSE DESCRIPTION
An in-depth coverage of disassembly, repair, identification, evaluation, and reassembly of diesel engines.

COURSE OBJECTIVES
Upon completion of this course, the student will be able to

1. Identify engine components and their working relationship to the engine.
2. Evaluate engine components by inspection, testing, and/or measurement.
3. Explain orderly procedure of disassembly and reassembly of the diesel engine.
4. Explain personal and shop safety rules that must be practiced when working in the shop area while using tools and equipment.
5. Identify engine nomenclature, description, and prepare proper work order.

INSTRUCTOR CONTACT INFORMATION

Instructor:	Pete Matak III
Email:	pmatak@lit.edu
Office Phone:	409 247 5058
Office Location:	ITC-2 104
Office Hours:	Monday / Wednesday 1:30 – 2:00 pm during semester

Approved: PMIII / 8-22-2025 pm3

REQUIRED TEXTBOOK AND MATERIALS

1. **Diesel Technology** Fundamentals, Service, Repair
   Author: Norman, Corinchock, Scharff
   Publisher: Goodheart and Willcox Company, Inc.
   ISBN # 978-1-64564-685-3; 9th edition

2. **Diesel Technology Workbook** Fundamentals, Service, Repair
   Author: Norman, Corinchock, Scharff
   Publisher: Goodheart and Willcox Company, Inc
   ISBN # 978-1-64564-686-0; 9th edition

3. Notebook and 8.5" x 11" notebook paper

4. Blue and Black ink pens

5. Safety glasses and suitable work clothes

Recommended : optional only

6. **In-line 71 Series Service Manual**
   Detroit Diesel Corporation
   Dealer: Stewart and Stevenson Service, Inc.
   Revision May 1994

ATTENDANCE POLICY

1. Missing more than 20% of classes will result in an automatic "F" for the course.
2. Absences are counted for unexcused, excused and coming to class late.
3. Missing more than 20% of a class period will count as an absence.
4. Being tardy 3 times equals 1 absence.

DROP POLICY

If you wish to drop a course, you are responsible for initiating and completing the drop process. If you stop coming to class and fail to drop the course, you will earn an "F" in the course.

Students are allowed only 6 drops in their lifetime from any institute.

COURSE CALENDAR

Week	TOPIC	READINGS	ASSIGNMENTS
10-20	Course introduction and policies • Lecture • Lab: Practice	Review Class Handouts and Lecture 10-21	Read and review Handouts 10-21
10-22	Personal and lab Safety orientation • Lecture and class	Review Class Handouts and Lecture 10-23	Handouts and equipment 10-23

	• Lab: Practice and testing		
10-27	Engine Operations • Lecture/ Lab: Exercises and Test • Demonstration on engine	Chapter 26 71 Service Manual 10-30	Review Handouts Complete Review, ASE and workbook questions 10-30
11-3	Identification of various engine and designed • Lecture on handouts	71 service manual Filmstrips on engine 11-6	Review Handouts Home work assignment Visual identification in lab Test on material 11-6
11-10	Preparation for engine Disassembly	71 Service Manual Chapter 26 Film strips 11-13	Review Handout Lecture in Lab Exercises and Test Homework assignment 11-13
11-17	Engine Disassembly	71 Service Manual Film strips 11-20	Review Handouts Lecture Exercises and Test Homework assignment 11-20
11-24	Lubrication Systems principal	71 Service Manual Film strips 12-2	Handouts / Visual Aids Lecture Filmstrips Test on material Homework assignment 12-2
12-3	Semester shop follow up	Final Project and Shop organization 12-4	Review and Handouts Lecture and Review Final to be announced End of semester 12-4

Calendar dates are subject to change due to unforeseen circumstances.
Check Blackboard for any changes in due dates.

COURSE EVALUATION

Final grades will be calculated according to the following criteria:

Daily work, quizzes, lab and homework assignment.	**40.%**
Performance Work Grade	**35%**
Outside Assignment or Class Participation.	**5%**
Final Exam	**20%**
Total	***100%***

GRADE SCALE

- 90-100 A
- 80-89.9 B
- 70-79.9 C
- 60-69.9 D
- 0-59.9 F

TECHNICAL REQUIREMENTS

The latest technical requirements, including hardware, compatible browsers, operating systems, etc. can be online at https://lit.edu/online-learning/online-learning-minimum-computer-requirements. A functional broadband internet connection, such as DSL, cable, or WiFi is necessary to maximize the use of online technology and resources.

DISABILITIES STATEMENT

The Americans with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. LIT provides reasonable accommodations as defined in the Rehabilitation Act of 1973, Section 504 and the Americans with Disabilities Act of 1990, to students with a diagnosed disability. The Special Populations Office is located in the Eagles' Nest Room 129 and helps foster a supportive and inclusive educational environment by maintaining partnerships with faculty and staff, as well as promoting awareness among all members of the Lamar Institute of Technology community. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409)-951-5708 or email specialpopulations@lit.edu. You may also visit the online resource at Special Populations - Lamar Institute of Technology (lit.edu).

STUDENT CODE OF CONDUCT STATEMENT

It is the responsibility of all registered Lamar Institute of Technology students to access, read, understand and abide by all published policies, regulations, and procedures listed in the *LIT Catalog and Student Handbook*. The *LIT Catalog and Student Handbook* may be accessed at www.lit.edu. Please note that the online version of the *LIT Catalog and Student Handbook* supersedes all other versions of the same document.

ARTIFICIAL INTELLIGENCE STATEMENT

Lamar Institute of Technology (LIT) recognizes the recent advances in Artificial Intelligence (AI), such as ChatGPT, have changed the landscape of many career disciplines and will impact many students in and out of the classroom. To prepare students for their selected careers, LIT desires to guide students in the ethical use of these technologies and incorporate AI into classroom instruction and assignments appropriately. Appropriate use of these technologies is at the discretion of the instructor. Students are reminded that all submitted work must be their own original work unless otherwise specified. Students should contact their instructor with any questions as to the acceptable use of AI/ChatGPT in their courses

STARFISH

LIT utilizes an early alert system called Starfish. Throughout the semester, you may receive emails from Starfish regarding your course grades, attendance, or academic performance. Faculty members record student attendance, raise flags and kudos to express concern or give praise, and you can make an appointment with faculty and staff all through the Starfish home page. You can also login to Blackboard or MyLIT and click on the Starfish link to view academic alerts and detailed information. It is the responsibility of the student to pay attention to these emails and information in Starfish and consider taking the recommended actions. Starfish is used to help you be a successful student at LIT.

ADDITIONAL COURSE POLICIES/INFORMATION

1. **No Cell Phone** or **Electronic Devices** allowed in class, except in special circumstances and it is approved by the instructor.
   All cell phones must be put away in the classroom cell phone lock box.
2. **No** smoking or use of any **tobacco** products allowed
3. Do not bring any **food** or **drinks** in class
4. No visitor allowed in class including children
5. Do not disturb lecture for any reason. If you must leave class or come in late, do so without disturbing class.
6. **DRESS CODE: Proper work attire only, NO *Open shoes, Short pants, low riding, or sleeveless shirts*, will be allowed in any program classrooms.**
7. **No** grades will be **dropped**, No homework or assignments can be made up or accepted after instructor has taken up for grading.
8. **Homework** must be done **in proper outline form, neat and legible**, prepared on **loose leaf (8.5" X 11") note book paper**, written only on **one** side.
9. Assignment must be turn in at the beginning of class
10. Any student caught cheating will be dropped from class and given an F for the

semester grade.

11. Students are required to be present for all examinations and lectures.
12. There is NO MAKE-UP for missing any quizzes or major test or exams.
13. Learning activities will be subjectively graded by the instructor. Students assigned to a group must be present at all times when the project is being worked on.
14. Instructor will reply to students email in a reasonable time or within 3 working days.

NOTE:

Students who violate any of these policies will be asked to leave class and given an absent for the class period. Students who are continuing disturbing classes will be suspended from class for the remainder of the semester and given an grade of F.

Students may vary in their competency levels on these abilities. You can expect to acquire these abilities only if you honor all course policies, attend classes regularly, complete all assigned work in good faith and on time, and meet all other course expectations of you as a student.

A. Shop inspection
    1. Shop class policy
    2. Grading system
    3. Tools and shop equipment
    4. Shop safety
B. Engine operation
    1. Starting procedures
    2. Operation
    3. Emergency shut-downs
C. Engine identification
    1. Detroit diesel
    2. Cummins engines
D. Job sheets and engine reports
    1. Properly recording data of normal and abnormal wear
    2. Record improper assembly
    3. Justify repairs or replacement
    4. Determine the cause of failure
    5. Document all findings in report
E. Disassembly of the diesel engine
    1. Preparation for disassembly
    2. Organize parts
    3. Safety precaution
    4. Cylinder block
    5. Crankshaft and main bearing removal and installation
    6. Piston, rings, connecting rods, and bearing removal and installation

7. Cylinder liners inspection, and installation
8. Camshaft, bearings, and gears inspection
9. Gear train timing and installation
10. Flywheel and housing

F. Lubrication systems description, function, cleaning, inspection, and assembly
1. Low pressure
2. Oil type

G. Lubrication oil filters, coolers, and oil pan installation
1. Testing