

**FUNDAMENTALS OF MANUFACTURING PROCESSES**  
**IT208-3**  
**SYLLABUS**

**COURSE DESCRIPTION:** A survey of manufacturing operations including the use of plastics or polymers, material removal, casting, metal forming and welding. Related information is covered, such as powdered metallurgy, physical metallurgy, laser machining, metal capabilities, advantages, and disadvantages of these processes will be reviewed.

**TEXT:** Manufacturing Engineering and Technology, 6th Edition, Serop Kalpakjian & Steven R. Schmid; ISBN: 0-13-608168-1 (2010)

**OBJECTIVES:**

1. To demonstrate the application and relative value of the manufacturing operations.
2. To show the relationship between material properties and physical metallurgy and forming methods used.
3. To introduce the student to the various manufacturing operations used in industry.

**EVALUATION:** Three exams and a report are required. Performance levels are based on the following:

Test I	100 points
Test II	100 points
Test III	50 points
Report	<u>50</u> points
<b>TOTAL POINTS</b>	<b>300 points maximum</b>

**STANDARDS:** Letter grades are assigned based on the following end-of-term averages:

- A - 90%
- B - 80%
- C - 70%
- D - 60%
- F - Less than 60%

**INSTRUCTOR:**

**Alan Lasley**

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**GRADING POLICY:** Missed examinations have a 10% penalty unless an appropriate excuse is provided before the regularly scheduled examination. The missed examination must be completed within two weeks or the 10% penalty may be imposed. Incomplete grades may be given if conditions warrant and the student requests this temporary grade in writing. Reports turned in late will have a 10% penalty assessed.

*The instructor reserves the right to modify the contents of this syllabus. Students will be notified of changes to the syllabus in a timely manner. Other requirements may be added during the class meetings.* Revised: 08/05/09

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**Assignments, Exams:**

Following are reading assignments. You are trying to learn terminology and a basic understanding of how Manufacturing Processes work.

Read the chapters with the idea of gleaning an overview of the material. I do not expect any student to be versed in all aspects of everything in the reading material.

This course is divided into three blocks with a test at the end of each block. Your performance in this course will be enhanced if you study the material before you come to class on the weekend. If you have studied beforehand then you should have questions as we go through the material.

The Review Section at the end of each chapter is worth going through to help understand the material.

Exams will be multiple choice/ true false. If you have read the assignments and you attend class, you should be prepared to do well on the exams.

My notes are an overview of the material in the chapters and cover topics and do not necessarily follow each chapter. This text has several chapters that are short and break down various topics into smaller segments.

**Weekend 1:**

Reading assignments: Chapters 1 through 12

**Weekend 2:**

**Test #1 over chapters 1 through 12, 100 points - Saturday Morning.**

Reading assignments: Chapters 13 through 20 and 23 through 27.

**Weekend 3:**

**Test #2 over chapters 13 through 20 and 23 through 27, 100 points - Saturday Morning**

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Reading assignments: Chapter 30 through 34 and 37 through 39.

**Test #3 over chapters 30 through 34 and 37 through 39, 50 points - Sunday afternoon at the end of class.**

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**REPORT :** Select a process or type of process equipment. Try to make your selection before the first class meeting.

Prepare a typewritten report that would answer the following questions:

- I. What is the process or equipment?
- II. How is it used? What is its purpose?
- III. How extensive is it used in industry?
- IV. Does it replace another machine or process? Is it an improvement over some other machine or process?

The written or narrative part of the report should be a **maximum** of (3) type written pages. Conciseness of ideas and quality of writing is worth more than quantity of material. Site your sources in an appendix that is not counted as part of the 3-page maximum.

Inclusion of any brochures or pictures would be helpful and are not counted as part of the three (3) page maximum limitation.

A cover page should be used. Include the course number, title, date and your name. This will not count as part of the three (3) page maximum limitation.

Any industrial show you could attend would be a source of ideas. You could use trade journals, company advertising literature or an encyclopedia. Newsmagazines or newspapers sometimes carry articles in their business sections that discuss new technology applications or production techniques. The Internet is a good source for research.

Some of the reports may be selected for oral presentations based on their contribution to the class and time permitting. Any oral report presentations would be accomplished on the second and third weekends. We will arrange the schedule the first weekend of class.

We will discuss the report at the first class meeting.

**Instead of writing the report**, you may plan a plant tour for the class. There will be time for a tour on Saturday morning or afternoon of the second or third weekend of class. The instructor's decision will be final in the selection of which plant to tour.

**THE WRITTEN REPORT IS DUE THE THIRD WEEKEND OF CLASS ON SUNDAY AFTERNOON.**

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