CBE 30361: Science of Engineering Materials Course Objective...

Introduce fundamental concepts in Materials Science & Engineering

You will learn about:

- material structures
- how structure dictates properties
- how processing can change structure

This course will help you to:

- use materials properly
- realize new design opportunities with materials



COURSE MATERIALS (with WileyPLUS)

Required text:

WileyPLUS for Materials Science and Engineering: An Introduction,
 W.D. Callister, Jr. and D.G. Rethwisch, 9th edition, John Wiley and Sons, Inc. (2014).

Website: http://www.wileyplus.com

- Can be bought online at wileyplus.com for 40% of textbook price
 - Includes complete online version of textbook
- Or comes bundled with textbook at bookstore
 - \$5 more than textbook alone
- Homework assignments with instant feedback and hints
- Computer graded self-help problems
- Hotlinks in homework to supporting text sections

WEBSITES

Course Website: http://www.nd.edu/~amoukasi/CBE30361

- Lecture notes
- Solution Manual
- Grades

Text Website: http://www.wiley.com/college/callister

- VMSE for 3D interactive simulations and animations of material structures, characteristics, and properties
- Mechanical Engineering online support module
- Case studies of materials usage
- Extended learning objectives
- Self-assessment exercises



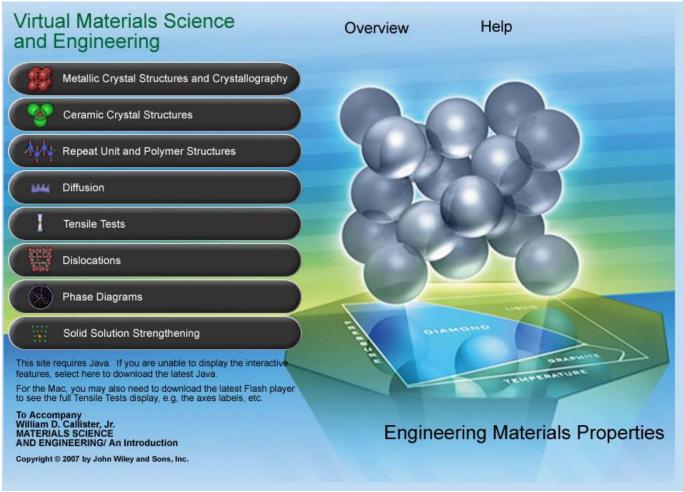
Virtual Materials Science & Engineering (VMSE)

Website: http://www.wileyplus.com/college/callister Student Companion Site → VMSE

- Comprised of 8 interactive modules
 - Atomic/molecular stuctures 3D perspectives (better visualizations) using click-and-drag rotations
 - Demonstrations of defects and phenomena that exist/occur in materials
 - Demonstrations of material tests performance and results
 - Database of material property values and costs

Virtual Materials Science & Engineering (VMSE)

This is a screenshot of the VMSE opening window



 Available in Student Companion Site at www.wiley.com/college/callister and in WileyPLUS

