

## Biomaterials Team Project: Section 1

**Objective:** The goal of this project is to apply what you have been learning in class and homework about crystal structure, mechanical properties, phase diagrams, and the materials in general to a biomaterials application of your choice.

**Scenario:** You are a team of engineers who work for a biomaterials or biomedical device company. You have been asked to create a PowerPoint based tutorial that covers the engineering background of your product. This tutorial should be technical.

Your CEO (me) has requested the tutorial on your product by no later than 4:30 pm on Wednesday March 7<sup>th</sup>. Each team must turn an electronic copy to me before the start of class.

### Format Information:

- You have some flexibility with how you design the PowerPoint tutorial. It should be neat and professional looking. You should have enough text to fully explain the concepts and convey detailed, technical information about your product. The heart of your grade will be based on how much materials concepts your tutorial encompasses.
- All text must be written in your own words. Do not copy anything (even a sentence) directly from another source. For tips on how to avoid plagiarism see:  
<http://www.indiana.edu/~wts/pamphlets/plagiarism.shtml>  
<http://tutorials.sjlibrary.org/plagiarism/index.htm>
- Any figures taken from an outside source must be properly referenced. For examples of referencing, see any of your textbooks or the technical papers on our Biomaterials website.
- All equations must be typed using Equation Editor (or a similar program).

### Content Information:

Each tutorial should include:

- Product Overview: overview of the product and how it is used.
- Detailed technical background on the materials aspect of the product
  - This should be at the same level of material we are discussing in class.
  - This is the “meat” of your tutorial. Your grade will be based mostly on the detail you include in this section.
  - Include such things as crystal structure, material properties, mechanical properties, processing and strengthening of the device, materials issues in reliability
- Innovative edge: discuss here some research areas of this biomaterial and why your company’s product has an advantage
- Summarize the main points of your tutorial