

Oral Qualifying Exam - Mechanical Properties

NON-EXHAUSTIVE TOPICAL AREAS

- Elastic Behavior of materials
- Dislocation behavior
- Plastic deformation of materials
- Strengthening mechanisms for crystalline materials
- High temperature deformation of crystalline materials
- Permanent deformation of noncrystalline materials
- Deformation behavior of composite systems
- Fracture (Low and high temperature)
- Fatigue
- Embrittlement

LEVEL

Introductory graduate level

TEXTBOOKS

- T. Courtney, Mechanical Behavior of Materials, First edition.
- M. Meyers and K. Chawla Mechanical Metallurgy
- G. E. Dieter, Mechanical Metallurgy.
- D. Hull and D. J. Bacon, Introduction to Dislocations