

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

I. CATALOG DESCRIPTION

Course Number: MFGT1362
Course Title: Lean Facilities Planning
Prerequisite(s): None
Catalog Description: Study of time and motion, manufacturing flow, material handling, Just-in-Time manufacturing, best practices for use of available facilities and equipment, packaging, shipping, receiving, and employee protective equipment.
Credit Hours: 2
Class Hours: 15
Lab Hours: 45
Total Contact Hours: 60

II. COURSE OBJECTIVES: *Course will:*

- A. Introduce the techniques used to layout a lean manufacturing work-cell and the manufacturing facility.
- B. Review the application of time studies on an assembly cell.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:

- A. Student Learning Outcomes: *Student will be able to*
 - 1. Recognize the steps needed for the entire layout project, from streamlining the flow before designing the layout to moving into the new plant.
 - 2. Organize the layout project into a structured, efficient plan.
 - 3. Analyze and solve common layout problems.
 - 4. Identify terminology related to ergonomics and designing for the human factor.
 - 5. Define terms commonly used in motion and time study and identify examples of each.
 - 6. Design a systematic, practical and scientifically correct work methods design.
 - 7. Define the ratings factors and special allowances as applied to time studies.
- B. General Education Learning Outcomes (GELOs)
 - 1. GELO #3: Critical Thinking & Problem Solving
Outcome 1: Collect, identify, interpret and analyze data.

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

- A. Explanation and overview
- B. Time study
- C. Process design
- D. Process flow analysis and improvement
- E. Designing for the human factor
- F. Support services
- G. Employee services
- H. Material handling and equipment
- I. Office layout
- J. New plant preparation, layout and approval

V. INSTRUCTIONAL MATERIALS

- A. Required Text(s): Manufacturing Facilities Design and Material Handling (current edition – see instructor), Meyers
- B. Other Resources:
 - 1. 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.**