South Central College

CIM 2108  Applications II

Common Course Outline

Course Information

Description
This course provides students with continuing opportunities to work on applying their skills, building on what was learned in the previous Applications course. Additional material is also introduced; topics include machining with carbide, producing heat treated parts and basic surface grinding. This is a variable credit course. If the Internship (CIM 1107) was completed, only 2 credits of this course are required for CIM students. If the Internship was not completed, all 4 credits are required. (Prerequisites: CIM 1208 - Applications I)

Total Credits 4.00
Total Hours 128.00

Types of Instruction

<table>
<thead>
<tr>
<th>Instruction Type</th>
<th>Credits/Hours</th>
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<tbody>
<tr>
<td>Lab</td>
<td>2-4/64-128</td>
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Pre/Corequisites

Prerequisite CIM 1208 - Applications 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.

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.

Written and oral communication: Students will communicate effectively in a range of social, academic, and professional contexts using a variety of means, including written, oral, numeric/quantitative, graphic, and visual modes of communication.

Course Competencies

1. Exhibit lab safety.

   Learning Objectives
   Illustrate proper dress code and eye glasses.
   Demonstrate shop clean-up.

2. Apply heat treat methods.
Learning Objectives
Explain hardening work piece.
Explain tempering work piece.

3 Demonstrate grinding procedures.
   Learning Objectives
   Use angle plate.
   Use honing stones.

4 Grind perpendicular to +or- .0005.
   Learning Objectives
   Grind feature to print.
   Use precision vice.

5 Demonstrate the ability to meet deadlines.
   Learning Objectives
   Illustrate employable attendance habits.
   Illustrate employable punctuality habits.

6 Identify general purpose turning tools.
   Learning Objectives
   Use high speed tooling.
   Use carbide insert tooling.

7 Explain milling process and procedures.
   Learning Objectives
   Describe milling steps to +or- .005.
   Describe milling angles to +or- 1 degree.

8 Explain lathe processes and procedures.
   Learning Objectives
   Describe boring internal diameters to +or- .0005.
   Describe turning between centers to +or- .003.

9 Describe quench mediums.
   Learning Objectives
   Use oil quenching material.
   Use air hardening material.

10 Demonstrate Layout.
    Learning Objectives
    Setup basic semi-precision layout.
    Setup basic precision layout.
    Demonstrate layout procedure.

11 Describe mechanical hardware.
    Learning Objectives
    Identify thread and threaded fasteners.
    Demonstrate the application of common mechanical hardware.
    Explain Metric and English thread format.

12 Use measurement tools.
    Learning Objectives
    Demonstrate the use of Surface Plates.
    Use scribers and dividers.
    Demonstrate layout with center punch.
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)