

**Industrial Advisory Committee  
Technology Department  
Meeting Minutes: November 7, 2008  
College of Engineering  
Carbondale, IL**

Agenda

1. Introduction of members
2. Approval of Spring 2008 minutes of IAC meeting
3. Announcements
  - a. IQE proposal status
  - b. NAIT accreditation visit – Spring 2009
  - c. New student orientation
  - d. Faculty mentor program
4. Department Committees - Update
  - a. Recruitment
    - i. Robotics competition/Hovercraft – high schools
    - ii. Community College visits
    - iii. Student Ambassadors
  - b. Assessment
    - i. Employer/Alumni survey
    - ii. Program outcomes/Student competencies
  - c. Research
    - i. NSF proposals
    - ii. John Deere Foundation (Quality Institute)
5. Industrial Technology
  - a. Short-range/long-range goals
  - b. On-line/blended instruction
    - i. MediaSite equipment evaluation
  - c. Undergraduate portfolio
  - d. Co-ops/internships/industrial experience requirement (approved 4/22/05)
6. Manufacturing Systems
  - i. Curriculum review

**Present:**

1. Jim Akers (Woodward Governor)
2. Tom Bennett (Aisin)
3. Chuck Kuhn (Aisin)
4. Sam Hoskins (
5. Ron Milligan (The Boeing Company)
6. Earnie Mulvaney (Nascote Industries)
7. Todd Suits (Bombardier)
8. Ron Young (The Boeing Company)
9. Roger Chang

10. Bruce DeRuntz
11. Julie Dunston
12. Mandara Savage
13. Tomás Velasco

The meeting convened at 10:10 a.m.

### **Introduction of Members**

The meeting commenced with an introduction of the industrial advisory committee members and on-campus faculty.

### **Approval of Spring 2007 Minutes**

Minutes of the Industrial Advisory Committee meeting held on April 25, 2008, were reviewed. *Motion to approve the minutes was made by R. Young, seconded by R. Chang. Motion was approved unanimously.*

### **Announcements**

- J. Dunston and T. Velasco provided an update on the progress of the IQE proposal. Initial feedback from the proposal was negative, indicating the University's reluctance to send the proposal forward to the IBHE due to lack of funding of new programs over the last several years. The Dean of the College of Engineering recommended reducing the requested faculty lines from 2 to 1 and submitting the proposal as a request for internal reallocation. The requested modifications were made and the proposal is awaiting the decision of the Chancellor.
- J. Dunston announced the upcoming NAIT accreditation visit in Spring 2009. M. Savage stated that the accreditation team visit would take place some time in March.
- M. Savage presented the new student orientation program started in the department. In Spring 2008, all students were invited to attend a state of the department address given by M. Savage. At the beginning of the current semester, a new student orientation session was held to discuss various issues such as résumé writing, job searches, etc. All current students enrolled in the department were invited to attend.
- Another new initiative in the department is the faculty mentoring program. Starting this semester, each new student in the department will be assigned a faculty member. S. Hoskins asked if any students have taken advantage of the program. J. Dunston stated that one student had contacted her several times for assistance. R. Chang added that the department has always had an open door policy with students.

### **Department Committees**

#### Recruitment

- The recruitment committee presented an update on its activities. R. Chang stated that articulation agreements are being developed for individual community college programs

that feed into our program. For example, an articulation agreement was recently developed for the CAD program at Southwestern Illinois College (SWIC).

- Faculty requested suggested from the committee on the content of a promotional DVD for the department. The DVD would be presented to the Engineering 101 class during a 25-minute session allocated for the department. R. Milligan commented that testimonials from alumni would be very powerful, especially if there was a blending of interviews from alumni working in service areas, as well as manufacturing.
- C. Kuhn proposed that the department tap into students working full-time who want to pursue a Bachelor's degree by offering an on-line degree; furthermore, he recommended conducting a marketing study to determine the demand for this option.
- J. Akers commented that he was initially directed into engineering and was not aware of the engineering technology program that existed at the local community college. R. Milligan stated that he was introduced into the Technology program due to a transfer program.
- M. Savage announced that engineering students have transferred into technology as a result of the department's participation in the ENGR 101 class, first in Spring 2008 and then again in Fall 2008.
- T. Suits commented that the capstone/weekend format is a major draw for the program.
- C. Kuhn inquired as to what EET had done differently since the enrollment had increased. M. Savage replied that one of the EET faculty presented a 2-week short course to freshmen students as part of the College's Summer Bridge program. During this period, students were introduced to PLC and robot programming. One outcome of this activity was that 4 students changed their major from EE to EET.
- Additional recruitment activities were presented by M. Savage. The first high school robotics competition was held at the College in Spring 2008. Cost of the robot kits, which are provided by the College, cost approximately \$350. Another recruitment effort is the hovercraft demonstration taken to high schools, as well as hands-on hovercraft activities provided to students visiting the campus. The manpower for the robotics competition and hovercraft activities has been undertaken by the Technology department. In the future, funding from the College for these activities will be limited; therefore, the department is evaluating the best direction for the department in terms of such recruiting efforts. The following suggestions were made regarding future recruitment activities:
  1. T. Bennett recommended holding a competition with high schools, with local companies providing sponsorship for a specific school.
  2. M. Savage stated the need for initial buy-in from the high schools to participate in the competition
  3. J. Akers suggested tying in course content with specific tasks in the project to show how the curriculum assists in design
  4. T. Suits commented that donations for materials, engines, etc. could be solicited from companies, and that establishing long-term relationships for sustained donations might result in greater success
- In addition to high school recruitment, the faculty began visiting community colleges in Spring 2008, with the intention of establishing long-term relationships with instructors.
- C. Kuhn recommended tapping into IT graduates for the purpose of recruiting during homecoming week at their former high school and/or community college.

- Due to the limited number of scholarships available for Technology students, M. Savage presented a new opportunity for the department with the start-up of the Technology Advancement Initiation Fund. The purpose of this fund is to support recruitment/retention activities and provide scholarship monies.
  1. T. Bennett suggested sending out postcards prior to the annual fundraising drive
  2. C. Kuhn recommended a break-down of the percentages that are allocated for each area of the fund. He stated that alumni may be more likely to donate if it was known how the money would be spent and what percentage actually goes to the department. M. Savage replied that 94% of the donated funds come back to the department.
  3. R. Milligan stated that Boeing provides matching funds for employee donations and that alumni should be reminded of this opportunity if it exists within their organization.
- R. Chang presented the transfer guide (articulation agreement) between SWIC and the IT program (on-campus, off-campus at Alton and Scott Air Force Base). C. Kuhn asked how this impacted the credit hours that students need to take. R. Chang replied that the number of credit hours is reduced from 41 to 30 as a result of articulation.
- B. DeRuntz suggested transitioning the off-campus program to an on-line program to reach a broader audience of students working full-time. C. Kuhn recommended a gradual tapering in of on-line courses.
- A final initiative related to recruitment is the student ambassador program. Currently, 1 IT student and 3 EET students serve as ambassadors for the department; these students are representatives of the department during various recruitment activities for the department.

### Research

- The recruitment committee presented an update on its activities. T. Velasco stated that he has submitted a proposal to the John Deere foundation for funding to start up a quality center. The purpose of the center is to provide expertise in Six Sigma and Lean Manufacturing to small and medium-size businesses in southern Illinois.
  1. R. Milligan commented that funding opportunities exist within the DoD for universities to develop new technologies and establish relationships with larger companies. In addition, the funding is phased so that initial funding is provided for the concept stage and subsequent funding builds on that.
  2. C. Kuhn asked how the center would differ from IMEC. T. Velasco replied that the existing faculty have in-house expertise specific to Six Sigma and Lean Manufacturing. In addition, course content has already been developed and can be adapted easily for training purposes.
  3. C. Kuhn stated a need for resources to assist in implementing various industry standards, such as TS16949 and ISO14000, as well as supporting the core quality tools.
- J. Dunston presented two NSF funding opportunities that the department will be pursuing. One is the GOALI (Grant Opportunities for Academic Liaison with Industry) program which provides funding for faculty to conduct research at a company on-site. A second program is Discovery Research K-12, which provides funding for University-sponsored activities within the K-12 school system. The department will build on past

high school recruitment activities in order to pursue future funding for continued recruitment efforts. C. Kuhn suggested using the funding to build on weaknesses that exist within the high schools. T. Velasco commented that the faculty does not have the expertise in high school curriculum requirements and that it would be better if we focus on content that is well-known to us. R. Young agreed.

### Assessment

- M. Savage presented an update on the assessment committee activities. The following assessment items were discussed: employer/alumni surveys, exit survey for graduating seniors, and Certified Industrial Technologist (CIT) exam.
- The following comments were made regarding the employer/alumni surveys:
  1. R. Milligan recommended removing the employer name since some companies would not be willing to provide individual evaluations of employees as is currently requested. The survey will be modified so that the employer evaluates the program's competency instead of the individual.
  2. T. Bennett suggested adding questions to the survey that provide additional information, such as interest in on-line delivery of courses or interest in the IQE program.
  3. T. Suits added that not all alumni take positions in manufacturing, so it would be beneficial to ask what the primary business function is.
  4. R. Milligan suggested adding a note to employers to inform them that they are receiving the survey because their company has employed graduates from the IT program.
  5. T. Bennett recommended asking alumni if they felt any certifications received assisted them in finding a job.

*Motion to approve the surveys with minor changes was made by J. Dunston, seconded by R. Milligan. Motion was approved unanimously.*

- The next assessment topic was the CIT exam. M. Savage stated that this exam contains 160 questions, with B. DeRuntz adding that four areas are covered: quality, safety, management, production and inventory control. Typically, the average scores are between 55-60% for all participants, while the SIUC average is 75%. T. Suits stated that the performance of our students on the CIT exam should be advertised within brochures, etc. distributed to community colleges.
- Modified program outcomes/student competencies were presented for approval. The following discussion ensued:
  1. J. Akers asked if program outcomes were listed in the course catalog and if each item was measured. J. Dunston replied that the catalog lists major program objectives and does not provide the level of detail in the competency document. The CIT exam provides information that can be linked directly back to competencies but the department has not yet utilized the results for that purpose.
  2. T. Velasco suggested removing "basic" from competencies b1 and b2 and replacing it with "essential".
  3. C. Kuhn recommended adding "improvement" after quality in competency d1.

4. R. Milligan expressed concern over the wording in competency f, such as “constructive”, “meaningful”, and “effective”, as they are difficult to measure. After extensive conversation, the faculty determined that this section needs further discussion and evaluation.

*Motion to approve the program outcomes/student competencies with minor changes was made by R. Chang, seconded by C. Kuhn. Motion was approved unanimously.*

## **Industrial Technology**

- Short-range and long-range goals were reviewed. T. Suits suggested developing a timeline for completion of each of the goals.

*Motion to approve short-range/long-range goals was made by R. Chang, seconded by T. Velasco. Motion was approved unanimously.*

- T. Velasco discussed the testing of MediaSite equipment in the classroom. The equipment provides lecture capture for any-time viewing by students over the internet. An alternative to the MediaSite equipment is Echo360, which will be reviewed by the College relative to cost feasibility. J. Akers commented that web-based programs may be a viable alternative and are less costly. T. Bennett suggested initiating this method of course delivery within the graduate program.
- J. Dunston mentioned that, on 4/22/05, the IAC approved required participation of all students in a co-op, internship or industrial experience prior to graduation. Since IT 470b is a core course, which requires an industry project related to Six Sigma, all undergraduate students satisfy at least one of the required experiences.
- The remaining agenda items (undergraduate portfolio and Manufacturing Systems curriculum review) were tabled until the spring meeting due to time constraints.

The meeting was adjourned at 4:05 p.m.