

**SOUTHEAST COMMUNITY COLLEGE**  
**CONSTRUCTION MANUFACTURING AND TECHNOLOGY DIVISION**  
**Manufacturing Engineering Technology Program**  
**Revision Date: August 2025**

**I. CATALOG DESCRIPTION**

Course Number: MFGT1354  
Course Title: Part Design for Blanking Dies  
Prerequisite(s): MFGT1150, MFGT2559 and MFGT2680  
Catalog Description: Course devoted to the design of parts for shearing, blanking, piercing, cutoff, bending and forming dies. Study of the parts and components used in these dies. Punch presses and die sets are also covered.  
Credit Hours: 2  
Class Hours: 0  
Lab Hours: 90  
Total Contact Hours: 90

**II. COURSE OBJECTIVES:** *Course will:*

- A. Introduce the different parts and components of shearing, blanking, piercing, cutoff, bending, and forming dies and how to design them.
- B. Introduce steps used in part and die design.

**III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:**

- A. Student Learning Outcomes: *Student will be able to:*
  - 1. Become familiar with the various components used in shearing, blanking, piercing, cutoff, bending and forming dies.
  - 2. Understand the interaction of these various components.
  - 3. Apply this knowledge to the step-by-step design of a basic blanking and piercing die.
  - 4. Construct part and die drawings
- B. General Education Learning Outcomes (GELOs)
  - 1. GELO #3: Critical Thinking & Problem Solving  
Outcome 2: Synthesize information to arrive at reasoned solutions to problems.

**IV. CONTENT/TOPICAL OUTLINE** (*course outline may provide more detailed information*)

- A. Groups of Metal Stamping
- B. Raw Material/Bend Allowance
- C. Forming & Bending
- D. Part Design
- E. Tool Design
- F. Punches & Pilots
- G. Strippers and stock guides
- H. Die block construction
- I. Designing for part feature
- J. Design a simple blanking and piercing die

**V. INSTRUCTIONAL MATERIALS**

- A. Required Text(s): Vukota, Boljanovic, Jr., *Die Design Fundamentals*, Paquin, ISBN: 978-0-8311-3119-7  
Krukowski, *The Ultimate GD&T Pocket Guide*

- B. Other Resources:
  - 1. USB 2.0 flash card of equivalent storage (512 Mb suggested)
  - 2. Supplemental handouts supplied by instructor

**VI. METHODS OF PRESENTATION/INSTRUCTION**

- A. Methods of presentation typically include a combination of the following:
  - 1. Lecture
  - 2. Small and large group discussion
  - 3. Video presentation
  - 4. Demonstrations
  - 5. Handouts
  - 6. Observations
  - 7. Assigned lab projects
  - 8. Field trips

**VII. METHODS OF EVALUATION (*course outline will provide more detailed information*)**

- A. Methods of evaluation, although determined by the individual instructor, traditionally includes a combination of the following:
  - 1. Notebook (if required)
  - 2. Quizzes
  - 3. Tests
  - 4. Lab grades

**VIII. SPECIFIC COURSE REQUIREMENTS:**

- A. Completion of all tests, projects, assignments, and notebook (if required).
- B. Must earn a final grade of 60% (1.0) or higher.
- C. Program shop safety rules will be followed. **Please see the course outline for any additional safety rules established by the instructor.**