South Central College

CIM 2107  Quality Process and Inspection

Common Course Outline

Course Information

Description  This course provides an overview of measurement systems, machine tool math, and quality control. Students will have opportunities to inspect the quality of final products and focus on implementing quality assurance procedures. (Prerequisite: CIM 1208 - Applications I)

Total Credits  2.00
Total Hours  48.00

Types of Instruction

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<td>Lecture</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.

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  Utilize measurement systems and machine tool math.

   Learning Objectives
   Explain the English and Metric systems.
   Apply fractional operations.
   Use basic geometry, trigonometry, and ratios.
   Demonstrate fractional/decimal conversions.
   Explain numbering system found on prints (tenths, millionths, etc).
2 Use semi-precision measurement tools.
   Learning Objectives
   Identify key measurement terms.
   Demonstrate use of calipers.
   Use adjustable squares.
   Apply angular measurements.
   Demonstrate fixed gage applications.

3 Use precision measurement tools.
   Learning Objectives
   Explain the concept of precision measurement.
   Utilize micrometers.
   Use precision fixed gages.
   Demonstrate surface plates.

4 Identify special measuring tools.
   Learning Objectives
   Identify a coordinate measuring machine.
   Define optical comparator operation.
   Explain the toolmaker's microscope.

5 Explain specific concepts in quality assurance.
   Learning Objectives
   Define mean.
   Develop histogram.
   Show meaning of standard deviation.

6 Describe control and how it is used in quality process.
   Learning Objectives
   Acquire a test sample.
   Explain what 'sample population' is and how it is utilized.

7 Define types of errors.
   Learning Objectives
   Explain random errors.
   Describe systematic errors.
   Identify causes of errors.

8 Identify steps for keeping quality records.
   Learning Objectives
   Develop a quality record system.
   Investigate continuous improvement methods.
   Manage the quality assurance program.

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