

REQUEST TO COLLEGE CURRICULUM COMMITTEE FOR CURRICULAR IMPROVEMENTS

DEPARTMENT: MAE PROPOSED EFFECTIVE SEMESTER: Spring 2016 COLLEGE: CEAS

PROPOSED IMPROVEMENTS

Academic Program

- ☐ New degree*
☐ New major*
☐ New curriculum*
☐ New concentration*
☐ New certificate
☐ New minor
☐ Revised major
☐ Revised minor
☐ Admission requirements
☐ Graduation requirements
☐ Deletion ☐ Transfer
☐ Other (explain**)

Substantive Course Changes

- ☐ New course
☐ Pre or Co-requisites
☐ Deletion (required by others)
☐ Course #, different level
☐ Credit hours
☐ Enrollment restriction
☐ Course-level restriction
☐ Prefix ☐ Title and description
 (attach current & proposed)
☐ General education (select one)
 Not Applicable
☐ Other (explain**)

Misc. Course Changes

- ☒ Title
☒ Description (attach current & proposed)
☐ Deletion (not required by others)
☐ Course #, same level
☐ Variable credit
☐ Credit/no credit
☐ Cross-listing
☐ COGE reapproval
☐ Other (explain**)

** Other:

Title of degree, curriculum, major, minor, concentration, or certificate:

Existing course prefix and #: ME 5500 Proposed course prefix and #: Credit hours:

Existing course title: Materials Science II

Proposed course title: Modern Engineered Materials

Existing course prerequisite & co-requisite(s):

Proposed course prerequisite(s)

If there are multiple prerequisites, connect with "and" or "or". To remove prerequisites, enter "none."

Proposed course co-requisite(s)

If there are multiple corequisites, they are always joined by "and."

Proposed course prerequisite(s) that can also be taken concurrently:

Is there a minimum grade for the prerequisites or corequisites?

The default grades are D for undergraduates and C for graduates.

Major/minor or classification restrictions:

List the Banner 4 character codes and whether they should be included or excluded.

For 5000 level prerequisites & corequisites: Do these apply to: (circle one) undergraduates graduates ☒ both

Specifications for University Schedule of Classes:

a. Course title (maximum of 30 spaces):

b. Multi-topic course: ☒ No ☐ Yesc. Repeatable for credit: ☒ No ☐ Yesd. Mandatory credit/no credit: ☒ No ☐ Yes

e. Type of class and contact hours per week (check type and indicate hours as appropriate)

1. ☒ Lecture 33. ☐ Lecture/lab/discussion5. ☐ Independent study2. ☐ Lab or discussion4. ☐ Seminar or ☐ studio6. ☐ Supervision or practicum

CIP Code (Registrar's use only):

Chair/Director

Date 2/9/2015

Chair, College Curriculum Committee

Date

Dean

Date:

Graduate Dean:

Date

Curriculum Manager: Return to dean ☐ Date

Forward to:

Date

Chair, COGE/ PEB / FS President

Date

FOR PROPOSALS REQUIRING GSC/USC REVIEW:

* ☐ Approve ☐ Disapprove

Chair, GSC/USC

Date

* ☐ Approve ☐ Disapprove

Provost

Date

1. Explain briefly and clearly the proposed improvement.
The course description is being updated to better serve the students' needs.
2. Rationale. Give your reason(s) for the proposed improvement. (If your proposal includes prerequisites, justify those, too.)

The new title and description better matches the content of the course and enhances the design aspect of the course.

3. Effect on other colleges, departments or programs. If consultation with others is required, attach evidence of consultation and support. If objections have been raised, document the resolution. Demonstrate that the program you propose is not a duplication of an existing one.

N/A

4. Effect on your department's programs. Show how the proposed change fits with other departmental offerings.

The change will offer more opportunities for undergraduate student as an added elective. The course will continue to serve the department graduate students.

5. Effects on enrolled students: Are program conflicts avoided? Will your proposal make it easier or harder for students to meet graduation requirements? Can students complete the program in a reasonable time? Show that you have considered scheduling needs and demands on students' time. If a required course will be offered during summer only, provide a rationale.

Making it available as an elective will make it easier for the students to meet graduation requirements.

6. Student or external market demand. What is your anticipated student audience? What evidence of student or market demand or need exists? What is the estimated enrollment? What other factors make your proposal beneficial to students?

Currently, there is a shortage of elective courses that creates a pressing demand to have more possibilities.

7. Effects on resources. Explain how your proposal would affect department and University resources, including faculty, equipment, space, technology, and library holdings. Tell how you will staff additions to the program. If more advising will be needed, how will you provide for it? How often will course(s) be offered? What will be the initial one-time costs and the ongoing base-funding costs for the proposed program? (Attach additional pages, as necessary.)

As this is an existing course, there is no change in resources.

8. General education criteria. For a general education course, indicate how this course will meet the criteria for the area or proficiency. (See the General Education Policy for descriptions of each area and proficiency and the criteria. Attach additional pages as necessary. Attach a syllabus if (a) proposing a new course, (b) requesting certification for baccalaureate-level writing, or (c) requesting reapproval of an existing course.) **N/A**
9. List the learning outcomes for the proposed course or the revised or proposed major, minor, or concentration. These are the outcomes that the department will use for future assessments of the course or program. **This course will provide the students with an understanding of mechanisms and applications of engineering materials; it will equip them with an understanding of proper use of materials and failure prevention and provide them with the experience of design, through an open ended project.**
10. Describe how this curriculum change is a response to assessment outcomes that are part of a departmental or college assessment plan or informal assessment activities.
11. (Undergraduate proposals only) Describe, in detail, how this curriculum change affects transfer articulation for Michigan community colleges. For course changes, include detail on necessary changes to transfer articulation from Michigan community college courses. For new majors or minors, describe transfer guidelines to be developed with Michigan community colleges. For revisions to majors or minors, describe necessary revisions to Michigan community college guidelines. Department chairs should seek assistance from college advising directors or from the admissions office in completing this section. **As this is a 5xxx level course, there are no courses at this level at the community colleges.**

ME 5500 description change

Current description: Advanced course in both metallic and non-metallic engineering materials, including electronic and magnetic materials and biomaterials. Mechanical, physical, and biocompatibility properties will be examined with relationship to materials composition, structure, and processing. Failure mechanisms and prevention will be examined.

Prerequisites/Corequisites: Prerequisites: (ME 2500 or AE 2500) with a grade of "C" or better, or instructor approval.

Credits: 3 hours

Notes: Open to Upperclass and Graduate Students.

Lecture Hours - Laboratory Hours: (3 - 0)

Proposed description: Advanced course in both metallic and non-metallic engineering materials, including electronic and magnetic materials and biomaterials. Mechanical, physical, and biocompatibility properties will be examined with relationship to materials composition, structure, and processing. Failure mechanisms and prevention will be examined. Open ended projects will be assigned.

Prerequisites/Corequisites: Prerequisites: (ME 2500 or AE 2500) with a grade of "C" or better, or instructor approval.

Credits: 3 hours

Notes: Open to Upperclass and Graduate Students.

Lecture Hours - Laboratory Hours: (3 - 0)

ME 5500 Modern Engineered Materials

SYLLABUS

PROFESSOR: Dr. Pnina Ari-Gur, Professor, **F-241** Parkview Campus

Contact Info: 269-276-3212 <pnina.ari-gur@wmich.edu>

OFFICE HOURS: TBA

TEXTBOOK: Callister, W. D., *Materials Science and Engineering – An Introduction*, 9th Edition, Wiley, 2009. (With the Wiley Plus option)

DESCRIPTION:

- * Three credit hour course. Emphasis will be given to open-ended projects and problem solving.
- * Homework problems will be assigned.
- * Midterm test will be given
- * Two open-ended projects will be given

CATALOG: Advanced course in both metallic and non-metallic engineering materials, including electronic and magnetic materials and biomaterials. Mechanical, physical, and biocompatibility properties will be examined with relationship to materials composition, structure, and processing. Failure mechanisms and prevention will be examined. Open ended projects will be assigned.

PREREQUISITES: ME 2500 or AE 2500 or Instructor's consent.

<u>GRADING:</u>	Homework	15% (Including advanced materials presentations)	
	Projects	Project 1- 15% , project II- 25%	
	Midterm Exam	20%	
	Final test	25%	
	A 90+	B 80-84	C 70-74
	BA 85-89	CB 75-79	DC 65-69
	D 60-64	E < 60	

IMPORTANT: You are responsible for making yourself aware of and understanding the policies and procedures in the Undergraduate Catalog (pp. 268-270) that pertain to Academic Integrity. These policies include cheating, fabrication, falsification and forgery, multiple submission, plagiarism, complicity and computer misuse. If there is reason to believe you have been involved in academic dishonesty, you will be referred to the Office of Student Judicial Affairs. You will be given the opportunity to review the charge(s). If you believe you are not responsible, you will have the opportunity for a hearing. You should consult with me if you are uncertain about an issue of academic honesty prior to the submission of an assignment or test.

Have a great semester!!