Curriculum Course Request Change Course ME 6510 - A-2018-ME-64; effective term: 201940

Koorosh Naghshineh
Mon 10/15/2018 4:22 PM

To Raja G Aravamthan <raja.aravamthan@wmich.edu>; Said M Abubakr <said.abubakr@wmich.edu>
Cc Holly Blanks <holly.blanks@wmich.edu>

Please verify your data for New Curriculum Course Request for department: ME; college: A.
Go to the following URL to complete your worklist items: https://bwfp1.cc.wmich.edu:7102/wfbprod

Date of request: 05-OCT-2018
Request ID: A-2018-ME-64
College: A
Department: ME
Initiator name: Judah Ari-Gur
Initiator email: judah.ari-gur@wmich.edu
Proposed effective term: 201940
Does course need General Education approval?: N
Will course be used in teacher education?: N
If 5000 level course, prerequisites apply to: G
Proposed course data:
Change Course ME 6510
Specific Course Change type selected: Pre or Co-requisites

1. Existing course prefix and number:
   ME 6510

2. Existing course prerequisites:
   Prerequisites and Restrictions:
   ME 4530 Minimum Grade of C OR
   ME 453 Minimum Grade of C

3. Proposed course prerequisites:
   ME 3650 minimum grade of C or better OR
AE 5100 minimum grade of C or better

4. Existing course corequisites:
   No Corequisites exist for ME 6510 in term 201940.

5. Proposed course corequisites:
   none

6. Proposed course prerequisites that may be taken concurrently (before or at the same time):
   none

7. Minimum grade for prerequisites (default grades are D for Undergrad and C for Grad):
   C

8. Do prerequisites and corequisites for 5000-level courses apply to undergraduates, graduates, or both?
   Not Applicable

9. If this change applies to multiple courses, please list them below.
   Not applicable

A. Please choose Yes or No to indicate if this class is a Teacher Education class:
   No

B. Please choose the applicable class level:
   Graduate

C. Please choose Yes or No to indicate if this class is a General Education class:
   No

D. Explain briefly and clearly the proposed improvement.
   Replace the existing prerequisite course (ME 4530) with either ME 3650 or AE 5100

E. Rationale. Give your reason(s) for the proposed improvement. (If your proposal includes prerequisites, justify those, too.).
   The existing prerequisite course is outdated. At the time when it was chosen, ME 453 was a required course in mechanical engineering, but now it is an elective which is not taken by most students. Also, at that time we did not have AE graduate program so we did not include any alternative prerequisite to define AE preparation. The proposed prerequisites cover intermediate level solid mechanics topics, which bridge between the foundations level course ME 2570 and this graduate level course (ME 6510). Students who did not take ME 3650 will be able to take AE 5100 as a prerequisite course. This includes not only AE students but also foreign students and students who transfer from other schools. Thus AE 5100 will serve also as a guide to the topics needed as a preparation. The proposed change ensures that mechanical engineering graduate students as well as aerospace engineering graduate students, and potentially students from other graduate programs (like civil engineering) have the needed preparation for ME 6510.

F. List the student 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.
   no change

G. Describe how this curriculum change is a response to student learning assessment outcomes that are part of a departmental or college assessment plan or informal assessment activities.
   It is based on the current needs of our graduate programs.

H. 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.
None.

I. Effect on your department's programs. Show how the proposed change fits with other departmental offerings. It fits the current reality.

J. 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. It will add clarity. Also, it will enable students to enroll without getting exceptions from the advisor, due to the irrelevance of the existing prerequisite.

K. 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?
No effect.

L. 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.)
No change.

M. With the change from General Education to WMU Essential Studies, this question is no longer used.

For courses requesting approval as a WMU Essential Studies course, a syllabus identifying the student learning outcomes and an action plan for assessing the student learning outcomes must be attached in the Banner Workflow system.
Not Applicable

N. (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.
N/A.

O. Current catalog copy:
ME 6510 Advanced Strength of Materials, Elasticity, and Plasticity  Torsion of non-circular cross sections, shear center, curved beams, beams on elastic foundations, flat plates, and an introduction to two dimensional elasticity and plasticity. Open to graduate students only. Prerequisite: ME 4530.
3 hours

P. Proposed catalog copy:
ME 6510 Advanced Strength of Materials, Elasticity, and Plasticity  Torsion of non-circular cross sections, shear center, curved beams, beams on elastic foundations, flat plates, and an introduction to two dimensional elasticity and plasticity. Open to graduate students only. Prerequisites: ME 3650 or AE 5100 with C or better.
3 hours

Department Curriculum Chair approver: Kapseong Ro

Department Curriculum Chair comment:
Date: 15-OCT-2018

Department approver: Koorosh Naghshineh

Chair comment:

Date: 15-OCT-2018