COURSE TITLE (Shop Safety and Procedures (DEMR 1401 6A2)

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

MODE OF INSTRUCTION
Face to Face

PREREQUISITE/CO-REQUISITE:
DEMR 1306

COURSE DESCRIPTION
A study of shop safety, rules, basic shop tools, and test equipment.

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

1. Identify and use basic hand tools.
2. Use and take care of special measuring tools.
3. Describe shop procedures.
4. Properly use personal protection equipment.
5. List procedure for handling and disposing of hazardous materials.

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 – 2:30 pm During Semester

REQUIRED TEXTBOOK AND MATERIALS
1. Diesel Technology Fundamentals, Service, Repair
   Author: Norman, Corinchock, Scharff
   Publisher: Goodheart and Willcox Company, Inc.

Approved: PMIII / 8-18-2023
pm3
2. Diesel Technology Workbook Fundamentals, Service, Repair
   Author: Norman, Corinchock, Scharff
   Publisher: Goodheart and Willcox Company, Inc

   Author: Deere and Company

4. Fasteners. Fundamentals of Service
   Author: Deere and Company

5. Hoses, Tubing, and Connectors. Fundamentals of Service
   Author: Deere and Company
   ISBN # 978-086691-388-2; 3rd edition

6. Notebook and 8.5” x 11” notebook paper
7. Blue and Black ink pens
8. Safety glasses and suitable work clothes

**Recommended : Optional**

1. **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.

**COURSE CALENDAR**

<table>
<thead>
<tr>
<th>Week</th>
<th>TOPIC</th>
<th>READING(S)</th>
<th>ASSIGNMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Course Introduction and Class Policies</td>
<td>Lecture / Handouts</td>
<td>Review Handouts and Class Quizzes</td>
</tr>
<tr>
<td>2 - 3</td>
<td>Shop and Personal Safety Handling Hazard material.</td>
<td>Chapter 2 Hand Out Material along with class lecture.</td>
<td>Complete assigned Review, ASE and</td>
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<tr>
<td>Shop equipment use and safety.</td>
<td>Workbook Questions. Class Quizzes Chapter 2 Test</td>
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<tr>
<td>Select and properly use hand and power tools.</td>
<td>Chapter 3 Hand Out Material along with Lecture</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use and take care of special measuring tools</td>
<td>Complete assigned Review, ASE and Workbook Questions. Class Quizzes Chapter 3 Test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week</td>
<td>Topics</td>
<td>Chapters</td>
<td>Assignments</td>
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</tbody>
</table>
| 5    | Threaded Fasteners  
1. Importance of Fasteners  
2. Bolts, Cap Screws and Nuts  
3. Adhesives & Sealants  
4. Tables, Torques, & Metrics  
5. Test on material | 1,2,5,6 & 7 | Complete assigned Review, ASE and Workbook Questions.  
Class Quizzes  
Chapter 1,2,5,6 & 7 Test |
| 6    | Hose, Tubing and Connectors  
1. Hoses  
2. Pipes & Tubes | 1,2,3, & 4 | Complete assigned Review, ASE and Workbook Questions.  
Class Quizzes  
Chapter 1,2,3, & 4 Test |
| 7    | Practice the use of shop tools  
1. Outside micrometer.  
2. Threaded tools.  
3. Fitting and tubing.  
Class Quizzes |
| 8    | Conclude shop projects.  
1. Finish group project  
2. Reorganize shop tools  
3. Battery testing and handling  
4. Final Project  
5. Shop organization  
6. Project and Test  
Class Quizzes  
Review for final Exam |
**COURSE EVALUATION**

Final grades will be calculated according to the following criteria:

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily work, quizzes, and homework assignment.</td>
<td>45%</td>
</tr>
<tr>
<td>Performance Work Grade Test over Lecture and</td>
<td></td>
</tr>
<tr>
<td>Chapters</td>
<td>30%</td>
</tr>
<tr>
<td>Outside Assignment or class</td>
<td></td>
</tr>
<tr>
<td>Participation Test</td>
<td>5%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>20%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>
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.

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, unless it is known to the instructor, for a special reasoning.
   - **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. 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. 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.**

13. **No Cell Phone or Electronic Devices** allowed in class, unless it is known to the instructor, for a special reasoning.

14. Do not disturb lecture for any reason. If you must leave class or come in late, do so without disturbing class.

15. **DRESS CODE:** Proper work attire only, NO Open shoes, Short pants, low riding, or sleeveless shirts, will be allowed in any program classrooms.

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19. Any student caught cheating will be dropped from class and given an F for the semester grade.
12. 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.

13. 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 a 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.

Course Outline

A.) Introduction
   1. Introduction of faculty and students
   2. Review Syllabus
   3. Review Class Policies
   4. Reviewing Student Enrollment

B.) Shop Orientation
   1. Lab policies
   2. Tool room duties
   3. Housekeeping assignment

C.) Shop Safety
   1. General shop safety regulation
   2. Personal Safety

D.) Proper Handling of Hazardous Material
   1. Classification
   2. MSDS sheets
   3. Disposal of waste material

E.) Tools and Shop Equipment
   1. Use of tools properly
   2. Identify

F.) Precision measuring tools
   1. Outside micrometer
   2. Inside micrometer
   3. Dial micrometer
   4. Miscellaneous measuring tool

G.) Types of Hand Tools
1. Wrenches
2. Sockets

H.) Types of Power Tools
1. Electrical
2. Air operated

I.) Types of Pullers
1. Hand
2. Power

J.) Shop Equipment
1. Presses
2. Hoists
3. Jacks
4. Vises
5. Cleaning Equipment

K.) Threaded Fasteners
1. Importance of Fasteners
2. Bolts, Cap Screws & Nuts
3. Adhesives & Sealants
4. Tables, Torques, & Metrics

L.) Metal Drilling
1. Drill bit types
2. Sharpening

M. Tubing and Fittings
1. Bending Flaring
2. Steel and Copper

N. Batteries
1. Testing and Charging
2. Connections and Circuits

O. General engine information
1. Use of manuals
2. Checking specification
3. General description
4. Model description
5. Engine serial, model, and optional plate numbers
6. General procedure for disassembly
7. Parts inspection
8. Use of tools for disassembly
9. Safety precautions
   1. Personal
   2. Shop