

ISE560/ME560 - Computer Integrated Manufacturing I Winter '03/04

Course:

ISE560/ME560 Computer Integrated Manufacturing I - 5 credit hours, Call number: 03663/04035

Sessions:

MW 9:10-11:00, Stocker 194

Instructor:

Dr. Dusan Sormaz, Room 277, Stocker Center, phone: (740) 593-1545, e-mail: sormaz@ohio.edu , URL: <http://www.ent.ohiou.edu/~sormaz>

Office Hours:

MW 1:00-3:00pm, or by appointment

Textbook:

Tien-Chien Chang, Richard A. Wysk, Hsu-Pin Wang, *Computer-Aided Manufacturing*, 2nd edition, Prentice Hall, 1997.

Instructor handouts (EMCO NC Lathe, EMCO NC Mill user manual, Unigraphics CAD, Unigraphics CAM Tutorials)

The Course Objective:

This course will provide the students with an understanding of the fundamentals of computer integrated manufacturing. Several issues will be addressed, among them numerically controlled machines and programming, CAD/CAM integration, data communication in manufacturing, process planning, and group technology. Students will learn how to apply these techniques as a part of a typical manufacturing engineering task. The emphasis will be on interactions and interdependencies between the covered techniques.

After completing the course students will be able to recognize the need and applicability of advanced manufacturing techniques in various manufacturing settings, and be able to apply appropriate methods.

Requirements:

- Readings - Please read the chapter before the class in which it will be covered.
- Homeworks - There will be four or five homework assignments in which you will solve problems from the textbook.
- Lab projects - There will be five projects in CIMlab (Stocker 294) and IMSE computer Lab (Stocker 292B). Students will work in groups of two on these projects.
- Final exam - The exam will cover all material covered in class sessions and lab projects.

Grading Policy:

Homeworks 25%
Lab projects 40%
Final exam 35%

Attendance Policy:

Attendance to all sessions is required. No enforcement policy will be in effect, but students are responsible for all material covered in the class.

Academic Misconduct:

No unauthorized collaboration of any kind is permitted during any of the examinations, homeworks, or quizzes. All suspected cases will be treated according to the University Policy as stated in the Catalog and the Student Handbook.

Tentative Schedule:

1. Week (1/5-9): Introduction (chapter 1), Lab visit
2. Week (1/12-16): CAD (chapter 3), Unigraphics CAD (handout)
3. Week (1/19-23): NC programming (chapter 10)
4. Week (1/26-30): NC programming (chapter 10, handouts)
5. Week (2/2-6): Communications (chapter 8)
6. Week (2/9-13): Process engineering, Tooling (chapters 4 and 5)
7. Week (2/16-20): Unigraphics CAM software (handouts)
8. Week (2/23-2/27): Group technology (chapter 12)
9. Week (3/3-3/7): Process planning (chapter 13)
10. Week (3/10-3/14): Integrated Computer Aided Manufacturing (chapter 15),
Review

Final exam will be held on Tuesday, March 16, 2004 at 10:10am