

MEEG 4913/5913 – Intermediate Engineering Materials Fall 2011

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Lecture

Monday / Wednesday / Friday, 9:30 – 10:20 am, MEEG 217

No class: 9/5 (labor day), 10/17 (fall break), 11/23 and 11/25 (thanksgiving)

No class: 8/29, 10/19, 11/2, 11/4, 12/5 (Spearot out of town)

Office Hours

Dr. Spearot: Monday / Wednesday / Friday, 10:30 – 11:30 am, NANO 213

Text

Required: *Engineering Materials 2*, Third Edition, Ashby and Jones, 2006

Optional: *The Science and Engineering of Materials*, Sixth Edition, Askeland, Fulay and Wright, 2011

Prerequisite

MEEG 2303 – Introduction to Materials (or graduate standing)

Statement of Course Objectives

The objective of this course is to provide the student with a more in depth discussion of materials and materials science than that provided by previous required courses in the subject. This course will be arranged by material classifications and course topics include but are not limited to:

- Structure and mechanical properties of ceramic materials
- Synthesis and processing of ceramics and glasses
- Structure of thermoplastic and thermosetting polymers
- Mechanical behavior of polymeric materials
- Electronic and magnetic properties of materials
- Advanced dislocation theory in metallic materials
- Kinetics of structural change in metallic microstructures

Research Paper

Each student will be expected to research and write a paper on an aspect of materials science of their choosing. Graduate students will be required to give a lecture on their topic in addition to their written paper. The course research project may be related to the student's individual area of interest or employment. All research paper topics must be approved.

Grading

Each student's final grade will be determined as a composite of their scores on homework assignments (~8 assignments, 15% of total grade), course exams (2, 25% each of total grade), and the quality of their research paper (35% of total grade).

Contacting Professor Spearot

If you use another email address, it is your responsibility to set up your UARK account to forward incoming mail and to make sure that your UARK email is not full.