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: 04-OCT-2019

College: A
Department: ME
Initiator name: Claudia Hansford
Initiator email: claudia.fajardo@wmich.edu

Proposed effective term: 202040
Does course need General Education approval?: N
Will course be used in teacher education?: N
If 5000 level course, prerequisites apply to: U

Proposed course data:
Change Course ME 4680
Specific Course Change type selected: Pre or Co-requisites

1. Existing course prefix and number:
ME 4680

2. Existing course prerequisites:
Prerequisites and Restrictions:
(ME 3560 Minimum Grade of C OR ME 356 Minimum Grade of C) AND
(ME 4320 Minimum Grade of C with concurrency OR ME 432 Minimum Grade of C OR ME 3670 Minimum Grade of C OR ME 367 Minimum Grade of C)

3. Proposed course prerequisites:
ME 3560 and ME 3670

4. Existing course corequisites:
No Corequisites exist for ME 4680 in term 202040.
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:
Undergraduate

C. Please respond Yes if this is a current general education course and/or a course being submitted for the new WMU Essential Studies program. Please respond No if it is neither.
No

D. Explain briefly and clearly the proposed improvement.
This proposal seeks to eliminate ME 4320: Thermodynamics II as a prerequisite to ME 4680: Engine Design.

E. Rationale. Give your reason(s) for the proposed improvement. (If your proposal includes prerequisites, justify those, too.).
Both ME 4320: Thermodynamics II and ME 3670: Introduction to Internal Combustion Engines are current prerequisites for ME 4680: Engine Design. ME 4320 is not directly related to ME 4680, whereas ME 3670 is a topical prerequisite. The requested change will remove an unnecessary prerequisite and enforce the ME 3670-ME 4680 sequence, better preparing students for ME 4680.

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.
Not applicable

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.
Not applicable

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.
There is no impact on other colleges, departments or programs.

I. Effect on your department's programs. Show how the proposed change fits with other departmental offerings.
Not applicable

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.
ME 4680 fulfills a 'design elective' requirement within the ME curriculum. Students enrolling in ME 4680 typically do so prior to ME 4790 (ME Project Planning) to fulfill the need for a design elective prior enrolling in the Senior
Design Project sequence. Effective Spring 2020 ME 3650 (Machine Design I), a required (design) course, will become a formal prerequisite to ME 4790. For this reason, we do not anticipate a drastic increase in the number of students needing to enroll in ME 4680 relative to prior semesters. The traditional Fall: ME 3670/Spring: ME 4680 sequence can continue without impacting student time to graduation, while ensuring that students who enroll in ME 4680 are better prepared to succeed in the course.

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?
Not applicable.

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.)
See J (above)

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.
No effect, since these are elective courses students take after transferring from community colleges.

O. Current catalog copy:
ME 4680 - Engine Design
Application of the knowledge of the mechanics, thermodynamics and fluid mechanics to the design of internal combustion engines to meet specific mission requirements. Optimization of the design using computer modeling and parametric studies.
Prerequisites & Corequisites: Prerequisites: ME 3560 and either (ME 3670 or ME 4320); with a grade of “C” or better in all prerequisites.
Credits: 3 hours
Restrictions: Restricted to majors in aerospace engineering or mechanical engineering.
Lecture Hours - Laboratory Hours: (2 - 3)
When Offered: Spring

P. Proposed catalog copy:
ME 4680 - Engine Design
Application of the knowledge of the mechanics, thermodynamics and fluid mechanics to the design of internal combustion engines to meet specific mission requirements. Optimization of the design using computer modeling and parametric studies.
Prerequisites & Corequisites: Prerequisites: ME 3560 and ME 3670; with a grade of “C” or better in all prerequisites.
Credits: 3 hours
Restrictions: Restricted to majors in aerospace engineering or mechanical engineering.
Lecture Hours - Laboratory Hours: (2 - 3)
When Offered: Spring
Department Curriculum Chair approver: Kapseong Ro

Department Curriculum Chair comment:

Date: 04-OCT-2019

Department approver: Koorosh Naghshineh

Chair comment:

Date: 04-OCT-2019