

EMA 6114 Advanced Materials Principles 2

1. Catalog Description (including credit hours) – Structure, properties, processing, and applications of semiconductors, metals, ceramics, polymers, and biomaterials. Structure and properties of thin films, surfaces, and interfaces. 3 credits.
2. Pre-requisites and Co-requisites – EMA 6313
3. Course Objectives  
To gain an understanding of the principles underlying the structure and properties of materials. The specific objectives for the course include understanding the electronic, magnetic, and optical properties of materials, how processing affects structure and properties, and the selection of materials for particular applications.
4. Instructor – Elliot P. Douglas
  - a. Office location: 156 Rhines Hall
  - b. Telephone: 352-846-2836 (office); 352-246-3505 (cell)
  - c. E-mail address: edoug@mse.ufl.edu
  - d. Class Web site: login to e-Learning at <https://lss.at.ufl.edu/>
  - e. Office hours: To be announced

Instructor – Franky So

- a. Office location: 166 Rhines Hall
  - b. Telephone: 352-846-3790 (office)
  - c. E-mail address: fso@mse.ufl.edu
  - d. Class Web site: login to e-Learning at <https://lss.at.ufl.edu/>
  - e. Office hours: Monday 8 AM- 9 AM, Wednesday 9 AM – 10 AM
5. Teaching Assistant – To be announced
    - a. Office location:
    - b. Telephone
    - c. E-mail address:
    - d. Office hours:
  6. Meeting Times – Lecture: Tuesday period 5, Thursday period 5-6
  7. Class/laboratory schedule – Three 50 minute lecture periods per week.
  8. Meeting Location – 201 NEB
  9. Material and Supply Fees – None
  10. Textbooks and Software Required  
An Introduction to Materials Engineering and Science for Chemical and Materials Engineers, Brian S. Mitchell, 2004, Wiley, ISBN 978-0-471-43623-2.

11. Recommended Reading – None
12. Course Outline - General topics are electronic, magnetic, and optical properties, materials processing, and materials selection. A detailed reading list is provided on the course website.
13. Attendance and Expectations - Attendance in lecture is not part of the course grade; however, all students are expected to attend class. Cell phones should be turned off in 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 class time.
14. Grading – Homework 10%; Three exams 20% each; Final exam 30%.

Homework deadlines will be provided during the semester. Homework assignments are posted on the website. All homework must be submitted as a PDF file through the website. It is your responsibility to ensure that you upload the file before it is due. It is highly recommended you upload it well ahead of the deadline in case there are any technical problems. No late homework will be accepted for any reason, including technical issues with the submission process.

There are three semester exams and a final exam. Lack of attendance at any exam will result in automatic failure in the course. Semester exams will be held in class on February 6, March 13, and April 17. The final exam will be on May 2 from 12:30-2:30 PM.

15. 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   |

In order to graduate, graduate students must have an overall GPA and an upper-division GPA of 3.0 or better (B or better). Note: a B- average is equivalent to a GPA of 2.67, and therefore, it does not satisfy this graduation requirement. For more information on grades and grading policies, please visit:

<http://www.registrar.ufl.edu/catalog/policies/regulationgrades.html>

16. Make-up Exam Policy - Homework may not be turned in late without prior approval of the instructor. Make-up exams are given only for reasons of illness and in accordance with University of Florida regulations.
17. 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. Penalties for cheating are severe and may include 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 any written assignment. 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.

18. 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.
19. UF Counseling Services –Resources are available on-campus for students having personal problems or lacking clear career and academic goals. The resources include:  
UF Counseling & Wellness Center, 3190 Radio Rd, 392-1575, psychological and psychiatric services.  
Career Resource Center, Reitz Union, 392-1601, career and job search services.
20. Software Use – All faculty, staff and student 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.