

2.008 Teaching Staff

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2.008 Design and Manufacturing II

Spring 2025

Outline

- Course Introduction
- Lab Project Description
- Manufacturing Attributes
- Lab Assignments

Scope

- Manufacturing in large numbers
- Mfg processes, equipment/control, systems, and design for mfg
- Integration of engineering disciplines for determining mfg rate, cost, quality and flexibility
- Laboratory for exploration and practices

Objectives

- Internalize **quality, cost, rate and flexibility** as mfg attributes.
- Apply **physics** to understand the factors that influence the quality, cost, rate and flexibility of processes.
- Apply an understanding of **variation** to the factors that influence the quality, cost, rate and flexibility of processes and systems.
- Understand the impact of **manufacturing constraints** on product design and process planning.

Credit and Workload

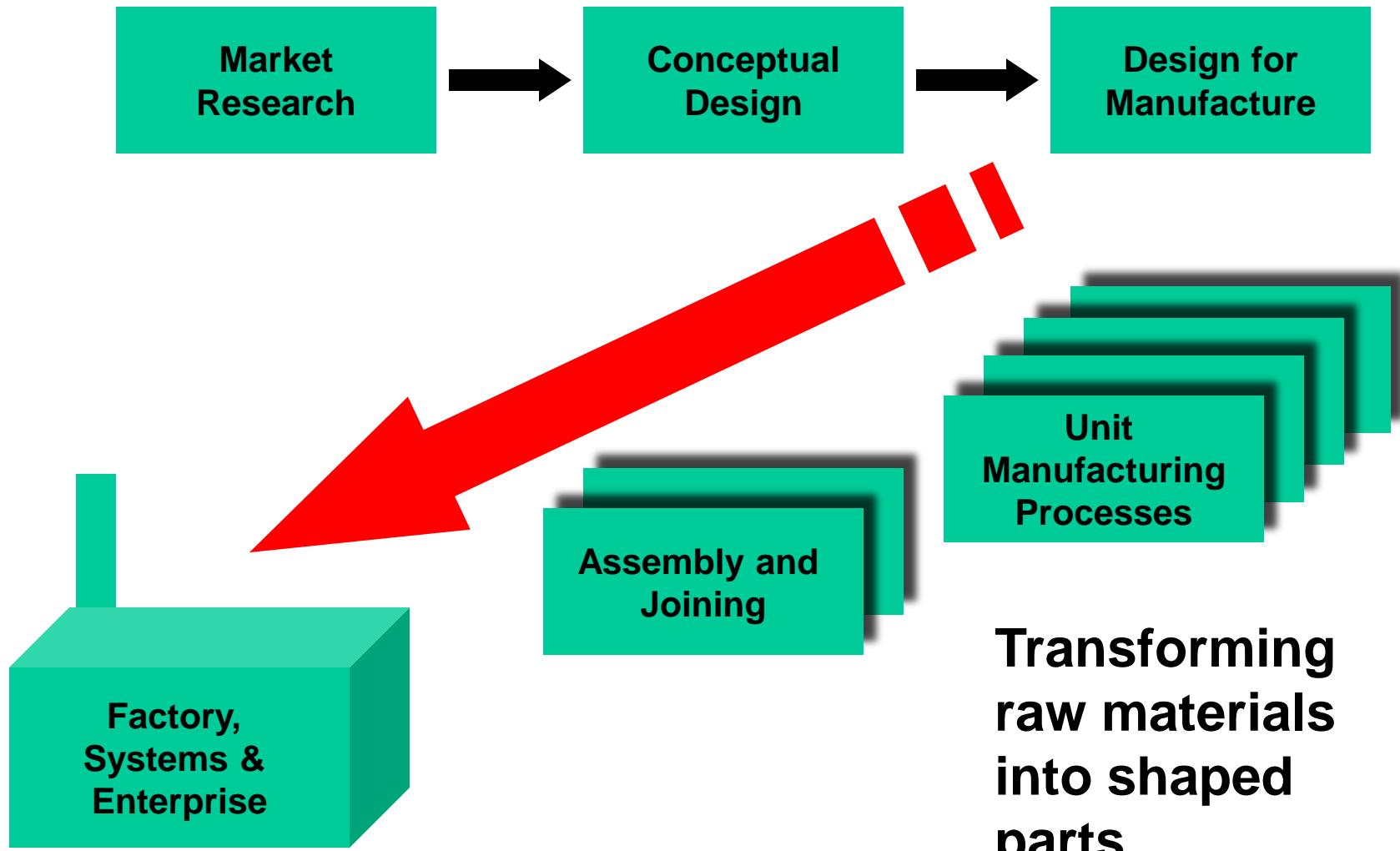
2.008 (3-5-4)

- 3 hours of lecture.
- 5 hours of laboratory, group meeting, preparation for the laboratory and report writing.
- 4 hours of study and homework.

Lectures

- Monday and Wednesday from 12:30 pm to 2:00 pm (refer to class schedule)
- Homework (before class on due dates on Canvas as PDF)
- TA office hours: (refer to class schedule)
- Text: Manufacturing Engineering and Technology, 8th ed. by S. Kalpakjian.

Manufacture



Tentative Class Schedule

- 2/3 Introduction
- 2/5 Injection Molding I
- 2/10 Injection Molding II
- 2/12 Thermoforming
- **2/18** Metal Cutting I
- 2/19 Metal Cutting II
- 2/24 Metal Cutting III
- 2/26 Assembly/Disassembly
- 3/3 Joining I
- 3/5 Joining II
- 3/10 Variations
- 3/12 Quality Control
- 3/17 **Review**
- 3/19 **Quiz I**
- 3/31 Mfg System I
- 4/2 Process Planning & Mfg Cost
- 4/7 Mfg System II
- 4/9 Mfg System III
- 4/14 Mfg System IV
- 4/16 Metal Forming
- **4/23** Metal Casting
- 4/28 Layered Mfg I
- 4/30 Layered Mfg II
- 5/5 Layered Mfg III
- 5/7 **Quiz II**
- 5/12 **Project Presentations**

Laboratories

- Lab safety: "Safety First". Please abide by the safety rules for your sake. If not, you shall not be allowed into the lab.
- Held in Room 35-125 and 35-225
- Lab attendance: Absolutely mandatory. Arrive on time with a pair of your safety glasses.

2.008 Yo-yo Labs

Grading Policy

Your grade will be based on your overall performance in classes, labs, homework assignments and quizzes. They count approximately as follows:

- 2 Quizzes 40 %
- Labs (performance, written and oral reports) 45 %
- Homework (before class on due dates) 12 %
- Class participation 3 %

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Manufacturing Attributes

- Rate
- Cost
- Quality
- Flexibility

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By LeAnne Gendreau and Wire Reports | Wednesday, Jan 23, 2013 | Updated 1:43 PM EST



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