October 8, 2012

To: Amit Kanvinde, Chair
College of Engineering Undergraduate Educational Policy Committee

From: Michael Hill, Professor
Department of Mechanical and Aerospace Engineering

RE: Request to both discontinue and close the Mechanical Engineering/Materials Science major

The faculty of the Department of Mechanical and Aerospace Engineering (MAE) request to both close and discontinue the Mechanical Engineering/Materials Science (EMEM) major housed in the department. We request the appropriate Academic Senate committees to give their approval. This request is based on the continuing low numbers of students participating in this major. As is described in more detail below elimination of the major would cause no harm to students and would free up some resources.

PPM 200-25, Section III–B, requires that six points be addressed in order to discontinue a program. Here are our responses to the six points:

1. Justification and impact: The freshmen and transfer enrollment figures for the EMEM major in recent years were:

Freshmen:
2004-5: 8
2005-6: 3
2006-7: 6
2007-8: 12
2008-9: 4
2009-10: 13
2010-11: 8
2011-12: 6
2012-13: 5

Transfer:
2004-5: 2
2005-6: 0
2006-7: 1
2007-8: 4
2008-9: 3
2009-10: 2
2010-11: 2
2011-12: 3
2012-13: 2

The number of graduates in recent years are listed below:
2007-08: 5
2008-09: 4
2009-10: 4
2010-11: 2
2011-12: 0

Clearly the program enrolls few students and graduates even fewer. The major has proven undesirable since it is not ABET accredited and our department has no intention of accrediting the program. Thus, our department requests that the program be officially discontinued, and new enrollment to the major closed.

Existing students in the major will be allowed to complete their course of study; some students early in the program might wish to transfer to the ABET-accredited Mechanical Engineering major and add the new Materials Science minor.

Closing the major would have no negative impact on the campus given the low numbers. No courses would be eliminated, as the EMEM major consists entirely of courses already offered in the MAE and Chemical Engineering and Materials Science Departments. All of these courses would continue to be offered. There are no courses dedicated solely to this major.

There would be a small positive impact to the department as with elimination of the major. There will be a savings in the time that the student adviser (SAO) spends to maintain upkeep of the major and will be able to focus on the two remaining majors that MAE offers. Overall, the workload of the MAE faculty and staff to support two majors (both ABET accredited) will be less than for three majors.

There are no effects on space utilization and no positions will be reduced or eliminated due to the closure of the major.

2. Phase-out plan: The students currently in the EMEM program will be allowed to complete their degree in EMEM.

Any new students admitted before closure will also be allowed to complete degrees in EMEM. Since no unique courses are required for EMEM, it will not be difficult to allow students in the pipeline to complete their degrees. The SAO will work with the students to ensure that they are aware of and fulfill all their degree requirements.

There are no accommodations needed for faculty, non-senate academic appointees, or staff, as the number of students involved is so small and no courses or positions will be reduced or eliminated.

3. Steps needed and timetable: The only remaining step is for the Academic Senate to give its approval to closing and discontinuing the major. We request that this is done prior to the beginning of the 2014 admissions process, such that the last incoming EMEM majors are from fall 2013.

4. Consultation: After discussion, the MAE faculty voted (15 in favor, 1 abstention and 0 opposed) on May 3, 2012 to discontinue and close the EMEM program. There would be no impact on other majors or departments as no courses will be eliminated.

5. Relationship to the Academic Plan: The most recent MAE Academic Plan (June 2011) mentions the need to phase out the EMEM program once the Materials Science minor is approved due to its low numbers and the resources it takes to administer. The bottom line is that the major is very small and its discontinuance will have no overall impact on a department with over 750 undergraduates and two other majors offered.

6. Comments: The compelling comments for discontinuing the EMEM program are as follows:
a. Insufficient enrollment
b. Earning an ABET-accredited degree is more important to students and EMEM students eventually change to the ABET-accredited Mechanical Engineering major.
c. The extra time required to administer this program is not justified by the number of students.

d. Market the Mechanical Engineering major plus the Materials Science minor with Undergraduate Admissions to attract the same subset of students that are interested in the EMEM program.