

SYLLABUS
PART I
EDISON COMMUNITY COLLEGE
MET 236S GEOMETRIC DIMENSIONING AND TOLERANCING
2 CREDIT HOURS

COURSE DESCRIPTION

Advanced concepts in documenting mechanical designs, involving the principles of geometric dimensioning and tolerancing (GD&T) per ANSI/ASME Y14.5M - 1994. Datum reference frames, form, orientation, position tolerances, functional gages, and tolerance calculations. Prerequisite: EGR 111S.

COURSE GOALS

The student will:

1. Describe the need for Geometric Dimensioning and Tolerancing and its application in the design of components.
2. Identify the basic rules of dimensioning and tolerancing per ANSI Y14.5M.
3. Describe datums, datum reference frames, and their application.
4. Calculate and apply tolerances of form, orientation, and position as a way to ensure design integrity and interchangeability.
5. Describe inspection techniques for geometric tolerances.
6. Design fixed gages for inspection of geometric tolerances.

CORE VALUES

The Core Values are a set of principles which guide in creating educational programs and environments at Edison. They include communication, ethics, critical thinking, human diversity, inquiry/respect for learning, and interpersonal skills/teamwork. The goals, objectives, and activities in this course will introduce/reinforce these Core Values whenever appropriate.

TOPIC OUTLINE

1. The need for GD&T
2. Symbolology
3. General ANSI/AMSE Y14.5M requirements
4. The three rules of GD&T
5. Datums and datum reference frames
6. Form tolerances
7. Orientation tolerances
8. Position tolerances
9. Inspection gage design
10. Paper gaging
11. Runout and profile tolerances