AGE-1320
Section 1, CRN: 320/321/378
Section 2, CRN: 379/381/380

First Semester 1447 H (Fall 2025) – 2(1,1,2)
"Introduction to Manufacturing"

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; self-assessment; 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; self-assessment
    c. **Goniometer** (1' 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: Sep. 13, 2025.

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