

SYLLABUS
PART I
EDISON STATE COMMUNITY COLLEGE
MFG 251S DIE FUNDAMENTALS
2 CREDIT HOURS

COURSE DESCRIPTION

Fundamental theory and study of tool and die making, including punch press sizes and feeds for dies, and their uses and relationships to each other. Principles and processes used in sheet metal work, using stock-strip layouts, cutting and stripping pressures, and flat blank layouts.

Prerequisite: MFG-120S, MFG-114S, and MFG-234S; or instructor permission.

COURSE GOALS

The student will:

Bloom's Level		Program Outcomes
1	1. Identify the types of dies in manufacturing.	8
2	2. Demonstrate an understanding of the different forces affecting the forming of materials.	3, 8
3	3. Display a working knowledge of sequence of operations pertaining to die progression.	3, 7, 10
3	4. Demonstrate the ability to perform basic troubleshooting procedures in relation to die punching, piercing, and cutting procedures.	7
3	5. Show comprehensive knowledge of die parts and their respective inter-operability.	7, 9, 10

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. Basic Die Operations
2. Trouble Shooting Punching and Cutting Operations
3. Anti-Slug Pulling Methods
4. Die Shaving Operations
5. Cutting Force and Snap-through Reduction
6. Bending of Metals
7. Forming Flanges and Hems
8. Drawing and Stretching of Metals
9. Gas and Hydraulic Die Pressure Systems
10. Compound Dies
11. Stamping Analysis Techniques