Industrial Advisory Committee
Technology Department
Meeting Minutes: November 4, 2005
Kaskaskia Room, Student Center, SIUC
Carbondale, IL

Present:

1. Bruce DeRuntz
2. Julie Dunston (Co-Chair)
3. Brian Milligan
4. Ron Milligan
5. Tim Moore
6. Earnie Mulvaney
7. Mandara Savage
8. Carl Spezia
9. Alex Tapia
10. Tomás Velasco

Agenda
1. Introduction of members
2. Approval of April 2005 Minutes of IAC meeting
3. Nomination/approval of new IAC members
4. Review Undergraduate Curriculum (1.0 hours)
   a. Present actions resulting from recommendations in April 2005 meeting
      i. Industrial projects (IT 440)
         1. Project Management
   b. Other curriculum changes
5. Short-/Long-Term Goals (2.0 hours)
   a. Proposed Engineering Management curriculum
   b. SWOT Analysis
   c. Lean Manufacturing/Six Sigma
      i. Industry Training
      ii. Black Belt certification
   d. Off-Campus Program
      i. Chair/Director position
      ii. Master's program
   e. PhD program
6. Review Graduate Curriculum (2.0 hours)
   a. Review of courses/course content
   b. On-Line courses

Welcoming Remarks:

The meeting convened at approximately 10:30 a.m. Brief introductions were made by industrial members and faculty.

Minutes of the Previous Meeting:

Minutes of the Industrial Advisory Committee meeting held on April 22, 2005, were reviewed. *Motion to approve the minutes was made by R. Milligan, seconded by T.Velasco. Motion was approved unanimously.*

New Business:

1. **Nomination/approval of new IAC members**

   - Two new members, Brian Milligan and Alex Tapia, were in attendance. *R. Milligan made a motion to nominate Brian to the Committee, seconded by T. Velasco. Motion was approved unanimously. T. Velasco made a motion to nominate Alex to the Committee, seconded by J. Dunston. Motion was approved unanimously.*

2. **Review Undergraduate Curriculum**

   - Discussion of the curriculum commenced with proposed changes to the existing Manufacturing Policy (IT 440) course. The course will be redesigned to include project management topics and be renamed Project Management. B. DeRuntz presented a packet that would be used to solicit projects from local industry that students would be assigned to in the course. The scope of the projects should be such that students can effectively complete the work in teams of 3 students, working approximately 3 hours per week over the course of a semester. The following comments were made:

     1. B. Milligan recommended that an outcome be identified for the project, such as a written report.
     2. R. Milligan mentioned Washington University's project management program, which includes 8-10 courses designed around the body of knowledge for obtaining project management certification from the Project Management Institute (PMI). A recommendation was made to include several elements of PMI in the course redesign.
     3. B. DeRuntz asked the committee for recommendations on selection of team members for course projects. A. Tapia suggested that a team leader be selected for each project team. R. Milligan stated that he believes the most effective teams are those which are selected themselves.

4. J. Dunston suggested that a grade of a "C" or higher be required to complete the course since it is a Capstone course. In addition, it was recommended that a cost element be added to the project.

B. DeRuntz made a motion to approve the Project Management course with the following additions: (1) Students are required to earn a "C" or higher, (2) Course is structured as an overview of the elements of PMI, (3) Projects include a cost element, (4) Project teams are self-selected, and (5) A final project report is required. C. Spezia seconded the motion. Motion was approved unanimously.

3. **Short-/Long-Term Goals**

   a. A proposed Engineering Management curriculum was presented to the Committee. The following comments ensued:

      1. B. Milligan asked a question regarding students that enter the program as juniors. If they did not have the two years of coursework outlined in the curriculum, how would we accommodate them? These are issues that the faculty will have to address.
      2. A. Tapia recommended that students in the program take Thermodynamics, Electrical Circuits, and other traditional engineering core courses. This was generally agreed upon by R. Milligan, who added hydraulics to the list, and B. Milligan, who suggested electromechanical courses.
      3. T. Moore suggested that the faculty consider the placement of the students upon graduation. A previous comment by A. Tapia was that engineering managers are typically made by working their way up through the ranks. Therefore, the engineering management program would need to be designed with consideration of the positions graduates would be placed in when first entering the workforce.
      4. The general consensus was the Engineering Management does not accurately reflect the proposed curriculum. For example, project management includes several elements that were not part of the curriculum such as risk management. Several names for the proposed curriculum were suggested: Production engineering (R. Milligan), Systems engineering (A. Tapia, C. Spezia), Manufacturing engineering (R. Milligan), Management engineering (B. DeRuntz). R. Milligan stated that the need for systems engineering is growing.

   A motion was made by R. Milligan to develop the curriculum as systems engineering and present the revisions at the next meeting, seconded by M. Savage. Motion was approved unanimously.

   b. SWOT Analysis

- The Department's SWOT analysis was presented. One of the strengths was outstanding performance on the Certified Industrial Technologist (CIT) exam. Historically, the average pass rate nationwide is 55%, with SIU's students scoring 73%. In 2005, the pass rate was 97% which exceeded the results obtained by other IT programs that administered the exam.

  Motion to approve the SWOT analysis was made by B. DeRuntz, seconded by T. Velasco. Motion was approved unanimously.

c. Lean Manufacturing/Six Sigma

- T. Velasco discussed the department's plans to provide training to industry on Six Sigma and Lean Manufacturing. T. Moore recommended that the value-added be clearly defined, and that measures be identified for benchmarking.

d. Off-Campus Program

- Plans were discussed for expanding the off-campus program to include the Manufacturing Systems Master's program. R. Milligan mentioned that Boeing may be interested, and recommended that SIU contact the Manufacturing Engineering department to determine what interest there may be.

e. PhD Program

- A long-term goal of the department is to offer a PhD program. The Master's program will have to grow, and additional faculty hired, to make this viable.

4. **Graduate Curriculum**

The Manufacturing Systems curriculum was reviewed with the following recommendations:

1. T. Moore suggested establishing a training center for software that would provide demonstrations to industry on equipment upgrades. This would be accomplished through partnering with corporations.
2. T. Moore recommended the introduction of rapid prototyping in the CAMII course.
3. Other course suggestions were: FMS, Nanotechnology, and Process analysis.

Adjournment

The meeting was adjourned at 3:10 p.m.