

ME 312

Fall, 2014

Text: Materials Science and Engineering, An Introduction
9th Edition, William D. Callister, jr, Wiley publishing.

Staff: Lecturer: J. Don, E14, phone: 453-7004, email: jdon@siu.edu
Lab TA: Mike Imbayan, and Zhezhen Fu

Lecture: T, R 11:00 – 12:15 pm
A207

Labs: Tech B143 (Materials Science Lab)
1: T (3-5pm), 2: W (4-6pm), 3: R (3-5pm)

Grading Policy:

Exams:	1. Chapters 2, 3, 4, 5	20%
	2. Chapters 6, 7, 9, 10	20%
	3. Chapters 11, 12, 13	
	and 1st and 2nd exams	<u>30%</u>
	Total Exams	70%
Labs:		20%
Homework:		10%
Total		100%

Last day to withdraw: 10/27/2013 “Last day for students to drop a full-term course
(no refund; resulting in a W grade)”

<http://registrar.siu.edu/calendars/registration13fa.html>

Final Exam: 12/11/2014 (Thursday), 10:00 to 11:45 am

Emergency Procedures. Southern Illinois University Carbondale is committed to providing a safe and healthy environment for study and work. Because some health and safety circumstances are beyond our control, we ask that you become familiar with the SIUC Emergency Response Plan and Building Emergency Response Team (BERT) program. Emergency response information is available on posters in buildings on campus, available on BERT's website at www.bert.siu.edu, Department of Safety's website www.dps.siu.edu (disaster drop down) and in Emergency Response Guideline pamphlet. Know how to respond to each type of emergency.

Instructors will provide guidance and direction to students in the classroom in the event of an emergency affecting your location. **It is important that you follow these instructions and stay with your instructor during an evacuation or sheltering emergency.** The Building Emergency Response Team will provide assistance to your instructor in evacuating the building or sheltering within the facility.

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Course Outline

<u>Lecture Topics</u>	<u># of lectures</u>
1. Introduction (Chap. 1)	1
2. Atomic Structure (Chap. 2)	3
3. Structure of Crystalline Solids (Chap. 3)	3
4. Imperfection in Solids (Chap. 4)	3
5. Diffusion (Chap. 5)	3
6. Mechanical Properties of Metals(Chap. 6)	3
7. Dislocations and Strengthening Mechanisms (Chap. 7)	3
8. Phase Diagrams (Chap. 9)	3
9. Phase Transformations in Metals (Chap. 10)	3
10. Thermal Processing of Metal Alloys (Chap. 11)	3
11. Metal Alloys (Chap. 12)	3
12. Structures and Properties of Ceramics (Chap. 13)	3
13. Composites (Chap. 17)	3
14. Electrical Properties (Chap. 18)	3