EML 2322L Quiz 11 (11/5/19)

Name: _____

Answer the following questions based on the information presented in class. You can use **your** notes but do not speak with others.

Lab Period: T5-6 / T7-8 / T9-10
(circle one)   W2-3 / W4-5 / W7-8 / W9-10
R2-3 / R4-5 / R7-8 / R9-10

Define what is meant by the phrase *design for manufacturability* (or DFM):

Summarize the relationship between relative production time and feature surface finish:

Based on the process tolerance chart from last week's lecture notes, list the typical tolerance range associated with the following processes:

free hand flame/plasma cutting: _____
free hand grinding: _____
turning, milling: _____
drilling: _____
boring: _____
reaming: _____

List 8 design mistakes which can cause us to look like we don't know what we're doing:

Based on your experience working in the lab, estimate the typical tolerance range associated with the following MANUAL processes:

bandsaw cutting: _____
sheetmetal shearing: _____
sheetmetal bending: _____

List 15 dimensioning mistakes that cause us to look like we don't know what we're doing:

If a material's *machinability* refers to its ability to be easily machined to final shape, would stronger materials possess HIGHER or LOWER machinability?

How should engineers select materials to meet strength and manufacturability requirements?

Summarize the relationship between (minimum) achievable dimensional tolerance and part size: