

UNIVERSITY OF MICHIGAN-FLINT  
*Regents Communication*

**ACTION REQUEST**

**SUBJECT:** Master of Science in Engineering (MSE)

**ACTION REQUESTED:** Approval to grant the Master of Science in Engineering (MSE) in Mechanical Engineering through the College of Arts and Sciences, University of Michigan-Flint

**EFFECTIVE DATE:** Fall 2016

The College of Arts and Sciences at the University of Michigan-Flint proposes to offer a Master of Science in Engineering (MSE) degree in mechanical engineering. Mechanical engineering is a critical multi-disciplinary specialty required for the ever-growing applications in consumer products, manufacturing, transportation systems, security systems, defense systems, aerospace, sports, biomedical systems, etc. It is omnipresent in automotive systems and healthcare and therefore the need for such a program is a very important engineering discipline for the state of Michigan. The proposed program will provide quality instruction in a focused discipline, and serve the need for mechanical engineers for automotive, robotics, defense, and biomedical engineering companies. Thus, it is highly relevant for both existing as well as emerging industries in Michigan. The demand for graduate programs in mechanical and industrial engineering at the national level have also been quite strong within the past decade and is growing.


The proposed degree should be attractive to out-of-state and international students as well as our own undergraduate mechanical engineering students who have previously left to go to other universities to pursue a master's degree. Our current undergraduate enrollment in mechanical engineering is one of the fastest growing undergraduate programs. Development of the proposed degree has been based upon demonstrated demand across a wide spectrum of business and industrial organizations for professionals with advance degrees in mechanical engineering. Current national trends anticipate a 6% growth in mechanical engineers in the next decade.

Admission to the MSE will require a bachelor's degree with a GPA of 3.0 or higher in mechanical engineering. The proposed MSE will require 33 semester-credit hours of graduate-level work, of which at least 12 credits must be from the core courses. The remaining 21 credits depend on whether a student elects the thesis option or the non-thesis option. Students electing the thesis option, in addition to their core courses, must complete and defend a master's thesis (6 credit hours) as supervised by a faculty advisor. A student who has not earned an undergraduate degree in mechanical engineering may be required to complete undergraduate mechanical engineering courses before regular admission to the program.


The proposed degree has been carefully examined with respect to program goals and objectives, curriculum design, adequacy and qualification of instructional staff, program financial viability and sustainability, student services, and program assessment by the Graduate Board, Academic Affairs Advisory Committee, Chancellor's Advisory Committee for Budget and Strategic Planning, the Academic Assessment Committee, the provost and chancellor. The program has been approved by the Michigan Association of State Universities and will be implemented pending Board of Regents approval.

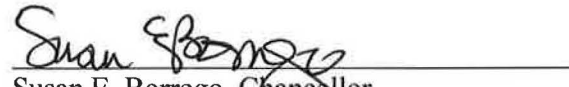
Based upon the extensive research and plans that have been completed, the University of Michigan-Flint requests approval to grant the Master of Science in Engineering (MSE) in mechanical engineering, through the College of Arts and Sciences, effective Fall of 2016.

RECOMMENDED BY:

  
Susan Gano-Phillips, Dean  
College of Arts and Sciences

RECOMMENDATION ENDORSED BY:

  
Douglas G. Knerr, Provost and  
Vice Chancellor for Academic Affairs

  
Susan E. Borrego, Chancellor  
University of Michigan-Flint

May 2016