

# Course Syllabus

## Southeast Missouri State University

|   |                                |
|---|--------------------------------|
| <b>Department of</b> <u>Industrial Engineering and Technology</u> | <b>Course No.</b> <u>IM617</u> |
| <b>Title of Course:</b> <u>Manufacturing Resources Analysis</u>   | <b>Revision</b> <u>New</u>     |

### I. Catalog Description and Credit Hours of Course:

Prediction of costs involved in manufacturing processes and systems. Students learn how to create effective production and inventory control applications throughout all production phases. Activities will include application of Enterprise Resource Planning Software.(3)

### II. Prerequisite (s):

IM – 311 or Consent of Instructor

### III. Purposes or Objective of the Course:

- A. Develop and perform structured problem solving techniques and be able to utilize principles of consensus in the decision making process.
- B. Demonstrate and perform supervisory tasks required of personnel in manufacturing industries for maximizing production efficiencies regarding time, materials, machine, and human resources availability.
- C. Develop and demonstrate a work ethic consistent with industrial management practices and procedures.
- D. Recognize, understand, and utilize human resource management skills such as communication, motivation, team work, cooperation, and the like.
- E. Assess and develop production strategy based on the manufacturing process.
- F. Explain the importance of proper utilization of new technology to increase productivity.

### IV. Expectations of Students:

- A. Students are responsible for all lecture notes, homework problems, quizzes, and lab activities related to course content.
- B. Students are responsible for reading all material assigned, whether this material is covered in lecture or not.
- C. Most of the presentations will be lecture-discussion format. There will be several handouts distributed throughout the semester. Any student who is absent will be responsible for the assigned materials.

### V. Course Content or Outline:

|  | Weeks   |
|--|---------|
| 1. Introduction and Production planning system               | 1 Week  |
| 2. Master Scheduling   | 2 Weeks |
| 3. Material requirements planning (MRP), Capacity management | 3 Weeks |
| 4. Production activity control                               | 2 Weeks |
| 5. Purchasing, Forecasting                                   | 2 Weeks |

|    |   |         |
|----|---|---------|
| 6. | Inventory fundamentals, Order quantity, Demand ordering systems | 3 Weeks |
| 7. | Warehouse management, Physical distribution                     | 1 Week  |
| 8. | Products and processes, JIT                                     | 1 Week  |
| 9. | Final Exam  | 1 Week  |

**VI. Textbook(s) and/or Other Required Materials or Equipment:**

1. *Introduction to materials management*, By J. R. Tony Arnold and Stephen N. Chapman, 4th Edition, Prentice-Hall, Inc. 2001.

**VII. Basis for Student Evaluation:**

The weight of evaluation criteria may vary at the discretion of the instructor and will be indicated at the beginning of the semester.

|    |                  |      |                        |   |
|----|------------------|------|------------------------|---|
| 1. | Homework/Quizzes | 10%  | <b>Grading Policy:</b> |   |
| 2. | Tests (2)        | 20%  | 90 – 100               | A |
| 3. | Final Exam       | 10%  | 80 – 89                | B |
| 4. | Final Project    | 10%  | 65 – 79                | C |
| 5. | SAP Lab          | 30%  | <65                    | F |
| 6. | Graduate Project | 20%  |                        |   |
|    | Total            | 100% |                        |   |

Graduate students will be required to complete a project relating to advanced topics in Manufacturing Resource Analysis and make a student presentation.

The weight of evaluation criteria may vary at the discretion of the instructor and will be indicated at the beginning of each course.

**VIII. Academic Honesty:**

Academic dishonesty is an offense against Southeast Missouri State University. A student who has committed an act of dishonesty has failed to meet a basic requirement of satisfactory academic performance. This academic dishonesty is not only a basis for disciplinary action, but is also relevant to the evaluation of the student’s level of performance.

Refer to: <http://www6.semo.edu/judaffairs/code.html>

**IX. Disabilities Statement:**

If you have special needs addressed by the Americans with Disabilities Act and need special help, notify the university Learning Enrichment Center (573-651-2273) and your course instructor immediately if haven’t done so. Reasonable efforts will be made to accommodate your special needs.