

Homework No. 1

Due in class on Friday Jan 13, 2006

As discussed in the opening lecture, the key course objective is to provide an overview of a number of manufacturing processes, and to understand the fundamental principles underlying these processes. The homework is designed to support this objective.

Homework has two parts. Part A lists ideas/concepts from each chapter that I would like everyone to get familiar and to be able to describe in a short paragraph with the help of a simple sketch or two if needed. This list should help guide you about what to read in the textbook (as a minimum).

Note that we may not be able to discuss all the topics listed in the lectures. You will be responsible to read, review, and understand these on your own. Come and see me if you wish to discuss or need clarification.

Only Part B of the homework is to be submitted in class.

Part A: Read/review the following topics:

Chapter 1 The economic role of manufacturing

Chapter 2 Product/Process Design; Concurrent Engineering; CAD/CAM/CIM

Chapter 3: Group Technology; Dimensional Tolerances; Shape and Location Deviations; Metrology; Principles of Measurement; Roughness and Waviness; Surface Finish and Tolerance.

Part B: Problems from Chapter 3:
A3, B6, B8, C1, C7, C8