

Notification of Intent to Develop New Program

Institution New Mexico Institute of Mining and Technology

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Date March 6, 2013

Degree Program Under Development Doctor of Philosophy in Mechanical Engineering

Department Submitting Proposal Mechanical Engineering

Date of Proposal Submission to NMHED Proposed date is May 15, 013

Desired Implementation Date August 20, 2013

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Use one page to describe the following

Purpose of the Program

The Department of Mechanical Engineering at New Mexico Institute of Mining and Technology proposes a new Doctor of Philosophy program in Mechanical Engineering (Ph.D. in ME) aimed at addressing educational needs of emerging markets in intelligent mechanical systems, explosives engineering, and national security.

The purpose of the proposed Mechanical Engineering PhD program at NMT is to provide graduate education and training in a mechanical engineering discipline encompassing research, development and practical applications of mechanical systems, energetic materials, and state-of-the-art, security practices in private industry and governmental entities. The program explores a system engineering thinking, knowledge of energetics, use of innovative design techniques and cross-disciplinary analysis of system elements for applications in engineering mechanics, bio-mechanics, intelligent structures, smart fluidic systems, combustion and explosives engineering.

Need (include data that you will include to demonstrate National, Regional, State and/or Local need for program)

The need for the program comes from the diversity of New Mexico business enterprises and growing interest in alternative energy, national security, and intelligent systems in general. There is no in-state and out-of-state duplication due to specific interconnection between the intelligent systems and energetics. In this respect, the program is uniquely positioned to serve students' interested in engineering smart/intelligent/adaptronic mechanical systems and explosives science.

Institutional Commitment to the Program

The Institution is committed to the program, which is reflected in the number of new faculty positions (3-tenure track, 1-visiting), the increasing number of laboratory and instruction spaces (5 laboratories and 1 graduate student instruction), new equipment (for Aerospace Program, fully equipped graduate student instructional facility, and additional financial support (title V program, etc.)).