SYLLABUS
PART I
EDISON COMMUNITY COLLEGE
MET 125S APPLIED ENGINEERING STATICS
3 CREDIT HOURS

COURSE DESCRIPTION
Non-calculus based study of forces and force systems on rigid bodies at rest by analytical methods. Topics include forces, moments, equilibrium, centroids and moments of inertia. Applications include beams, trusses, and machine components. Prerequisite: MTH 122S and MTH 123S. Co-requisite: PHY 121S.

COURSE GOALS
The student will:

Bloom's Level			Program Outcomes
2	1.	Visualize force analysis and calculate force components and resultants of forces.	2
3	2.	Calculate moments.	2
2	3.	Explain the principle of equilibrium.	2
3	4.	Calculate support reactions.	2
2	5.	Sketch free-body diagrams of force systems.	2
3	6.	Apply the above concepts to calculate unknown forces in various types of force systems.	2
3	7.	Apply analytical methods for finding forces in trusses, cables, and other support members.	2
3	8.	Calculate static friction forces.	2
3	9.	Calculate centroids and moments of inertia of both simple and composite areas.	2
3	10.	Calculate forces resulting from hydrostatic pressures, buoyancy forces.	2

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. Introduction to Statics
2. Forces, Vectors, and Resultants
3. Moments and Couples
4. Equilibrium
5. Structures and Members
6. Three-Dimensional Equilibrium
7. Friction
8. Centroids and Center of Gravity
9. Moment of Inertia