

**Course Syllabus**  
**EMA 3010 Materials**  
**Section 5823, Fall 2014**

1. Catalog Description - Conceptual perspective for origin of materials behavior - structure/property/performance interrelationships. Materials selection and use of familiar material - metals, ceramics, polymers, electronic materials and composites in electronics, structural and other engineering applications.; 3 credit hours.
2. Pre-requisites and Co-requisites –CHM 2045, General Chemistry
3. Course Objectives - This is an introductory course in Materials Science and Engineering. We will cover a lot of different topics, and most of them will not be discussed in great depth. The overall objectives of the course are to:
  - a. Understand the fundamental concepts of Materials Science and Engineering.
  - b. Understand the basic structure and properties of a variety of materials.
  - c. Provide a sufficient background that you can pursue topics of your choice at a more advanced level, either in school or at a job.
4. Contribution of course to meeting the professional component - This is a 3 credit course. It provides 3 credits towards engineering sciences.
5. Relationship of course to program outcomes - This course addresses the following MSE Program outcomes (note: Numbers refer to the list of MSE Program outcomes):
  1. Ability to apply knowledge of mathematics, science, and engineering to materials systems. As an introductory course, this course provides students with fundamentals in the structure, properties, and processing of materials. Students demonstrate this knowledge on homework problems and exams.
6. Instructor - Elliot P. Douglas
  - a. Office location: 156 Rhines
  - b. Telephone: 352-246-3505 (cell)
  - c. E-mail address: [edoug@mse.ufl.edu](mailto:edoug@mse.ufl.edu)
  - d. Web site: e-Learning
  - e. Office hours: I generally maintain an open door policy. If my door is open you are welcome to come in at any time to ask me questions. I will have formal office hours Tuesday period 9 and Thursday period 7.
7. Teaching Assistant – TBD
  - a. Office location:
  - b. E-mail address:
  - c. Office hours:
8. Meeting Times – MWF period 8
9. Class/laboratory schedule - Three hours of class each week.

10. Meeting Location – 101 NEB

11. Material and Supply Fees – Since this class is held in a technology-enabled classroom there is a technology fee of \$10.56.

12. Textbooks and Software Required – Elliot P. Douglas, *Introduction to Materials Science and Engineering: A Guided Inquiry*, Pearson, 2014. Be sure to purchase the version that includes access to MasteringEngineering.

This course will utilize E-Learning Systems as an electronic course management system. The course website has a course schedule and will list your grades on assignments as they become available. All students are required to access the course site regularly. The site can be accessed from <http://lss.at.ufl.edu/>.

All students are required to have a web-enabled device in class. We will be accessing Learning Catalytics (part of MasteringEngineering) during class. You will also need to access e-Learning at the end of class on Fridays. Your participation will be graded.

13. Recommended Reading – None.

14. Course Outline – The general topics for the course are Structure and Defects, Phase Diagrams, Kinetics, Mechanical Properties, Materials in the Environment, and Electronic Properties. See the Calendar tool on the website for a detailed course schedule.

15. Attendance and Expectations – All work in class will be done as group activities in small groups, and thus attendance in class is very important. If you miss class you may become very behind in the work very quickly. Participation in the Learning Catalytics questions is part of the course grade, and therefore not attending class will lower your final grade. In order to complete the group activities, you must bring your calculator to every class.

16. Grading – Learning Catalytics in class, 10%; scribe reports 10%; daily homework, 14%; 3 exams, 22% each.

The grade for Learning Catalytics is based on participation. You do not need to get the answer correct. Scribe reports are due online in e-Learning at the end of class on Fridays. Homework will be done in MasteringEngineering. You are welcome to work together on homework, but keep in mind that on some problems each person gets a slightly different version so you will need to work out your own answers. Homework is due at the beginning of class each day. Late homework is not accepted. If homework is not turned in by the deadline you will receive a zero for that assignment.

**The third exam is not a comprehensive exam. It will only cover the final third of the course. There is no final exam.** Make-up exams will only be given for reasons of illness and in accordance with university policies regarding exam conflicts. Lack of attendance at any exam will result in an automatic failure for the course.

Exam dates are September 29, periods E2-E3; November 11, periods E2-E3; and December 10, periods E2-E3.

17. Grading Scale – The grading scale is indicated below. Grades are not curved.

Percentage	≥92	≥88	≥84	≥80	≥76	≥72	≥68	≥65	≥62	≥59	≥56	<56
Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E
Grade Points	4.0	3.67	3.33	3.0	2.67	2.33	2.0	1.67	1.33	1.0	0.67	0

A C- will not be a qualifying grade for critical tracking courses. In order to graduate, students must have an overall GPA and an upper-division GPA of 2.0 or better (C or better). Note: a C-average is equivalent to a GPA of 1.67, and therefore, it does not satisfy this graduation requirement. For more information on grades and grading policies, please visit:

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

18. Make-up Exam Policy - Make-up exams are given only for reasons of illness and in accordance with University of Florida regulations.
19. Honesty Policy – All students admitted to the University of Florida have signed a statement of academic honesty committing themselves to be honest in all academic work and understanding that failure to comply with this commitment will result in disciplinary action. This statement is a reminder to uphold your obligation as a UF student and to be honest in all work submitted and exams taken in this course and all others.

Cheating is a very serious offense and will not be tolerated. All instances of cheating, no matter how minor it may seem to you, will be reported to the Dean of Students Office and prosecuted. The penalty for any instance of cheating is a grade of E for the semester. Actions that are considered cheating include, but are not limited to:

- Copying of homework solutions from another source or another student. Students are encouraged to work together to solve the homework, and thus it is expected that in some cases the homework solutions of two students will be the same. However, blatant copying can be identified and will be considered cheating.
- Copying from another student during an exam, or using disallowed resources (including programming information into a calculator) during an exam. Calculators will be spot-checked during exams.
- Plagiarism on written reports. Plagiarism is the practice of copying the text or information from other sources and presenting it as your own. Any phrase of more than four words that is taken directly from another text needs to be placed into quotation marks and properly attributed.
- Attempting to change answers or marked grades on homework assignments or exams after they have been graded and returned.
- Any other action which is an attempt to modify your grade for an assignment in a way that does not actually reflect your work or abilities.

20. Accommodation for Students with Disabilities – Students requesting classroom accommodation must first register with the Dean of Students Office. That office will provide the student with

documentation that he/she must provide to the course instructor when requesting accommodation.

21. UF Counseling Services – Resources are available on-campus for students having personal problems or lacking clear career and academic goals. The resources include:
  - University Counseling Center, 301 Peabody Hall, 392-1575, Personal and Career Counseling.
  - SHCC mental Health, Student Health Care Center, 392-1171, Personal and Counseling.
  - Center for Sexual Assault/Abuse Recovery and Education (CARE), Student Health Care Center, 392-1161, sexual assault counseling.
  - Career Resource Center, Reitz Union, 392-1601, career development assistance and counseling.
  
22. 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.