

## **Introduction to Materials Science and Engineering**

EMA3010 Section 0019

**Class Periods:** M W F, period 4, 10:40-11:30pm

**Location:** Weimer Hall (WEIM 1064)

**Academic Term:** Fall 2017

### **Instructor:**

Antonio Webb

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352-392-6551

Office Hours: Thursday, 11:00am-12:00pm or by appointment, Rhines Hall 216A

### **Teaching Assistants:**

- Sara Mills

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Office Hours: Monday 3-5pm, Wednesday 4-6pm – Materials Engineering 314 (MAE314)

- Wesley Cuadrado-Castillo

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Office Hours: Thursday 2-4pm, Friday 8-10am – Rhines Hall B09

### **Course Description:**

3 credit hours - Conceptual perspective for origin of materials behavior - structure/property/performance interrelationships. Materials selection and use of familiar materials - metals, ceramics, polymers, electronic materials and composites in electronics, structural and other engineering applications.

### **Course Pre-Requisites / Co-Requisites:**

CHM 2045 - General Chemistry

### **Course Objectives:**

This is an introductory course, designed to provide the fundamental concepts of Materials Science and Engineering. To describe the structure, properties, and applications of metallic, ceramic, polymeric and composite materials.

### **Materials and Supply Fees:**

None

### **Professional Component (ABET):**

This course provides 3 credits towards Engineering Sciences. It is required of all MSE students and of several other engineering disciplines. This course addresses the following MSE Program outcomes:

**Relation to Program Outcomes (ABET):**

Outcome	Coverage*
a. Apply knowledge	High
b1. Conduct experiments	
b2. Statistical design of experiments	
c. Design	
d. Function on teams	
e. Solve problems	High
f. Professional and ethical responsibility	
g. Communicate	
h1. Economic impact	
h2. Global, societal, and environmental impact	
i. Lifelong learning	
j. Contemporary issues	
k. Techniques, skills, and tools for degree program	High

\*Coverage is given as high, medium, or low. An empty box indicates that this outcome is not part of the course.

**Required Textbooks and Software:**

- Fundamentals of Materials Science and Engineering: An Integrated Approach, 5th Edition (with Wiley Plus Access)  
Author: William D. Callister, Jr. and David G. Rethwisch  
Publisher: Wiley, ISBN: 9781119127567

**Attendance Policy and Class Expectations:**

Lecture attendance is required. Experience has shown that those who attend lectures earn higher grades in the course. Arrival on time is expected. Please turn off all cell phones upon entering class. Reading of newspapers, work on assignments for this or other classes, or other activities that are not part of the class are not allowed during lecture. Students who do not comply with these requirements or who behave disorderly or disrespectfully may be asked to leave the classroom.

**Exams:**

You will be given 3 exams throughout the semester, the exam content may change but the dates will not. There will be NO Final Exam. Each exam is weighted equally and each exam will be worth 25% of your final grade. Exam dates will be announced on Canvas and in class at least two weeks prior to the exam. Exams will be administered as evening assembly exams from 8:20pm to 10:10pm (periods E2-E3). Students have one week after test results are posted to resolve questions about scores/grades. No changes to your exam grade will be made after that time.

**Exam Conflicts with other course exams:**

The official UF policy on exam conflict resolution states that when two exams conflict, the course with the higher number will take priority. There will be no exceptions to this rule.

**Make-up Policy:**

Make up exams will be provided only with the **approval of the instructor in accordance with university policies.** Excused absences are consistent with university policies in the undergraduate catalog (<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>) and require appropriate documentation. In general, acceptable reasons for excused absence from an exam include illness, serious family emergencies, special curricular requirements, military obligation, court-imposed legal obligations, and religious holidays. In all cases, you will be required to provide written documentation, and obtain instructor approval. You will not be excused from any exam without following the policy above, with no exceptions. Students not in attendance for the scheduled exam will receive a score of zero. Make-up exams for excused absences as well as exam conflicts must occur within 1 week of the missed exam, and may occur before the missed exam.

**Homework Exercises:** Homework exercises will be assigned regularly. These homework questions are essential to your study and some exam questions will be adapted from them. No late homework assignments will be accepted. Please see the TA or instructor during his office hours to discuss homework problems.

**Evaluation of Grades:**

Assignment	Percentage of Final Grade
Exams (3)	75%
Homework	25%
Total	100%

**Grading Policy:**

Percent	Grade	Grade Points
93.4 - 100	A	4.00
90.0 - 93.3	A-	3.67
86.7 - 89.9	B+	3.33
83.4 - 86.6	B	3.00
80.0 - 83.3	B-	2.67
76.7 - 79.9	C+	2.33
73.4 - 76.6	C	2.00
70.0 - 73.3	C-	1.67
66.7 - 69.9	D+	1.33
63.4 - 66.6	D	1.00
60.0 - 63.3	D-	0.67
0 - 59.9	E	0.00

More information on UF grading policy may be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

**Students Requiring Accommodations:**

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, <https://www.dso.ufl.edu/drc>) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

**Course Evaluation:**

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu/evals>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results/>.

**University Honesty Policy:**

UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

### **Software Use:**

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

### **Student Privacy:**

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: <http://registrar.ufl.edu/catalog0910/policies/regulationferpa.html>

### **Campus Resources:**

#### Health and Wellness

#### **U Matter, We Care:**

If you or a friend is in distress, please contact [umatter@ufl.edu](mailto:umatter@ufl.edu) or 352 392-1575 so that a team member can reach out to the student.

**Counseling and Wellness Center:** <http://www.counseling.ufl.edu/cwc>, and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

#### **Sexual Assault Recovery Services (SARS)**

Student Health Care Center, 392-1161.

**University Police Department** at 392-1111 (or 9-1-1 for emergencies), or <http://www.police.ufl.edu/>.

#### Academic Resources

**E-learning technical support**, 352-392-4357 (select option 2) or e-mail to [Learning-support@ufl.edu](mailto:Learning-support@ufl.edu).  
<https://lss.at.ufl.edu/help.shtml>.

**Career Resource Center**, Reitz Union, 392-1601. Career assistance and counseling. <https://www.crc.ufl.edu/>.

**Library Support**, <http://cms.uflib.ufl.edu/ask>. Various ways to receive assistance with respect to using the libraries or finding resources.

**Teaching Center**, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring.  
<https://teachingcenter.ufl.edu/>.

**Writing Studio, 302 Tigert Hall**, 846-1138. Help brainstorming, formatting, and writing papers.  
<https://writing.ufl.edu/writing-studio/>.

**Student Complaints Campus:** [https://www.dso.ufl.edu/documents/UF\\_Complaints\\_policy.pdf](https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf).

**On-Line Students Complaints:** <http://www.distance.ufl.edu/student-complaint-process>.