

# Course Objectives/Course Outline

## Spokane Community College

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**Course Title:** Applied Tolerances & GD&T

**Prefix and Course Number:** CAD 251

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### Course Learning Outcomes:

By the end of this course, a student should be able to:

- Calculate and assign standard linear tolerances on mechanical drawings
- Apply design tolerances for location, size, and fits in drawings
- Apply Geometric Dimensioning and Tolerancing on mechanical drawings
- Operate basic precision measuring instruments to check tolerances

### Course Outline:

- I. Precision and Tolerance Methods - Linear
  - A. General Tolerances and Tolerance Blocks on Drawings
  - B. Bolt Clearance Calculations
  - C. Machinery's Handbook Fit Classifications
  - D. Tolerance Build-ups
- II. Calculating Tolerances
  - A. Calculate for Allowance, Fits, Slop, MMC, and LMC
  - B. Measure fabricated parts to meet tolerance requirements
- III. Geometric Dimensioning and Tolerancing
  - A. ANSI Y14.5 Specifications
  - B. Design Characteristics of GD&T Symbols and Modifiers
  - C. Proper GD&T Application to Engineering Drawings