

## ISE 200: Introduction to Computers and Industrial Engineering

Fall 2004

**Course:** ISE 200 – Introduction to Computers and I. E. – 4 credit hours

**Call number:** 04009

**Catalog Description:** An introduction to Industrial Engineering history and methods. Common software applications will be covered, in support of course and curriculum requirements.

**Session:** Tuesday and Thursday @ 1:10-3:00, 104 Stocker

**Instructors:** Gary Weckman

Office: Stocker 280, 593 1548

Office hours: MW @ 10-11, TR @3-4, M 1-3 or By Appointment

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**TextBook:** Turner, W. C., J. H. Mize, K. E. Case, and J. W. Nazemetz, "Introduction to Industrial and Systems Engineering: 3rd Edition," Prentice Hall, 1993.

### Course objectives:

This course will introduce students to software tools that can be applied to solving a variety of systems engineering problems and presenting data and results. These tools will include word processing, spreadsheets, automation scripting languages, and personal database systems. They will be applied to solve engineering problems for systems, including topics such as optimization, data management and analysis, integration of models, tools, and data.

### Course prerequisite skills:

Students entering ISE 200 are expected to be able to perform basic algebra

### Course outcomes:

Upon the completion of ISE 200, students will be able to:

1. Define the field of Industrial Engineering
2. Explain the significance of the IE program topics to the process of designing and analyzing complex systems
  - Work Measurement
  - Facilities Design
  - Material Handling
  - Probability and Statistics
  - Operations Planning
  - Quality Control
  - CAD/CAM
  - Engineering Economy
  - Operations Research
  - Simulation
  - Project Management
  - Systems Management

3. Utilize common office software to analyze and present information

**Computer usage:**

Microsoft Excel, Word, Powerpoint, and Access will be used for formatting, organizing, retrieving, analyzing and presenting information.

**Grading Policy:**

Midterm Exam	25%
Final Exam	25%
Lab Assignments	50%

**Tentative Schedule:**

Week	Content	Lab
Week 1	Syllabus	
	History	Style sheets in Word
Week 2	Manufacturing / Costs	Advanced features in Word
	Work Measurement	Time / Motion Study
Week 3	Probability	PowerPoint animation
	Statistics	Statistics in Excel
Week 4	Operation Planning	Excel MRP System
	Operation Planning	Linear equations in Excel
Week 5	Economics	Economic analysis in Excel
		Exam
Week 6	Facility Location & Layout	Simple layout in Excel
	Material Handling	Advanced layout
Week 7	Operations Research	Linear programming using Solver
	Operations Research	Creating tables and queries in Access
Week 8	Simulation	Monte Carlo simulation in Excel
	Quality Control	Access forms and reports
Week 9	Project Management	Gantt charts using Excel
	Systems Concepts	Flow charts in Word
Week 10	CAD / CAM and Robotics	OLE (DB to Excel & Excel to Word)
	Holiday	

Handouts of lecture and lab assignments are available on the web at:

<http://imse.ent.ohiou.edu/>

**Academic Dishonesty:** Students using the work of others without giving credit (plagiarism) will receive a failing grade in the course. Students cheating on an examination will receive the grade of zero on the examination.

**Attendance:** Attendance is expected at all lecture class meetings. Excused absences require prior approval of the instructor. Attendance is required for all lab meetings. Students who miss a lab, for any reason, are expected to submit any assignment at the regular submission time. Each student is allowed 2 missed lab meetings. No assistance on missed assignments. Each absence after the second, regardless of reason, will result in a 10% loss in the overall lab grade.