

Study Guide for mid-term to be given.

The test will be closed book, closed notes, except for one, 8.5" by 11" spike sheet.

The homework is a good guide to what sort of exam problems may show up. My emphasis or lack thereof on material is a good guide to what I think is and is not important. You are also responsible for material covered in lecture but not in text or handouts.

Material not covered in depth often shows up in definitions. Such material, as coincidence site lattices may show up as a "Describe or describe the derivation of, and discuss what this has to do with the world of physical metallurgy". I expect that there will be four questions, two qualitative as just described, and two quantitative.

The chapters below refer to the text.

Chapter 6 Study all. Be quantitative on energies of simple low angle boundaries and calculation of dihedral angles. On special or coincident site boundaries know what they are and what their thermodynamic and kinetic properties are.

Chapter 8 This is an important chapter. Study all, plus my added material on the effects of second phase particles on annealing. Be quantitative on the annealing of one phase materials. You should know generally how the derivations of the effects of impurities and particles on annealing are done, and what the consequences are.

Chapter 9 Study all. Understand impurity atmospheres around dislocations and how such atmospheres affect mechanical properties.