Major Department Curriculum Change Form
CEAS B.S. Undergraduate Programs

For B.S. in: __Mechanical Engineering______           Effective for which Fall Semester? __Fall 2013__

DATE SUBMITTED TO ASSOCIATE DEAN FOR EDUCATION: ____9/12/2012_________________________
(NOTE: Form should be submitted at least one year before the proposed curriculum change will be implemented.)

SUBMITTED BY: ____Derek Reamon, Chair of Undergraduate Committees, MCEN______________

Summary and justification of proposed change(s): Eliminate the requirement for MCEN students to take CHEN 1211/ CHEM 1221, and replace it with a chemistry and materials course tailored to the discipline of mechanical engineering. CHEN 1211 has too much content for the needs of our students, and hence moves too fast for our students to understand crucial fundamentals. We will focus on fewer topics, and endeavor to achieve better fundamental conceptual understanding in the areas that mechanical engineers will need. Additionally, for the same reasons as noted at the UEC previously, (detailed in the Chemistry Course Review, UEC Spring 2010), MCEN remains unsatisfied with CHEN 1211.

How does the proposed change(s) impact Article III.2 “Four-Year Graduation Guarantee and Flexible First Year” of the College Rules?

This change will not impact the Four-Year guarantee for MCEN students. Students must still take CHEN 1211/ CHEM 1221 under the terms of the guarantee, which MCEN will continue to accept in place of our new course. Students who switch from MCEN to another major might have to take CHEN 1211, but this is true of any student who changes disciplines, and/ or does not follow the terms of the Four-year guarantee.

How does the proposed change(s) impact a student starting in your major if he/she changes to any of the other majors in the College? (See nominal 8-semester sample curricula for each major under “Degree Programs” posted at www.colorado.edu/engineering/academics.)
Again, a student who takes our new chemistry and materials course would need to take CHEN 1211/ CHEM 1221 if they switch to ChBE or EVEN. They will be advised of this fact and directed to CHEN 1211 if they feel unsure that they will stick with MCEN.

How does the proposed change(s) impact enrollments and facilities outside your major department? Please include any new restrictions (e.g., major restriction) that are proposed for your department/program courses.

Offering a new MCEN-specific chemistry and materials course will reduce the enrollment of CHEN 1211/ CHEM 1221 by the size of our freshman class (typically 100-120 students). The new course will be open to other engineering majors, but as it will only meet MCEN requirements, there is really no reason for any other majors to enroll.

Please attach a nominal “before” and “after” 8-semester sequence for the curriculum.

Associate Dean for Education Decision & Date: ___________________________________________________

If approved, copies of this form will be sent to:  Major Department Undergraduate Curriculum Committee, Undergraduate Education Council, Administrative Council plus BS Program Chairs, and relevant Chairs of affected departments outside the college.
MECHANICAL ENGINEERING CURRICULUM (4-Year Plan)

1. F GEEN 1500-2 Sp Intro to Engineering
   F ELECTIVE (3) Sp Humanities / Social Science
   F Elective (3) Humanities / Social Science

2. F MCEN 1000-1 Sp Freshman Seminar
   F GEEN 1300-3 Sp Introduction to Engineering Computing
   F Elective (3) Humanities / Social Science
   F Elective (3) Humanities / Social Science

3. F MCEN 2024-3 Sp Materials Science
   F MCEN 2063-3 Sp Mechanics of Solids
   F MCEN 2023-3 Sp Statics & Structures
   F APPM 2360-4 Sp Linear Algebra & Differential Equations
   F Elective (3) Humanities / Social Science

4. F WRTG 3030-3 Sp Writing on Science
   F MCEN 3030-3 Sp Computational Methods
   F ECEN 3010-3 Sp Circuits & Electronics
   F MCEN 2043-3 Sp Dynamics
   F PHYS 2130-3 Sp General Physics 3

5. F Elective (3) Humanities / Social Science
   F Elective (3) Humanities / Social Science
   F MCEN 3030-3 Sp Computational Methods

6. F MCEN 4037-2 Sp Data Analysis
   F MCEN 4043-3 Sp System Dynamics
   F MCEN 4047-2 Sp ME Technical
   F Elective-3 Sp General Technical

7. F Elective-3 Sp General Technical
   F MCEN 4037-2 Sp Data Analysis
   F MCEN 4047-2 Sp ME Technical
   F Elective-3 Sp General Technical

8. F Elective-3 Sp General Technical

Prerequisite → Co-requisite ← Effective Fall 2013