

Introduction to Industrial Safety, Maintenance and Maintenance Equipment (INMT 1305)



Credit: 3 semester credit hours (2 hours lecture, 2 hours lab)

Course Description

Basic mechanical skills and repair techniques common to most fields of industrial maintenance. Topics include precision measuring instruments and general safety rules common in industry, including lock-out/tag-out, motorized equipment operation and basic industrial safety knowledge competency testing.

Required Textbook and Materials

1. NCCER Core Curriculum Introductory Craft Skills, Edition 5 Trainee Guide
 - a. ISBN number is 978-0-13-413143-6
2. Equipment to be furnished by students:
 - a. Hard Hat (red)
 - b. Hearing protection (Ear plugs or Muffs 29 NRR+)
 - c. Fire retardant clothing (Nomex or equal)
 - d. Safety Glasses (Z87+)
 - e. Gloves (leather or equal)
 - f. Shoes or Boots (substantial leather or equal w/heels- no open toes)

Course Objectives

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

1. Identify various types of fasteners common to industrial maintenance.
2. Identify and use precision measuring instruments.
3. Demonstrate proper lock-out/tag-out procedures.

Course Outline

1. Identify SAE, course and metric thread fasteners
 - a. Demo SAE threads
 - b. Demo Course threads
 - c. Demo Metric threads
2. Demo proper application of fasteners, washers, and nuts
 - a. Apply nuts w/o washers
 - b. Apply nuts w/ washers
3. Identify hand tools and proper safe use
 - a. Identify selected tools
 - b. Demo proper use
4. Identify power tools and proper safe use
 - a. Identify selected tools
 - b. Demo proper use
5. Identify measuring instruments
 - a. Identify selected measuring instruments
 - b. Explain when required
6. Demonstrate proper use of measuring instruments
 - a. Demo proper use
 - b. Demo proper care
7. Discuss proper Lockout/Tagout
 - a. Explain LO/TO

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- b. Explain need for LO/TO
- 8. View proper Lockout/Tagout videos
 - a. View videos
 - b. Discuss videos
- 9. Discuss hazards of shop without Lockout/Tagout
 - a. Electrical Hazards
 - b. Motion hazards
- 10. Demonstrate proper safety permitting techniques
 - a. Write a permit
 - b. Apply permit to work
- 11. Identify different types of fire extinguisher and discuss uses
 - a. Demo Extinguishers
 - b. Demo applications
- 12. Identify different types of Industrial clothing and discuss uses
 - a. ID Nomex
 - b. ID FRC
- 13. Discuss and Review ISTC Basic Plus Testing
 - a. Discuss test w/ students
 - b. Review test material
- 14. Encourage students to take the ISTC Test
 - a. Explain the need of ISTC to industry
 - b. Explain advantages of Certification
- 15. Demonstrate to students forklift inspection/operation
 - a. Perform a forklift inspection
 - b. Operate the forklift
- 16. Demonstrate to students the aerial lift inspection/operation
 - a. Perform an aerial lift inspection
 - b. Operate the aerial lift
- 17. Demonstrate to students carry deck inspection/operation
 - a. Perform a carry deck inspection
 - b. Operate the carry deck

Grade Scale

90 – 100	A
80 – 89	B
70 – 79	C
60 – 69	D
0 – 59	F

Course Evaluation

Final grades will be calculated according to the following criteria:

Activity	Percentage
Major test	75%
Class participation	25%
Total	100%

Course Requirements

1. **Students must attain NCCER Core certification to pass course.**
2. Understand Basic Safety Requirements of Industry
3. Competently complete simple math problems
4. Safely and competently use hand tools

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5. Safely and competently use power tools
6. Be able to read and understand Construction drawings
7. Safely use basic rigging of equipment
8. Use basic communication skills (verbal and written)
9. Participate in an interview for employment
10. Use various material handling devices

Attendance Policy:

1. Students in a 2 day class are allowed 2 unexcused absences.
2. An absence, excused or unexcused is counted 6 points off the final grade.
3. More than 2 unexcused absences can result in an “F” in the course.
4. Being tardy 3 times equals 1 absence. (2 pts. each)
5. Students in a 1 day class are allowed 1 unexcused absence (12 points off the final grade)

Course Policies

Students must possess and present LIT ID to attend class.

1. Students are required to show Student ID to enter and remain in class.
2. No food, drinks, or use of tobacco products in class or lab.
3. No foul or harsh language will be tolerated in class or lab.
4. Turn off all Cell Phones during lectures.
5. Headphones may be worn only upon Instructor approval.
6. Do not bring children to class.
7. No Cheating of any kind will be tolerated. Students caught cheating or helping someone to cheat can and will be removed from the class for the semester. Cheating can result in expulsion from LIT.
8. If you wish to drop a course, the student is 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.
9. Proper Dress. **Any intentional display of undergarments will not be tolerated and can result in the student being removed from the class. Pants will be worn belted at the waist as to allow the student to walk, climb, stoop and bend as required.** It is the student’s responsibility to dress for work as if in an industrial environment, long pants, shirts with sleeves, substantial footwear (full leather shoes or boots with heels, composition oil resistant soles, no sandals, flip flops, cloth shoes). Safety glasses and hard hats will be necessary as the class requires. **Students will be required to be clean shaven to be able to achieve a seal in respirators and fresh air packs.**

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10. Internet Usage

- a. Classroom computers have access to the internet.
- b. Student usage of the internet will be monitored.
- c. Proper usage of the internet will be allowed. Used for classroom research or as directed.
- d. Any unauthorized use of the internet will not be tolerated.
- e. Improper usage of the internet, such as profanity, pornography, gambling, etc... will result in disciplinary action not limited to expulsion from LIT.

Disabilities Statement

The Americans with Disabilities Act of 1992 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. Among other things, these statutes require that all students with documented disabilities be guaranteed a learning environment that provides for reasonable accommodations for their disabilities. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409) 880-1737 or visit the office in Student Services, Cecil Beeson Building.

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 or obtained in print upon request at the Student Services Office.

Course Schedule

Week	Topic	Reference
1	Basic Safety <ul style="list-style-type: none">• Lecture• Lab: Practice	Chapter 1
2	Basic Safety <ul style="list-style-type: none">• Lecture• Lab: Practice	Chapter 1
3/4	Introduction to Construction Math <ul style="list-style-type: none">• Lecture• Lab: Practice	Chapter 2
5/6	Introduction to Hand Tools <ul style="list-style-type: none">• Lecture• Lab: Practice	Chapter 3
7/8	Introduction to Power Tools <ul style="list-style-type: none">• Lecture• Lab: Practice	Chapter 4

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9/10	Introduction to Construction Drawings	Chapter 5
	<ul style="list-style-type: none">• Lecture• Lab: Practice	
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11/12	Basic Rigging	Chapter 6
	<ul style="list-style-type: none">• Lecture• Lab: Practice	
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13	Basic Communication Skills	Chapter 7
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14	Basic Employability Skills	Chapter 8
	<ul style="list-style-type: none">• Lecture• Lab Practice	
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15/16	Introduction to Materials Handling	Chapter 9
	<ul style="list-style-type: none">• Lecture• Lab Practice	
