

IE-352

Section 1, CRN: 5022/5030/5041

Section 2, CRN: 32997/32999/32998

Second Semester 1433-34 H (Spring-2013) – 4(4,1,1)

MANUFACTURING PROCESSES – 2

Machining Measurements Guide**Click on the linked titles to access the exercise page.****1. Steel rule.**

- a. **mm** (1 mm accuracy); [self-assessment](#); [exercises](#)
- b. **in.** (0.1" accuracy); [self-assessment](#); [exercises](#)
- c. **in.** ($\frac{1}{16}$ " accuracy); [self-assessment](#); [exercises](#)

2. Vernier scale.

- a. **in.** (0.001" accuracy); [self-assessment](#); [exercises](#)
- b. **in.** ($\frac{1}{128}$ " accuracy); [self-assessment](#)
- c. **mm** (0.1 mm accuracy); [self-assessment](#)

3. Vernier caliper.

- a. **mm** (0.05 mm accuracy); [self-assessment](#); [exercises](#)
- b. **mm** (0.02 mm accuracy); [self-assessment](#); [exercises](#)
- c. **in.** (0.001" accuracy); [simulator](#); [exercises](#)
- d. **in.** ($\frac{1}{128}$ " accuracy); [simulator](#); [simulator2](#); [self-assessment](#); [exercises](#)
- e. [Parts of a vernier caliper](#)

4. Dial caliper.

- a. **in.** ($\frac{1}{128}$ " accuracy)
- b. **mm** (0.01 mm accuracy)
- c. **in.** (0.001" accuracy)

5. Outside micrometer.

- a. **in.** (0.001" accuracy); [self-assessment](#); [exercises](#)
- b. **in.** (0.0001" accuracy); [self-assessment](#); [exercises](#)
- c. **mm** (0.01 mm accuracy); [self-assessment](#); [exercises](#)
- d. **mm** (0.001 mm accuracy); [self-assessment](#); [exercises](#)
- e. [Parts of a micrometer](#)

6. Inside micrometer (0.01 mm accuracy)**7. Depth micrometer** (0.01 mm accuracy)

8. Dial Indicator.

- a. **in.** (0.001" accuracy); [exercises](#) (mm or in.)
- b. **mm** (0.01 mm accuracy); [exercises](#) (mm or in.)

9. Measuring angles.

- a. **Goniometer** (1° accuracy); [self-assessment](#)
- b. **Goniometer** (5' accuracy); [simulator](#) (5' accuracy)
- c. **Goniometer** (1' accuracy); [self-assessment](#) (5' accuracy)

10. Conversion (fractional in. to in. and mm); [self-assessment](#)

- a. mm to in. and fractional in.; [exercises](#)
- b. in. to mm and fractional in.; [exercises](#)

Source: Prof. Eduardo J. Stefanelli. <http://www.stefanelli.eng.br/>. Last Accessed: Feb 19, 2013.

See also:

- Ron Blond (various Vernier Calipers, Micrometers).
<http://members.shaw.ca/ron.blond/index.html>
- Simulation (Vernier Calipers: 0.1 mm).
<http://www.physics.smu.edu/~scalise/apparatus/caliper/tutorial/simulation.html>