

## **Assessment Report for the Master of Engineering in Mechanical Engineering Program (AY 2007-2008)**

The ME faculty members review Graduate Program Assessment data during weekly departmental meetings throughout the regular semesters. The observations entered below (Assessment of Program Objectives) comprise a summary as concluded by the ME Graduate Committee on September 16, 2008.

### **Assessment of Program Objectives (Criterion E)**

#### ***1. Admit qualified students into the program each year***

*We are upholding our standard for admission at a minimum CGPA of 3.0 or First Class with a major in ME. Exceptions include Conditional/Probationary Status for those with a CGPA of 2.9 or better from a recognized program in ME with additional test scores such as GRE and for students with an acceptable GPA (3.0 or better) but with an undergraduate major other than ME. For the former, the conditions for removing probationary status is 12 credit hours of 600-799 level courses with a GPA of 3.5 or better in the student's first academic year in our graduate program. For the latter, the conditions include core courses in ME (usually Fluid Mechanics, Heat Transfer, Design of Machinery, and Mechanical Engineering Design I) with a GPA of 3.5 or better within the first year of enrollment.*

#### ***2. Have faculty with excellent credentials***

*Currently 9 out of 11 Faculty members have Graduate Membership with Dissertation Chairing or Co-chairing status. Graduate status for the remaining faculty is also being pursued.*

#### ***3. Provide state-of-the-art laboratories and facilities***

*All the labs, including the computer labs, have been recently upgraded. An exit survey is currently being conducted to gather information on user satisfaction. Initial results are being analyzed.*

#### ***4. Provide a full range of graduate courses for the program***

*The following graduate courses were offered in the AY 2007-08:*

ME 637: Computer Aided Engineering (Behnam Bahr)  
ME 639: Finite Element Methods in Mechanical Design (Bob Minaie)  
ME 650D: Introduction to Nanotechnology (Ramazan Asmatulu)  
ME 650R: Introduction to Corrosion (Ramazan Asmatulu)  
ME 650S: Biomaterials  
ME 665: Selections of Materials for Design and Manufacturing (George Talia)  
ME 669: Acoustics (Kurt Soschinske)  
ME 729: Computer Aided Analysis of Mechanics (Hamid Lankarani)

ME 750A: Recycling of Engineering Materials (Ramazan Asmatulu)  
ME 750F: Modeling of Engineering Systems (Dr. Sang Lee, Adj. Faculty, Spirit Aerosystems)  
ME 750T: Injury Biomechanics (Hamid Lankarani)  
ME 758: Non-Linear Control (Brian Driessen)  
ME 760: Fracture Mechanics (Ramazan Asmatulu)  
ME 762: Composite Materials (Bob Minaie)  
ME 829: Advanced Computer Aided Analysis (Hamid Lankarani)  
ME 850N: Nano-Material Fabrication and Characterization (Ramazan Asmatulu)  
ME 867: Mechanical Properties of Materials II (George Talia)

*Observation: A sufficient number of courses have been offered.*

**5. Enroll sufficient number of students each year.**

- a. The department shall enroll at least three Master of Science students per faculty member.
- b. The department shall grant at least one Master of Science degree per academic year per faculty member.

*These targets have been met.*

**6. Achieve an acceptable placement rate (job or continued school) within one year of graduation.**

*We are currently collecting data; initial response indicates placement rate at nearly 100%.*

**7. Have students express satisfaction with the program.**

*As mentioned above, data collection has begun through an exit survey of graduating students. Initial results indicate less than satisfactory feedback. The faculty are looking into this problem.*

**Assessment of Educational Student Outcomes (Criterion F)**

**1. Students in all program options will gain in-depth knowledge in one of the following specialty areas: Materials Science, Thermal-Fluid Sciences, Mechanical Systems/Design, and Bioengineering.**

- a. Students must take at least three core courses in their area of specialty, identified by the faculty in that area, and receive a grade of B or better in each of those courses.

*We have not been able to prescribe the core courses due to a shortage of faculty whose prime responsibility is to offer required undergraduate courses in the absence of funds for hiring adjunct faculty.*

- b. Students in the *course-work* option are required to pass an oral or written examination that includes questions from their specialty area.

*This policy is in place and followed without exception.*

**2. *Students in project/thesis options will demonstrate the ability to carry out various aspects of independent research through completion of project/thesis.***

More than 90% of all students in the graduate program will successfully complete their degrees by defending their project reports/theses before their respective committees.

*Data not available at this moment.*

**3. *Students will be able to self-educate.***

- Students in thesis or directed-project will complete their thesis/project, which includes a literature survey, with a grade of **satisfactory**.

*The goal is met by design and execution.*

- Students in the *course-work option* successfully complete a literature review in an advanced independent study course (ME 890).

*The second goal is in the process of being implemented.*

## **The Feedback Loop**

Our last Assessment Report (for AY 2006-2007) was submitted in Spring 2008 and no further feedback-evaluation has taken place since.