

**E-344**

**Section 1: Introduction and Broad Goals**

From:

**“Materials Science and Engineering: An Introduction,” 7<sup>th</sup> edition  
by William D. Callister  
John Wiley (2007) ISBN#-13: 978-0-471-73696-7**

Skim/read chapter one of Callister.

Note that Callister chooses to define three major classes of materials: metals, ceramics, and polymers (section 1.4). He relegates semiconductors to the category of “Advanced Materials,” and discusses these briefly in section 1.5. Do not let his classification diminish in your minds the importance of semiconductors as one of the major categories of engineering materials.

Figures 1.3 – 1.7 are valuable to appreciate. Note the fact that the y-axis in these graphs is on a log scale, so there are orders-of-magnitude differences in the properties characteristic of the major materials classes.