

Manual Machining

EDDT - 1500 001

Course Description

Basic machine shop theory including: safety, setup and operation of lathes and mills, machine and tool performance, metrology, process planning, interpretation of engineering drawings, and an introduction to CNC equipment. Lab experience is included.

Semester(s) Taught: Fall, Spring

Course Student Learning Outcomes

- Learn and demonstrate industrial safety specific to the machine shop environment.
- Develop part design improvements that would improve the manufacturability of an existing design.
- Determine the most economical steps to produce parts manufactured in the machine shop.
- Use SPC to determine the stability of a process.
- Properly select and use metrology equipment found in a machine shop environment.
- Correctly operate manual lathes and mills.
- Use proper machine shop terminology.
- Calculate the cost of parts built in the machine shop.

College Wide Student Learning Outcomes

- Students communicate effectively

- Students think critically.
- Students develop quantitative literacies necessary for their chosen field of study.
- Students express themselves creatively.
- Students develop the knowledge and skills to work with others in a professional and constructive manner.
- Students develop information literacy.
- Students develop computer literacy.
- Students develop civic literacy and the capacity to be community-engaged learners who act in mutually beneficial ways with community partners.

Course Prerequisites

None

Engagement Plan

All written communication between student and instructor *must* be done thru Canvas; I will not respond to messages sent to my direct email address.

I will respond to Canvas messages within one class period.

Provide timely notification any time you will miss class.

Turn on Canvas notifications to receive timely information from me.

Keys for Success (how to succeed in the course)

Arrive on time to each class meeting.

Don't hesitate to ask when you need clarification or would like additional information on a topic.

Carefully observe lab demonstrations.

Complete each assignment or lab to the best of your ability, even if you know it will not be perfect.

Learn from any mistakes made (yours or others') and adjust your approach to avoid repeating them.

Turn in assignments on time.

Required Text or Materials

Title: No text is required for this course.

For more information on textbook accessibility, contact Accessibility & Disability Services at ads@slcc.edu.

Brief Description of Assignments/Exams

Grades will be determined by student performance on 7 Canvas competency assignments (usually assigned first meeting every other week), 14 lab assignments (second meeting of each week), and a final reflective paper. This reflective paper is akin to a comprehensive final exam for the course.

Assignment Schedule

Due Date	Assignment Name	Assignment Type	Points
	C'drills & Chamfers	Assignment	25
	Drilling Holes	Assignment	25
	Facing on the Lathe	Assignment	25

Due Date	Assignment Name	Assignment Type	Points
	Introduce Yourself	Discussion	0
	Introduce Yourself	Discussion	0
	Introduce Yourself	Discussion	0
	Large Bushings	Assignment	25
	Large Gear	Assignment	25
	Lower Gear Shaft	Assignment	25
	Milling Gear Teeth	Assignment	25
	Milling Pockets	Assignment	25
	Practice Diameters	Assignment	25
	Roll Call Attendance	Assignment	100
	Safety Quiz #1	Quiz	1
	Small Bushings	Assignment	25
	Squaring on the Mill	Assignment	25
	Upper Gear Shaft	Assignment	25

Grading Scale

Students must achieve a C or better on all aspects of each assignment to receive credit for the course. Attitude and participation will also be factored into the final grade. Scores will be weighted, added, averaged, and rounded to the nearest full percentage point with the final course grade as follows:

Letter Grade Range

A	100%to94%
A-	< 94%to90%

B+	< 90%to87%
B	< 87%to84%
B-	< 84%to80%
C+	< 80%to77%
C	< 77%to74%
C-	< 74%to70%
D+	< 70%to67%
D	< 67%to64%
D-	< 64%to60%
E	< 60%to0%

How to Navigate to Canvas

Institutional Policies

As members of our academic community, we would like to invite you to review the Institutional Syllabus which covers important policies and procedures. This document contains important links for students on the code of student rights and responsibilities, academic integrity, and grading policies, Title IX and other important acknowledgements. By familiarizing yourself with this information, you can help us create a safe and respectful environment for everyone.

For more information, navigate to the Institutional Policies tab on the [Institutional Syllabus](#) page.

Learning Support and Tutoring Services

We are pleased to offer a range of tutoring and learning support services to help you achieve your academic goals. Whether you need assistance with a specific subject or want to improve your study skills, you have many options for tutoring or other support.

To learn more about the services we offer and how to access them, visit the [Institutional Syllabus](#) page under the Tutoring and Learning Support tab. We encourage you to take

advantage of these resources to help you succeed in your studies. If you have any questions or would like to schedule a tutoring session, please don't hesitate to reach out to us. We are here to support you in any way we can.

Advising and Counseling Support Services

At our institution, we are committed to supporting your academic and personal growth. That's why we offer a range of advising and counseling services to help you navigate the challenges of college life. To learn more about the resources available to you and how to access them, visit the [Institutional Syllabus](#) page under the Advising and Counseling Support Services tab. Our advising team and the support centers across campus are here to support you in achieving your goals and overcoming any obstacles you may face.

Student Academic Calendar

As students you should be aware of all important dates in the semester, such as the day that courses begin and end, as well as the drop date and the last day to withdraw. To learn more about those dates, navigate to the Student Academic Calendar below:

[SLCC Student Academic Calendar](#)

Additional Policies

Due to the nature of the machinery involved, serious injury or death may result if safety rules are not observed. Therefore, students who violate critical safety rules will be summarily removed from the course without additional warning.