

# MINUTES of MECHANICAL ENGINEERING ADVISORY BOARD

## Spring 2003 Meeting

Thursday April 3, 2003

### **Present:**

Peter Avitabile (UML), Doug Browne(Abbott Labs.), Tim Byrd ( Byrd Technology Group ), Dick Driscoll (3M Touch Systems), Mike Kizner(Raytheon), Tim Kostar (UML), Ed March (UML), John McKelliget (UML), Ralph Mondano (UML), Charles Nigzus (Parker-Nichols), Charles Roche (Pratt&Whitney), Leo Lambert(EPTAC Corp.), Don Seccombe (BTU International), Sammy Shina (UML), Bob Sletten (Tyco Electronics), Gary Wenger(Cisco Systems).

### **1. Approval of Minutes**

The minutes of the Fall 2002 meeting were approved.

### **2. Department Update.**

Professor McKelliget reviewed developments within the department since the last meeting in Fall 2002. His presentation is attached to these minutes (Attachment I)

**Faculty:** Prof. Mironer, who retired at the end of the Spring 2002 semester, was hired as an adjunct professor to teach a section of statics in the Fall, and a technical elective in jet propulsion in the Spring. The position was funded by the department. Prof. Duffy is currently on sabbatical. Prof. Chen is taking a leave of absence as a Program Director at NSF. Tim Kostar has been hired as a visiting professor to replace her. The Board were informed that Professor Hollenbach, a retired faculty member passed away recently.

**Industrial Capstones:** Prof. McKelliget announced that the response to a request for industrial based Capstone Design Projects, made at the last board meeting, had been excellent. 5 such projects were currently underway in the department. He thanked the Board members for their contributions.

**Search for Dean:** The search for a new dean to replace Krishna Vedula was currently underway, and it was hoped that the result of the search would be announced at the College Advisory Board meeting on May 29.

**3. Faculty Response to Student/Board Meeting:** At the last Board meeting (Fall 2002) the Board members met with a delegation of graduate and undergraduate students (in the absence of faculty). The issues raised by the students were summarized by the Board Chairman and are attached to the minutes of the Fall 2002 meeting. The faculty subsequently discussed the student input during a department faculty meeting on 11/4/02. The faculty response was distributed to the Board members and is attached to these minutes (Attachment II).

The Board members led an extended discussion that focused primarily on the advising process – a topic that was of great concern to the students. There was some fundamental confusion on what we meant by the term advisor. It was made clear that department advisors fulfilled two complementary roles. They were there to advise the student on which courses to take for the upcoming semester. All students are required to meet with their advisor once a semester during the “Pre-registration period”. In addition, students could arrange to meet with their advisor at any mutually agreeable time to discuss other academic issues. Department advisors generally did not dispense advice on personal issues. The University provided other advisors for this.

Members of the Board seemed to have markedly different experiences with their advisors when they were students – indicating that the experience was highly dependent on personalities. There was a suggestion that students be allowed to choose their own advisor. Prof. McKelliget did not think that this was workable, although he remarked that he was always willing to reassign a student to a different advisor upon request. He also reiterated that he was preparing and advising handbook for faculty and students.

There was some discussion of the student request for more dimensioning and tolerancing. The opinions of the Board were divided on this issue. Some members remarked that there was decreasing use of 2D drawings in industry – Pro Engineer output being used directly. Others remarked that drawings were often needed for inspection purposes. It was agreed that a basic general knowledge of stack tolerancing was required.

#### **4. Proposed Masters Degree in Product Management.**

Ed March then gave a presentation describing the current status of the proposed graduate program in engineering for product management (Attachment III)

He outlined his views on the current state of manufacturing in Massachusetts. Manufacturing still matters. Manufacturing industries are the dominant funders and users of new technologies. Most exports come from manufacturing. The Massachusetts profile is different from rest of nation with twice the percentage of jobs being in manufacturing (28% - 2001 figures). The dominant areas are in computers and electronic products and telecommunications. Manufacturing now entails more value chain and systems integration.

He remarked that as a result of extensive discussion the focus of the degree had shifted from manufacturing to “engineering for product management”. The current proposal is for 50% management and 50 % engineering, although there was a feeling among some faculty that a 60-40 split would be more appropriate and produce a more rigorous program. He remarked that this would halve the segment of the degree that was devoted to “human aspects”. We are looking for technical depth complemented by management breadth. Although the degree was directed toward all engineers it was agreed that it should reside in mechanical engineering department.

Ralph Mondano remarked that some of the ideas incorporated in the new degree were those that he had tried to incorporate into the Doctor of Engineering program. He felt there was a need to break engineers out of the narrow educational cocoon they were now in and expose them to the business and management world. He noted that 92 schools share this idea and have similar programs. He had talked to these other schools and was impressed by the quality of the people who came in from outside to teach, and to contribute their experiences.

Don Seccombe noted that there was a move on in his company to bring some of their manufacturing back into the country. He remarked that 80% of their costs were in the supply chain and there was a need to exercise more control. He envisaged that there would be less outsourcing in the future and that it was risky to outsource core skills. There was a need to protect intellectual property.

Tim Byrd remarked that, from his perspective, not only is manufacturing still going overseas, but so is design. What is being left here is managing the supply chain. He remarked that collaboration tools are being extensively used to bring engineers from different countries together. He thinks the proposed degree is a great idea.

Mike Kizner agreed and said that Raytheon considers this a good program and would support it. He wondered if the program could contain a distance learning component. He remarked that when BU set up a similar program they went to senior leaders in industry soliciting support.

It was agreed that the Board would put together a memo expressing their support for the program. (Attachment IV)

The meeting was adjourned at 3.50 p.m.

**ATTACHMENT I**

**Department Chairman Presentation**

**ATTACHMENT II**

**Faculty Response to Student/Board Meeting:**

**ATTACHMENT III**

**Proposed Engineering for Product Management Degree**

**ATTACHMENT IV**

**Letter of Support From Board.**

To: John McKelliget  
Professor and Chairman  
Department of Mechanical Engineering  
UMASS-Lowell  
One University Avenue  
Lowell, MA 01854

May 23, 2003

Cc: Krishna Vedula  
Dean of Engineering  
UMASS-Lowell  
One University Avenue  
Lowell, MA 01854

Ralph Mondano  
Executive in Residence  
UMASS-Lowell  
One University Avenue  
Lowell, MA 01854

Edward March  
Executive in Residence  
UMASS-Lowell  
One University Avenue  
Lowell, MA 01854

Dear Professor McKelliget,

After review of the proposed masters degree in *Engineering for Product Management*, the Mechanical Engineering Advisory Board overwhelmingly approve of the course structure. We see the program satisfying a critical and growing need of our companies in the northeast.

Please pass on our enthusiasm to those who will decide the fate of the program. To Ed March and Ralph Mondano, your efforts show your skills in outlining not only a great program, but in defining a business need from critical sources and making the adjustments as the New England economy evolved over the last year.

The new degree should compliment the recent downsizing of degree programs. In fact, the degree represents the evolving needs of businesses being satisfied by the progressive efforts of the university.

Signed,

