

1. Explain briefly and clearly the proposed improvement.

The course title and description of ME 5500 are being updated to better serve the students' needs. The description enhances the design aspect of the course and validates its listing as a design elective.

2. Rationale. Give your reason(s) for the proposed improvement. (If your proposal includes prerequisites, justify those, too.)

The new title and description better match 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.

Since the course description emphasizes open-ended design projects, the change validates listing ME 5500 as a design elective. This 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.

Based on the considerations outlined in (4), 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.

ABET program criteria requires students to model, analyze and design. Although this course is not specifically used for assessment, providing students with more opportunities to take relevant design-focused courses (which this change does) is aligned with ABET program criteria and departmental assessment plans.

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 I- 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!!