

MFG 133 : QUALITY ASSURANCE

Transcript title

Quality Assurance

Required materials

Requires textbook and special gear, see syllabus for details.

Credits

3

Grading mode

Standard letter grades

Total contact hours

70

Lecture hours

10

Lab hours

60

Prerequisites

instructor approval.

Recommended preparation

MFG 100.

Course Description

Presents key quality control concepts, including precision and semi-precision measuring, digital measuring tool operations, measuring practice using digital gauges, micrometers, depth gauge and height gauge measuring tools. Introduces statistical process control and pneumatic gauging topics.

Course learning outcomes

1. Identify and expand on a variety of Quality Assurance processes and equipment including both digital and mechanical tools.
2. Explain the basics of metrology and statistical process control.
3. Use specialized testing equipment to measure the mechanical properties of various materials.
4. Utilize precision measuring equipment to verify and record geometric dimensions.

Content outline

1. Semi-Precision Measurements
2. Precision Measurements
3. Precision Calibration
4. Part Measuring and Documentation
5. Introduction to Statistical Process Control
6. Introduction to Sine Bars and Gauge Blocks
7. Introduction to Hardness Testing
8. Introduction to Tensile Strength Testing
9. Introduction to Optical Comparator
10. Introduction to Coordinate Measuring Machine