

## Basic Lathe (MCHN 1408)



**Credit:** 4 semester credit hours (1 hours lecture, 18 hours lab)

### Prerequisite/Co-requisite:

### Course Description:

An introduction to the common types of lathes. Emphasis on basic parts, nomenclature, lathe operations, safety, machine mathematics, blueprint reading, and theory

### Required Textbook and Materials:

1. *Machine Tool Practices* by Kibbe, Neely, Mayer and White, 9th edition

ISBN number is 978 0-13-501508-7; 0-13-501508-1

1. Equipment to be furnished by students: Required at instructor discretion.
  - a. Safety Glasses (Z 87+)
  - b. Long pants and short sleeve shirt
  - c. 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 engine lathe components.
2. List safety procedures.
3. Identify machine accessories.
4. Identify types of lathes.
5. Use formulas to calculate speeds and feeds.
6. Set up basic lathe operations
7. Perform metal removing operations such as turning, facing, drilling, grooving, turning between center, and threading. Perform basic machine maintenance.

### Course Outline

- |   |   |
|---|---|
| A. Safety                                 | a. Identify the Machinist's Layout tools    |
| a. Discuss Safety in Lab                  | b. Demo how to use the tools                |
| b. Discuss Safety when using the machines | D. Hand                                     |
| c. Discuss proper clothing                | a. Identify the Machinist's hand tools      |
| d. Discuss proper PPE                     | b. Demo how to safely use the tools         |
| B. Engine Lathe                           | E. Precision tools                          |
| a. Identify the Engine Lathe              | a. Identify the Machinist's Precision tools |
| b. Discuss it's uses                      | b. Demo how to use the tools                |
| C. Layout and transfer measuring tools    |   |

MCHN 1408  
Course Syllabus

F. Pedestal Grinder

- a. Identify the pedestal grinder
- b. Demo how to safely use the grinder
- c. Discuss the proper PPE to wear when grinding

G. Blueprint Reading

- a. Discuss the uses of Blueprints
- b. View blueprints in class
- c. Draw up prints per instruction
- d. Work a project from a Blueprint

**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%
<b>Total</b>	<b>100%</b>

**Course Requirements**

1. Introduction to Machine Shop Safety
2. Identify Hand Tools
3. Learn to do Dimensional measurement
4. Identify and select materials
5. Be able to perform layout
6. Make preparation for Machining operations
7. Operate sawing, drilling, turning machines, vertical and horizontal milling machines

### **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 online resource:

<http://www.lit.edu/depts/stuserv/special/defaults.aspx>

### **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](http://www.lit.edu) or obtained in print upon request at the Student Services Office.

### **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.



### Course Schedule

<b>Week</b>	<b>Topic</b>	<b>Reference</b>
1	Course introduction and policies <ul style="list-style-type: none"><li>• Lecture</li><li>• Lab: Practice</li></ul>	Handouts
2	Introduction to Machine Tool Practices <ul style="list-style-type: none"><li>• Lecture</li><li>• Lab: Practice</li></ul>	Section A
3/4	Identification of Hand Tools <ul style="list-style-type: none"><li>• Lecture</li><li>• Lab: Practice with tools</li></ul>	Section B
5/6	Dimensional Measurements <ul style="list-style-type: none"><li>• Lecture</li><li>• Lab: Practice</li></ul>	Section C
7/8	Material Selection and Identification <ul style="list-style-type: none"><li>• Lecture</li><li>• Lab: Practice</li></ul>	Section D
9/10	Perform Layout <ul style="list-style-type: none"><li>• Lecture</li><li>• Lab: Practice</li></ul>	Section E
11/12	Preparation for Machining Operations <ul style="list-style-type: none"><li>• Lecture</li><li>• Lab: Practice</li></ul>	Section F
13/14/15/16	Operating Mills, saws, drilling machines <ul style="list-style-type: none"><li>• Lecture</li><li>• Lab: As Assigned</li></ul>	Section G-K