

# **Engineering Physics at New Mexico State University**

## **Self-Study Report**

### **A. Background Information**

The Engineering Physics (EP) program at New Mexico State University (NMSU) is a relatively new program within the Colleges of Engineering and Arts & Sciences. The first graduate of the program finished in the year 2004. Although the program is new, it is supported by three mature departments – Physics (College of Arts & Sciences), Electrical and Computer Engineering (College of Engineering) and Mechanical Engineering (College of Engineering).

#### **A.1 Mission Statement**

The mission of Engineering Physics at New Mexico State University is to offer an ABET-accredited degree that combines high-quality engineering and physics programs to best prepare our graduating students for careers in state-of-the-art industry or to move on to advanced study in engineering or physics.

#### **A.2 Degree Title**

The title of the degree awarded is "Bachelor of Science in Engineering Physics." A minimum of 128 credit hours are currently required for graduation. The credits consist of a core set of courses in physics, a core set of courses in engineering, required credits in mathematics and other sciences, as well as other electives. The number of credits in each category depends upon the program option chosen by the student, which is discussed in detail below. Students may choose either an Electrical or a Mechanical Option. Students pursuing the Electrical Option will be enrolled in two semesters of Capstone Design and those in the Mechanical Option will be enrolled in a Design Project Laboratory.

In the Electrical Option, the students are required to take the following set of courses: Physics Core (34 credits), Physics Electives (6 credits), Electrical Engineering Core (38 credits), Electrical Engineering Elective (3 credits), Mathematics (15 credits), Chemistry (4 credits), and Additional General Education Requirements (28 credits).

In the Mechanical Option, the students are required to take the following set of courses: Physics Core (35 credits), Physics Elective (3 credits), Mechanical Engineering Core (42 credits), Mechanical Engineering Elective (3 credits), Mathematics (15 credits), Chemistry (4 credits), and Additional General Education Requirements (28 credits).

#### **A.3 Program Modes**

The Engineering Physics program is a daytime program with co-op options. All of the courses are offered during daytime hours, Monday through Friday, and are

intended primarily for full-time or nearly full-time students. Students also have the options of summer sessions for many of their beginning level courses.

New Mexico State University is located in a fast growing sun-belt city. Tuition remains relatively low and NMSU expects a steady increase in enrollment over the next decade.

#### **A.4 Actions to Correct Previous Shortcomings**

Since this is a new program, no previous shortcomings are addressed in this document. Instead, a trend of self evaluation and correction has been implemented; see specifically Criterion 3. An Engineering Physics Advisory Board convenes to advise on appropriate curriculum and evaluation procedures. Records of student progress and shortcomings are kept by the Department of Physics by its advisors and instructors. Each year, the Department of Physics meets to discuss the results of its evaluations and make changes, if appropriate.

#### **A.5 Contact Information**

Dr. Thomas Hearn  
Engineering Physics Advisor  
Department of Physics  
New Mexico State University  
PO Box 30001, MSC 3D  
Las Cruces, New Mexico 88003  
(505) 646-3831  
thearn@nmsu.edu