Machining Overview

Please read the following sections from Chapter 8 (“Material-Removal Processes: Cutting”) of the Kalpakjian & Schmid text:

- Introduction
- Mechanics of Chip Formation
- Tool Wear and Failure (Tool Wear in earlier editions)
- Surface Finish and Surface Integrity
- Machinability
- Machining Processes and Machine Tools for Producing Round Shapes (Cutting Processes and Machine Tools for Producing Round Shapes in earlier editions)
- Machining Processes and Machine Tools for Producing Various Shapes (Cutting Processes and Machine Tools for Producing Various Shapes in earlier editions)
- Machining and Turning Centers
- Vibration and Chatter
- Machine-Tool Structures
- Design Considerations (not available in earlier editions)
- Economics of Machining (Machining Economics in earlier editions)
- Summary

If the above sections include sub-sections, please read all of the sub-sections also. For example, “Mechanics of Chip Formation” is Section 8.2, so please read Sections 8.2.1 through 8.2.6 also.

This reading assignment is on the order of 100 pages, so please budget sufficient time to complete it. Don’t be overly concerned about the equations; we will review the important equations in detail (with some minor modifications) in lecture.

The Friday 4/6/2012 quiz will be of the short answer, multiple choice, and matching type. The short answer questions will be similar to the “Questions” (as opposed to “Problems”) at the end of Chapter 8 of the Kalpakjian & Schmid text. No calculations will be required on Quiz 8. Questions on the reading assignment should be expected; i.e., the quiz is likely to include questions on topics not covered in lecture if their answer is clear from reading the assigned sections. The quiz will be open book, open notes (as always).