

MACH-100: MACHINE SHOP PRACTICE

Effective Term

Fall 2026

CC Approval

10/03/2025

AS Approval

10/09/2025

BOT Approval

10/16/2025

SECTION A - Course Data Elements

Send Workflow to Initiator

No

CB04 Credit Status

Credit - Degree Applicable

Discipline

Minimum Qualifications	And/Or
Machine Tool Technology (Tool and die making) (Any Degree and Professional Experience)	

Subject Code

MACH - Machine Tool Technology

Course Number

100

Department

Machine Tool Technology

Division

Career Education and Workforce Development (CEWD)

Full Course Title

Machine Shop Practice

Short Title

Machine Shop Practice

CB03 TOP Code

0956.30 - *Machining and Machine Tools

CB08 Basic Skills Status

NBS - Not Basic Skills

CB09 SAM Code

D - Possibly Occupational

Rationale

The SLOs were revised to streamline outcomes, eliminate redundancy, and ensure alignment with current industry standards and measurable skills for student success.

SECTION B - Course Description

Catalog Course Description

This is a basic course in machine tool technology that satisfies the degree requirement for Welding and DDGT. This course develops skills in the use of precision measuring instruments and provides students with an overview of the operations of the lathe, drill press, vertical milling machine, horizontal milling machine, and surface grinder.

SECTION C - Conditions on Enrollment

Open Entry/Open Exit

No

Repeatability

Not Repeatable

Grading Options

Letter Grade or Pass/No Pass

Allow Audit

Yes

Requisites

SECTION D - Course Standards

Is this course variable unit?

No

Units

3.00

Lecture Hours

36.00

Lab Hours

54.00

Outside of Class Hours

72

Total Contact Hours

90

Total Student Hours

162

Distance Education Approval

Is this course offered through Distance Education?

No

SECTION E - Course Content

Student Learning Outcomes

Upon satisfactory completion of the course, students will be able to:

1. Demonstrate safe work practices and proper use of hand tools and basic machine tools (lathe, mill, drill press, grinder) in a manufacturing environment.
2. Accurately measure and inspect machined parts using precision measuring instruments and basic calculations.

Course Objectives

Upon satisfactory completion of the course, students will be able to:

1. Accurately use scale and precision measurement instruments.
2. Interpret a drawing or sketch and devise a manufacturing process.
3. Select from different tools and tooling for manufacturing a part.
4. Use safe work practices with various machine tools.

Course Content

1. Safety in a manufacturing environment
2. Dimensional measurement
3. Semi-precision instruments
4. Layout tools and procedures
5. Hand Tools
6. Turning machines
7. Milling machines
8. Surface grinders
9. Drilling machines
10. Heat-treating steel

Methods of Instruction

Methods of Instruction

Types	Examples of learning activities
Lab	Instructor will lecture in the lab on shop safety and demonstrate safe operation of machine tools. Instructor will demonstrate applicable machining techniques for the safe and accurate completion of projects.
Lecture	Instructor will lecture from course textbooks, from videos and other media, and will lecture from personal experience. Instructor will lecture on order of operations for manufacture of projects.
Projects	Students will work independently in the lab on completion of projects under instructor supervision and guidance.

Methods of Evaluation

Methods of Evaluation

Types	Examples of classroom assessments
Quizzes	Students will take weekly quizzes covering lectures and assigned reading. Quizzes will consist of identification and multiple-choice questions.
Projects	Students will be required to complete four individual lab assignments. Example: Lab assignment #1, machining of a chucking center.
Exams/Tests	Final Exam Students will be required to complete a written final examination consisting of multiple choice and identification questions. Mid Term Students will be required to complete a written midterm examination consisting of multiple choice and identification questions.

Assignments

Reading Assignments

1. Students will be required to read assigned work from the textbook prior to lectures and weekly quizzes.
Example: section on lathe operations and controls, "Machine Tool Practices", Kibbe, et al., textbook.
2. Students will be required to read the textbook and furnished lab drawings to complete assigned lab projects.
Example: lab assignment #1, machining of a chucking center.

Writing Assignments

1. Students will be required to read assigned work from the textbook to prepare for lectures, weekly quizzes, and to solve problems in preparation for lab assignments.
Example: section on lathe operations and controls, "Machine Tool Practices", Kibbe, et al., textbook.
2. The students will complete a written midterm and final examination.
Example: a midterm and a final exam consisting of multiple choice and identification questions.
3. The students will complete weekly written quizzes covering lectures and reading assignments.

Example: quizzes consisting of identification and multiple choice questions.

SECTION F - Textbooks and Instructional Materials

Material Type

Textbook

Author

Kibbe, Neely, Meyer, & White

Title

Machine Tool Practice

Edition/Version

11th

Publisher

Prentice-Hall

Year

2019

SECTION G - Diversity, Equity and Inclusivity

How does your course and/or course outline of record reflect strategies for accommodating and engaging diverse student populations, advancing equitable outcomes, and fostering inclusion for all students?

This course incorporates multiple teaching strategies—visual demonstrations, step-by-step guidance, and hands-on practice—to support diverse learning styles and language proficiencies. Safety and foundational skills are taught through inclusive group activities that encourage peer-to-peer learning. Students are provided with clear instructions, accessible lab materials, and opportunities for repeated practice to ensure equitable skill development.

Course Codes (Admin Only)

CB00 State ID

CCC000315741

CB10 Cooperative Work Experience Status

N - Is Not Part of a Cooperative Work Experience Education Program

CB11 Course Classification Status

Y - Credit Course

CB13 Special Class Status

N - The Course is Not an Approved Special Class

CB23 Funding Agency Category

Y - Not Applicable (Funding Not Used)

CB24 Program Course Status

Program Applicable

Allow Pass/No Pass

Yes

Only Pass/No Pass

No