

Course Syllabus
EMA 4324, Stability of Materials
Section 3009, Fall 2018

1. **Course Description** – This is an undergraduate course in degradation and stability of materials. Topics covered include the mechanisms, energetics and kinetics of environmental degradation of materials as well as the economic impact, prevention and mitigation strategies, and contemporary issues (3 credit hours).

2. **Pre-requisites and Co-requisites** – EMA 4314.

3. Course Objectives Include:

- a. to develop an understanding of environmental conditions and degradation mechanisms that drive the deterioration of engineering materials and what is necessary for prevention or control;
- b. to become familiar with traditional terminology, conventions and sources of materials degradation;
- c. to be able to identify contemporary issues in environmental degradation of materials and how to go about understanding degradation mechanisms, rates, control, etc. in these novel problems;
- d. to develop an understanding of the environmental and economic impact of materials and their degradation throughout their life cycle;

Relation to Program Outcomes (ABET):

Outcome	Coverage*
a. Apply knowledge	
B1. Conduct experiments	
B2. Statistical design of experiments	
c. Design	
d. Function on teams	
e. Solve programs	High
f. Professional and ethical responsibility	
g. Communicate	
H1. Economic impact	
H2. Global, societal, and environmental impact	High
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 assessed in this course.

5. Instructor – Simon R. Phillpot

- a. Office location: 164 Rhines
- b. Telephone: 352-846-3782
- c. E-mail address: sphil@mse.ufl.edu
- d. Course website: <http://lss.at.ufl.edu> (e-learning)
- e. Office hours: Tuesday Period 7 (1:55– 2:45 pm); Thursday Period 6 (12:50 – 1:40 am)

6. Teaching Assistant – Chatainya Kolluru

- b. E-mail address: kvs.chaitanya@ufl.edu
- c. Office hours: TBD

7. Meeting Times – MWF, Period 7 (1:55 PM – 2:45 pm).

8. Meeting Location – Rinker 110

9. Final Exam – Thursday December 13, 3:00 - 5:00 pm

10. Textbook Required (hardback or e-book) –

- a. Title: Corrosion Engineering: Principles and Solved Problems
- b. Author: Branko N. Popov
- c. Publication: Elsevier 2015
- d. ISBN: 978-0-444-62722-3

11. Other Reading Materials and Resources –

- P. W. Atkins (and J. de Paula): Physical Chemistry 9th Ed. (your thermodynamics book; earlier editions are also fine)
- Denny A. Jones, Principles and Prevention of Corrosion 2nd Edition, Prentice Hall 1996, ISBN: 0-13-359993-0

12. Attendance and Professional Expectations – Attendance is **strongly** encouraged. Attendance will inevitably be reflected in the course grade through previously unannounced classroom activities during the lecture period. Cell phones should be turned off, or muted, prior to the start of 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 and will not be allowed to make up quizzes or other assignments.

13. Grading –

- a. 45 %: In-class quizzes (9 of 12+ will count @5% each)
- b. 40 %: 2 Exams. Contributing equally
- c. 15 %: Contemporary literature report

Homework assignments will be given. Many of the problems will be from Popov, with the solutions included in the text. Homework will not be collected or graded. Each of the quizzes will be one of the HW problems, or a version thereof with trivial changes.

There will be 2 exams for this course. Exams are NOT “open book” unless explicitly designated as such. Calculators and rulers are allowed and encouraged. Unless prior written approval has been granted by the instructor, no make-up exams will be allowed; students not in attendance for the scheduled exam time and place will receive a score of zero. Make-up exams will only be allowed in exceptional cases with sufficient documentation and in accordance with University policies.

Contemporary literature report: will involve critical analysis of one or more literature papers. We will work through one or more examples in class in preparation for the assignment(s).

14. Grading Scale – Grades will not be curved and there is no extra credit.

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

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 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. <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.

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