SYLLABUS
PART I
EDISON STATE COMMUNITY COLLEGE
EGR 135S MECHANICAL SYSTEMS
2 CREDIT HOURS

COURSE DESCRIPTION

Examines mechanical systems used in industrial applications. Applications of bearings, gears, belts and pulleys, chains and sprockets, couplings, clutches and brakes are examined. Proper lubrication and safe rigging practices are also discussed.

COURSE GOALS

The student will:

Bloom's Level		Program Outcomes
1	1. Select proper fasteners for specific applications.	1,2
3	2. Calculate forces and torques in mechanical systems.	1,2,3
2	3. Measure friction forces and the effects of lubrication.	1,2.3,4
4	4. Contrast the various types of bearings and their applications.	1,2,3,4.6
2	5. Compare the different types of belts and pulleys.	1,2,3,4
3	6. Align and tension a belt and pulley system.	1,2,3,4,6
2	7. Distinguish the various types of chain and sprocket systems.	1,2
3	8. Construct a simple chain and sprocket system.	1,2,3,4,6
2	9. Classify the various types of gears.	1,2
3	10. Calculate speed, torque, and gear ratios.	1,2,3,4,6
4	11. Design a simple gear mechanism.	1,2,3,4,6
1	12. Identify various types of couplings.	1,2,3
4	13. Install and align a coupling.	1,2,3,4,6
2	14. Distinguish different types of brake and clutch systems.	1,2,3
4	15. Rig and move a heavy piece of equipment safely.	1,2,3,4,6

CORE VALUES

The Core Values are a set of principles that 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. Fasteners
2. Basic Principles of Mechanical Systems
3. Lubrication
4. Bearings
5. Seals, Gaskets and Packing

6. Belt Drives
7. Chain Drives
8. Gears
9. Couplings
10. Clutches and Brakes
11. Rigging