



ME CURRICULUM COMMITTEE
Florida International University
Department of Mechanical Engineering
Miami, Florida

MINUTES

June 19, 2002

The Mechanical Engineering Curriculum Committee met at 11:00 am in the ME conference room. Present at the meeting were Norman Munroe, Kuang-Hsi Wu, Cesar Levy, Yong Tao, Anthony McGoron, Mark Zampino, Carmen Schenck, and Sabri Tosunoglu.

INTRODUCTION

Members of the ME Curriculum Committee

- Dr. Sabri Tosunoglu, Chairman of the Committee
- Dr. Kuang-Hsi Wu, Chairman of ME ABET Committee
- Dr. Cesar Levy
- Dr. Yong Tao
- Dr. Anthony McGoron
- Dr. Mark Zampino
- Carmen Schenck, ME Departmental Advisor

Functions of the ME Curriculum Committee

- Review of Program Educational Objectives on a regular basis.
- Review indicators from various assessment tools including:
 - End-of-Semester Faculty Self-Evaluation Survey (on Program Outcomes)
 - End-of-semester Course Objectives Survey
 - Graduate Exit Survey (administered by the College of Engineering)
 - Alumni Survey
 - Employer Survey
 - Industrial Advisory Committee Survey
 - GRE General Exam
 - FE Exam
- Ensure that all assessment tools are carried out on a regular basis.

- Ensure Program Educational Objectives and Program Outcomes are met.
- Provide recommendations to faculty and department chair about improvements to the ME curriculum.
- Review and approve new proposals and changes to existing courses and programs that relate to the ME curriculum.

It was agreed that the Committee will review the assessment tools that are available, standardize and regularly collect data, review feedback and suggestions coming from surveys, identify weaknesses and address them to enhance engineering education within the department.

FACULTY SELF-EVALUATION SURVEY

Inclusion of Statistics and Probability Analysis into the ME Curriculum

As our Faculty Self-Evaluation Survey revealed, Outcome L, which represents knowledge of probability and statistics, including applications to mechanical engineering, in Course Impact on Achieving Program Outcomes was considered poor in our survey.

EGM 3311 - To remedy this deficit, the Committee decided that EGM 3311, Computational Analysis of Mechanical Systems, which is currently an elective course for ME students will become a required course, and the course will cover material that includes statistics and probability analysis as applied to mechanical systems, introduction to linear algebra and complex algebra to solve mechanical problems. EGM 3311 will replace the elective math course; therefore, the total required credit hours will not be affected.

MAC 2312 Calculus II will be the prerequisite instead of the current EGN 3321 and MAC 2313.

Implications to transfer students from Community Colleges: EGM 3311 will be made available to transfer students as an elective course.

Carmen Schenck and Sabri Tosunoglu agreed to initiate the process for this course change proposal for submission to the College and University Curriculum Committees.

EMPLOYER SURVEY

Although a large number of survey letters (reportedly in the hundreds) were mailed through the University and Departmental levels, only two responses were received to date.

The Committee agreed that all the efforts made in this regard need to be documented, and noted that the current mode of data collection is not an effective way and other short- and long-term strategies must be developed.

It was suggested that the Dean's office should be involved in the process as this survey may be approached at the College level more effectively. It was also brought up that in some universities this task lies under the responsibilities of Institutional Research Division.

DEPARTMENTAL DATABASE

At least one staff member in ME will be assigned to collect and continuously update data on our graduating undergraduate and graduate students, record employment data, contact address, e-mail, and phone number.

PROGRAM OUTCOMES

In order to demonstrate communications, and presentation skills, as well as integration of ethics, environmental impact and safety issues into a broad spectrum of courses, the following suggestions were made:

- Require that all final Senior Design Project presentations be recorded by FEEDS.
- Topics on engineering ethics should be integrated into the Introduction to Engineering course.
- Diversity training and contemporary issues should be integrated into our courses. Our faculty should be urged to actively seek new ways to realize this goal, as it should be an on-going process.
- Professional, ethical and environmental components must be included into design-related class projects.
- Norman Munroe will make a score sheet available to the Committee members so that it can be standardized and used in the department. Faculty and students will be required to use this score sheet to evaluate in-class presentations.
- Course syllabi for Senior Design Project Planning and Senior Design Project, ME Design I and II, Design of Thermo Fluid Systems and A/C System Design will include ethics and professional (safety, human factors, environmental factors) components.
- ME web page should be updated to reflect the latest departmental information correctly.
- In order to speed up the desired integration, the ME Department will purchase videotapes on ethics, environmental impact and safety issues in engineering. The Committee's contact with ASME revealed that ASME does not have such tapes for training purposes, but the National Society of Professional Engineers (NSPE) offers tapes on a wide area of engineering issues that include Human Resources, Leadership Skills for Engineers, Ethics, Engineering Ethics, Professional Liability, Qualification Based Selection, Contract Negotiations, and others. NSPE Code of Ethics is attached to this minutes statement to be made available to faculty for their review and use in their courses.

ACTION ITEMS

- Norman Munroe and Carmen Schenck will make the seminar score sheets available to the Committee members (Norman Munroe, Carmen Schenck).
- Check with Dean's office to track employer survey of former students (Kuang-Hsi Wu).
- Identify and suggest to Norman Munroe a number of NSPE (www.nspe.org) or other videotapes - as described above - be purchased (Cesar Levy, Anthony McGoron).
- New method(s) to collect more data on employer survey of former students in the short term (Yong Tao, Mark Zampino).
- Develop a course change proposal for EGM 3311 (Carmen Schenck, Sabri Tosunoglu).

The meeting adjourned at 1:00 pm. Next meeting will be held on Wednesday, July 10, 2002 at 12:00 noon in the ME conference room, EAS 3327.

Attachment: NSPE Code of Ethics for Engineers

Dr. Sabri Tosunoglu, Chair
ME Curriculum Committee