South Central College

CIM 1105 Surface Grinding I

Common Course Outline

Course Information

Description  This course is an introductory to the grinding process as it pertains to machining. This includes an understanding of using pedestal grinders and an introduction to surface grinding. Fundamentals of grinding, such as appropriate wheel identification and use, will be addressed. Proper set-up, operation, and safety of the bench and basic surface grinders will be introduced in a lab setting. (Prerequisites: Declare CIM as a major)

Total Credits  2.00
Total Hours  64.00

Types of Instruction

Instruction Type Credits/Hours
Lab  2/64

Pre/Corequisites

Prerequisite Declare CIM as a major.

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.

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.

Course Competencies

1  Identify pedestal grinder parts.
   Learning Objectives
   Label basic components of the pedestal grinder.
   Identify major safety components of the pedestal grinder.

2  Identify surface grinder parts.
   Learning Objectives
   Label basic components of the surface grinder.
   Identify safety features and guards on the surface grinder.
3 Identify wheel composition.
   Learning Objectives
   Read wheel label identification from blotter.
   Identify max recommended RPM from blotter.
   Name major wheel composition.

4 Dress wheels properly.
   Learning Objectives
   Use diamond to dress surface grinder wheels.
   Use dresser to dress pedestal grinder wheels.

5 Grind tools.
   Learning Objectives
   Grind drill bits.
   Grind high speed steel lathe tools.

6 Install grinding wheel.
   Learning Objectives
   Ring wheel.
   Inspect wheel for defects.

7 Grind parts on surface grinder within a tolerance of +/- .001".
   Learning Objectives
   Touch wheel off on part.
   Cut appropriate depths per pass.

8 Discern surface finish problems.
   Learning Objectives
   Identify a loaded wheel.
   Identify burn marks.

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