Course Outline

2026-2027 Catalog

MFG 30 - ERP (Enterprise Resource Planning) Software for Manufacturing

Catalog Description

Transfer Status: CSU

Prerequisite: MFG 20, MFG 22, MFG 24, MFG 26

Corequisite: MFG 32, MFG 34, MFG 36

Unit(s): 3.00

Lecture: 34.00 Contact hours/68.00 Out of class hours/102.00 Total hours/2.00 Unit(s)
Lab: 51.00 Contact hours/0.00 Out of class hours/51.00 Total hours/1.00 Unit(s)
Total: 85.00 Contact hours/68.00 Out of class hours/153.00 Total hours/3.00 Unit(s)

Course Description: This course is designed to introduce the principals and practices of ERP (enterprise resource planning) software as it relates to advanced manufacturing. Emphasis will be placed on developing introductory skills to ERP software in the areas of information, production, planning development, manufacturing, customers, and quality control. Students will begin to learn the flow of products through the facility and be able to recognize ways to increase efficiencies. These areas of instruction will be reinforced by hands-on application in several performance lab exercises.

Objectives

Upon successful completion of this course, the student should be able to:

1. Practice safety skills that are required on job-sites.
2. Explain the basic principles of ERP.
3. Describe the importance of tracking products throughout the manufacturing process.
4. Identify the most common areas found within ERP software.
5. Identify the major steps involved with track inventory in ERP software.

Course Content

Topic Titles / Suggested Time Topic

Lecture

Topics	Lec Hrs
Introduction and Safety	2.00
Introduction to ERP software programs	6.00
Streamline Information	5.00
Introduction of ERP related to production	3.00
Introduction of ERP related to planning development	3.00
Introduction of ERP related to manufacturing	3.00
Introduction of ERP related to sales	3.00
Introduction of ERP related to marketing	3.00
Introduction of ERP related to customers	3.00
Introduction of ERP related Quality Control	3.00
Total Hours:	**34.00**

Lab

Topics	Lab Hrs
Introduction and Safety	2.00
Introduction to ERP software programs	8.00
Streamline Information	6.00
Introduction of ERP related to production	5.00
Introduction of ERP related to planning development	5.00
Introduction of ERP related to manufacturing	5.00
Introduction of ERP related to sales	5.00
Introduction of ERP related to marketing	5.00
Introduction of ERP related to customers	5.00
Introduction of ERP related Quality Control	5.00
Total Hours:	**51.00**

Methods of Instruction

A. Demonstrations
B. Homework: Students are required to complete two hours of outside-of-class homework for each hour of lecture
C. Laboratory Experiments
D. Lecture
E. Multimedia Presentations

Methods of Evaluation

A. Exams/Tests
B. Quizzes
C. Homework
D. Lab Projects

Examples of Assignments

Reading Assignments

1. Read the selection on marketing and be prepared to discuss in class.
2. Read assigned trade journal article and be prepared to discuss in class.

Writing Assignments

1. Write an order of operations for how product would flow through the assigned manufacturing plant and make sure to include the step that ERP can track the product.
2. Write a two-page essay, explaining how the trade journal article can be implemented in workplace safety and how it relates to the class.

Out-of-Class Assignments

1. Research online the best ERP software program to use in the assigned manufacturing plant and be prepared to discuss in class.
2. Research manufacturing publications for the proper use of software to track personnel within a company, the software should help management keep track of employee safety trainings for compliance reasons. Write a one-page essay on how to use the software properly.

Recommended Materials of Instruction

Schmid, S., & Kalpakjian, S. (2014). Manufacturing Engineering and Technology. *Pearson, 7th.*

Other Learning Materials

All tools listed in the Advanced Manufacturing Program Guide.

Minimum Qualifications

Machine Tool Technology
Manufacturing Technology

Created/Revised by: Peacock, Miles
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