Cover Sheet

EMA4161C Physical Properties of Polymers

Info

Process	Course|Modify|Ugrad/Pro
Status	Pending
Submitter	Nunez,Julissa jnunez@ufl.edu
Created	10/28/2014 3:37:06 PM
Updated	12/1/2014 11:10:23 AM
Description	Molecular structure and the physical property relationships for polymers: viscoelastic behavior, the glass transition, thermomechanical and rheological properties, the crystalline and amorphous molecular solid state. Correlation of properties with design engineering of polymer applications.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	ENG - Materials Science and Engineering 011909000	Xue, Jiangeng		10/28/2014
College	Approved	ENG - College of Engineering	Caple, Elizabeth		11/24/2014
University Curriculum Committee	Comment	PV - University Curriculum Committee (UCC)	Gebhardt, Susan	Added to the December agenda	12/1/2014
University Curriculum Committee	Pending	PV - University Curriculum Committee (UCC)			12/1/2014
Statewide Course Numbering System					
Office of the Registrar					
Student Academic Support System					
Catalog					
College Notified					

UCC2: Change Course Transmittal Form

Current SCNS Course Identification

1.	Course Prefix	EMA	2.	Level	4	3.	Number	161	4. Lab Code C
5.	Course Title	Physical Properties of Polymers							

Requested Action

6.	Effective Term	Fall	7. Effective Year	2015
8.	Action:	Terminate Course ☐ (Skip to item 24 on this form.)		Other ☒ (Complete all items below.)

If you select "yes" to change any item below, complete the corresponding "current" and "proposed" fields.

	Item	Change?	Current	Proposed
9.	Course Prefix	Yes ☐	XXX	XXX
10.	Course Level	Yes ☐	Select	Select
11.	Course Number	Yes ☐	XXX	XXX
12.	Lab Code	Yes ☒	C	-
13.	Course Title	Yes ☐	Click here to enter text.	Click here to enter text.
14.	Transcript Title (21 characters max)	Yes ☐	Click here to enter transcript title.	Click here to enter transcript title.
15.	Credit Hours*	Yes ☒	4	3
16.	Variable Credit*	Yes ☐	Min # and max # credits per semester	Min # and max # credits per semester
17.	S/U Only	Yes ☐	Select	Select
18.	Contact Type*	Yes ☐	Select contact type	Select contact type
19.	Rotating Topic	Yes ☐	Select	Select
20.	Repeatable Credit*	Yes ☐	Select	Select
21.	Course Description* (50 words or fewer.)	Yes ☐	Click here to enter text.	Click here to enter text.
22.	Prerequisites	Yes ☐	Click here to enter text.	Click here to enter text.
23.	Co-requisites	Yes ☐	Click here to enter text.	Click here to enter text.

* If the request is for a change in credits, contact type or course description, a syllabus must be attached and the syllabus checklist on the next page of this form must be completed.

24. Rationale and Placement in Curriculum

The course will remain in the same place in the curriculum. The lecture and the laboratory are being separated to increase flexibility in the schedule and allow students to take the course as an elective without having to take the lab if they do not need to or do not wish to take it.

Syllabus Requirements Checklist

The University's complete Syllabus Policy can be found at: http://www.aa.ufl.edu/Data/Sites/18/media/policies/syllabi_policy.pdf

The syllabus of the proposed course **must** include the following:

- ☒ Course title
- ☒ Instructor contact information (if applicable, TA information may be listed as TBA)
- ☒ Office hours during which students may meet with the instructor and TA (if applicable)
- ☒ Course objectives and/or goals
- ☒ A weekly course schedule of topics and assignments.
- ☒ Methods by which students will be evaluated and their grades determined
- ☒ Information on current UF grading policies for assigning grade points. This may be achieved by including a link to the appropriate undergraduate catalog web page: https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx.
- ☒ List of all required and recommended textbooks
- ☒ Materials and Supplies Fees, if any
- ☒ A statement related to class attendance, make-up exams and other work such as: *"Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found in the online catalog at: https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx."*
- ☒ A statement related to accommodations for students with disabilities such as: *"Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation."*
- ☒ A statement informing students of the online course evaluation process such as: *"Students are expected to provide feedback on the quality of instruction in this course based on 10 criteria. These evaluations are conducted online at https://evaluations.ufl.edu. 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."*

It is **recommended** that the syllabus contain the following:

- ☐ Critical dates for exams or other work
- ☐ Class demeanor expected by the professor (e.g. tardiness, cell phone usage)
- ☒ The university's honesty policy regarding cheating, plagiarism, etc.

  Suggested wording: 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 (http://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.

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

Fall 2014 Syllabus: EMA 4161
Physical Properties of Polymers

1. **Course Description**: (3 credit hours) – Molecular structure and the physical property relationships for polymers: viscoelastic behavior, the glass transition, thermomechanical and rheological properties, the crystalline and amorphous molecular solid state. Correlation of properties with design engineering of polymer applications.

2. **Pre-requisites or Co-requisites**: EMA 3066 – Introduction to Organic Materials

3. **Course Objectives:**
   - Develop an understanding of structure-property relationships in polymers
   - Analyze experimental data to characterize the structure and properties of polymers
   - Characterize and design polymer processes within realistic physical constraints
   - Understand the societal impacts of polymer processing
   - Develop communication skills
   - Develop lifelong learning skills

4. **Contribution of course to meeting the professional component:**
   This course provides 3 credits towards Engineering. This course addresses the following MSE Program outcomes:
   - Ability to apply knowledge of mathematics, science, and engineering to materials systems. (High coverage)
   - Ability to identify, formulate, and solve engineering problems.

5. **Instructor**: Dr. Antonio Webb
   - Office location: Rhines Hall 135
   - Telephone: 352-392-6551
   - E-mail address: awebb@mse.ufl.edu
   - Class Web site: The course website can be found on the Canvas system http://lss.at.ufl.edu. There you can find the course syllabus, lecture notes, grades, and announcements. Check it frequently.

6. **Teaching Assistant:** TBD

7. **Office hours**: Wednesday 2:00-3:00 pm and by appointment
   The TA's office hours to be announced

8. **Meeting Times**: Tuesday, period 4 (10:40-11:30)
   Thursday, period 4 and 5 (10:40-11:30 and 11:45-12:35)
   Thursday (Lab), period 9-11 (4:05-7:05)

9. **Meeting Location**: Mechanical and Aerospace Engineering Building B, Room 238 (MAEB 238)

10. **Material and Supply Fees**: Not applicable

11. **Textbooks and Software Required:**

    Title: Introduction to Physical Polymer Science, 4th Edition
    Author: L.H. Sperling
    Publisher: Wiley, ISBN-13: 978-0-471-70606-9

12. **Course Outline:**

Week	Topic	Chapter
1	Introduction to Polymer Science	1
2	Chain Structure and Configuration	2
3	Dilute Solution Thermo, MW, and Sizes	3
4	Concentrated Solutions	4
5	Phase Separation Behavior	4
6	The Amorphous State	5
7	The Crystalline State	6
8	Polymers in the Liquid Crystal State	7
9	Glass-Rubber Transition Behavior	8
10	Crosslinked Polymers	9
11	Rubber Elasticity	9
12	Polymer Viscoelasticity and Rheology	10
13	Mechanical Behavior of Polymers	11
14	Polymer Surface and Interfaces	12
15	Multicomponent Polymeric Materials	13
16	Polymer Processing	Handouts

13. **Attendance and Expectations:** Lecture attendance is highly recommended. While attendance is not mandatory, 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.

14. **Exams:** You will be given 3 exams throughout the semester. There will be NO Final Exam. Each exam is weighted equally and each exam will be worth 20% of your final grade. 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.

15. **Exam Conflicts with other course exams**: The exams will be "in class", meaning the exams will be administered during our normally scheduled class time.

16. **Make-up exams**: Make up exams will be provided only with the ***approval of the instructor in accordance with university policies.*** (https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx) 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.

17. **Homework Exercises*:*** Homework exercises will be assigned regularly. These homework

questions are essential to your study and some exam and quiz questions will be adapted from them. **No late homework assignments will be accepted.** Please see the TA during his office hours to discuss homework problems.

18. **Quizzes:** You will be given short quizzes throughout the semester; and the lowest quiz grade will be dropped. Make up quizzes will be provided only with the ***approval of the instructor in accordance with university policies.***

19. **Grading:** 60%: Three exams (equally weighted)
    20%: Homework
    20%: Quizzes

20. **Grading Scale**:

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	4.00	3.67	3.33	3.00	2.67	2.33	2.00	1.67	1.33	1.00	0.67	0.00

21. **Honesty Policy**: All students admitted to the University of Florida have signed a statement of academic honesty committing them 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. Note that failure to comply with this commitment will result in disciplinary action compliant with the UF Student Honor Code Procedures.
    See http://www.dso.ufl.edu/sccr/procedures/honorcode.php

22. **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.

23. **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.

24. **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.

25. **Students are expected to provide feedback** on the quality of instruction in this course based on 10 criteria. These evaluations are conducted online at https://evaluations.ufl.edu. 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.