



**HOUSATONIC  
COMMUNITY COLLEGE**

*Advanced Manufacturing  
Technology Center*

**Course Title: Metrology**

**Course Number: MFG 120**

**Credits: 3**

Course Description: Metrology provides the student with an introduction to the construction and usage of inspection tools as well as a comprehensive set of hands on exercises when these tools will be utilized to discover the dimensional characteristics of a variety of sample parts.

Course Objectives: At the conclusion of this course students will be able to...

- **Demonstrate an ability to apply the basic measuring tools to a variety of sample parts and produce an inspection report.**
- **Demonstrate an ability to understand and use direct measuring tools and comparison measuring tools.**
- **Demonstrate an ability to understand and use standards of length and form.**
- **Demonstrate an ability to use comparison tools in conjunction with inspection accessories and standards to obtain measurements of features on a variety of parts.**
- **Demonstrate an understanding of geometric feature control symbols on engineering drawings.**

Course Content: Students will learn to work with...

- **History, Principles, Variety of Tools and Measuring Systems**
- **Steel Rule**
- **Vernier, Dial and Digital Instruments**
- **Micrometer Instruments**
- **The Precision Height Stand**
- **Dial Bore Gage**
- **Standards of Length and Form: The Surface Plate, Right angle Block and Gage Blocks**
- **Measure the Almost Right Angle**
- **Setting a Snap Gage with Gage Blocks**
- **Parallelism and Perpendicularity**
- **Measuring an Angle with the Sine Bar**
- **Measuring the location of a Hole**
- **Gage R&R with Micrometers**