CIM 1206  Machine Tool Theory II

Common Course Outline

Course Information

Description
In this course, students will continue developing their understanding of machining and use of tools. Their skills are more fully developed in terms of lathe, milling, grinding, and drill press. Hands-on experience and practical application opportunities allow students to increase proficiency with machine tools. (Prerequisite: CIM 1106 - Machine Tool Theory I)

Total Credits 2.00
Total Hours 48.00

Types of Instruction

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Pre/Corequisites
Prerequisite CIM 1106 - Machine Tool Theory I

Institutional Core Competencies

Analysis and inquiry: Students will demonstrate an ability to analyze information from multiple sources and to raise pertinent questions regarding that information.

Critical and creative thinking: Students will develop the disposition and skills to strategize, gather, organize, create, refine, analyze, and evaluate the credibility of relevant information and ideas.

Foundations and skills for lifelong learning: Students will display an understanding of learning as a lifelong process through demonstration of a desire to learn, the willingness to apply learning to other areas of their lives, the ability to think and act independently, be willing to take the initiative to get projects done, and demonstrate the ability to reflect upon what has occurred and how it impacts the student and others.

Teamwork and problem-solving: Students will demonstrate the ability to work together cohesively with diverse groups of persons, including working as a group to resolve any issues that arise.

Course Competencies

1. Exhibit safe practices in the shop.

   Learning Objectives
   Demonstrate use of Personal Protective Equipment (PPE).
   Adapt PPE as needed.
Explain OSHA guidelines and apply to shop situations.

2 Explain major machine tools.
Learning Objectives
Discuss the different uses for machines.
Differentiate hand tools.
Identify proper use for lathe, mill, drills, and tools.

3 Use semi-precision measurement tools.
Learning Objectives
Incorporate measurement terms into use.
Demonstrate use of calipers.
Use adjustable squares correctly.
Apply angular measurements.
Demonstrate fixed gage applications.

4 Apply layout fundamentals.
Learning Objectives
Explain key layout terms.
Use layout fluid as necessary.
Demonstrate dye remover technique.

5 Demonstrate semi-precision layout.
Learning Objectives
Explain semi-precision layout.
Use scriber.
Demonstrate layout and angle layout with a combination set.
Use center punches and other hand tools.

6 Demonstrate precision layout.
Learning Objectives
Use height gage as needed.
Demonstrate the use of the precision angular and vernier bevel protractor.
Use sine tools.

7 Demonstrate clamping and workholding skills.
Learning Objectives
Differentiate between C-clamp, parallel clamp, and hinged clamp.
Select appropriate clamp or workholding for a given task.
Use clamps and workholding fixtures.

SCC Accessibility Statement
If you have a disability and need accommodations to participate in the course activities, please contact your instructor as soon as possible. This information will be made available in an alternative format, such as Braille, large print, or cassette tape, upon request. If you wish to contact the college ADA Coordinator, call that office at 507-389-7222.

Disabilities page [http://southcentral.edu/academic-policies/disability-rights.html](http://southcentral.edu/academic-policies/disability-rights.html)