

Fall 2018

MTSE 601-101: Foundations of Materials Science & Engineering

George Georgiou

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FUNDAMENTALS OF ENGINEERING MATERIALS

MTSE 601 Fall 2018

Wednesday 6-9 Tier 112

TEXTBOOK “Foundations of Materials Science and Engineering” 5th edition
Ed. by William F. Smith and Javad Hashemi

+Additional material in class notes

Instructor: Dr. George Georgiou

Office: 207 Microelectronics

Office Hours:

Wednesday 4-6

Or after class

Or by appointment

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<u>Date</u>	<u>Text Assignment</u>	<u>Homework</u>
9/5	Chap. 2 Atomic Structure and Bonding	2.17, 2.21, 2.24, 2.28, 2.37, 2.41, 2.50 2.58, 2.59, 2.63, 2.74, 2.75, 2.85, 2.86
9/12	Chap. 3 Crystal and Amorphous Structure in Materials	3.17, 3, 18, 3.21, 3.22, 3.32, 3.34, 3.41 3.58, 3.65, 3.69, 3.72, 3.75, 3.85
9/19	Chap. 4, sec. 1-5 Chap. 5, sec. 1-4 Solidification and Crystalline Imperfections, Diffusion	4.23; 4.27; 4.28; 4.30, 4.31, 4.33, 4.64 5.12; 5.19; 5.22; 5.32, 5.42
9/26	Chap. 6, sec 2-10 Chap. 7, sec. 1-7 Mechanical Properties of Metals	6.50; 6.52; 6.53, 6.62, 6.91 7.10; 7.17, 7.21, 7.29, 7.30, 7.33 7.38, 7.43, 7.44, 7.47
10/3	Chap. 8, sec 1-11 Chap. 9 sec. 1-2 Phase Diagrams Engineering Alloys	8.13, 8.16, 8.23, 8.24, 8.26, 8.45 9.2, 9.59, 9.64, 9.65
October 10	Midterm Exam	Includes weeks 1-5 (Ch 2-8)
10/17	Chap. 9 sec 3-9 Engineering Alloys	9.14, 9.21, 9.24, 9.32, 9.41, 9.43, 9.46. 9.109, 9.111

10/24	Chap. 13 GEG Notes	Corrosion and Degradation of Materials Composite Materials	13.31, 13.40, 13.56; 13.58; 13.64, 13.79
10/31	Ch12 Chap. 14, sec.1-2	Composite Materials Electrical Properties	12.41, 12.45, 12.79, 12.83, 12.84, 12.93
11/7	Chap. 14, sec.2-9 +GEG Devices	Electrical Properties Of Materials	14.7, 14.8, 14.18, 14.38, 14.40, 14.70, 14.73, 14.76, 14.81, 14.100
11/14	Chap. 10, sec. 1-4, 6, 8, 10-11	Polymeric Materials	10.9, 10.14, 10.21, 10.45, 10.60, 10.62 10.62, 10.64, 10.66, 10.83, 10.87, 10.138

**** November 21 (WEDNESDAY) – NO CLASS (Follows Friday schedule) ****

THANKSGIVING RECESS – NOVEMBER 23-26

11/28	Chap. 15, sec.1-7 Chap. 16, sec 1-10	Optical Properties Magnetic Properties	15.13; 15.19, 15.32, 15.36, 15.38, 15.41 15.46, 15.49, 16.18, 16.62, 16.65
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12/5

12/12 Students' Projects Presentation (The topics will be given after Midterm Exam)

FINAL EXAM **Probably Wednesday December 19** **6-9PM**
(Possible Thursday December 13)

FINAL GRADE:

Here are the approximate weights to be used for calculating the composite score:

Midterm Exam = 40 %
Final Exam = 45 %
Project = 15 %

The percentages for various letter grades are:

>90 % - A
80-89 % - B, B+
50-79% - C, C+

HOMEWORK IS NOT EXPLICITLY PART OF YOUR GRADE. BUT DOING PROBLEMS IS IMPORTANT. SIMILAR PROBLEMS WILL APPEAR ON THE EXAMS

PROJECT DETAILS AFTER MIDTERM

Fall 2018 Academic Calendar

September	4	Tuesday	First Day of Classes
September	10	Monday	Last Day to Add/Drop a Class Last Day for 100% Refund, Full or Partial Withdrawal
September	17	Monday	Last Day for 90% Refund, Full or Partial Withdrawal - No Refund for Partial Withdrawal after th
October	1	Monday	Last Day for 50% Refund, Full Withdrawal
October	22	Monday	Last Day for 25% Refund, Full Withdrawal
November	12	Monday	Last Day to Withdraw
November	20	Tuesday	Thursday Classes Meet
November	21	Wednesday	Friday Classes Meet
November	22-25	Thurs-Sun	Thanksgiving Recess
December	12	Wednesday	Last Day of Classes
December	13-14	Thurs-Fri	Reading Days
December	15-21	Sat-Fri	Final Exams Week