Course Objectives/Course Outline
Spokane Community College

Course Title: Applied Tolerances & GD&T
Prefix and Course Number: CAD 251

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