

Materials Science (MSE 201) Spring 2014

Review for Exam 2
(Ch. 6-10)

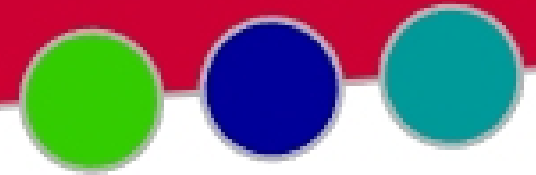


Definitions

- Yield Strength
- Tensile Strength
- Fracture Toughness
- Ductility
- Stress, Strain, Poisson's ratio
- Strain hardening

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- Slip systems
- Tensile vs shear stress
- Critical resolved shear stress
- Cold working
- Solid solution strengthening
- Recovery, recrystallization, grain growth



- Ductile and Brittle fracture
- Impact testing – information
- DBTT
- Fatigue limit/endurance limit
- Ways to improve fatigue and creep properties

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- Pearlite
- Bainite
- Martensite, tempering
- Spheroidite
- Isothermal Transformation
- Eutectoid reaction
- System, component, phase
- Liquidus, solidus, solvus
- Isomorphous and eutectic systems
- Eutectic, Eutectoid, Peritectic Reaction
- Coring
- Eutectic microstructure and its formation
- Tie line and lever rule
- Gibbs phase rule