ENGINEERING TECHNOLOGY INDUSTRIAL ADVISORY COMMITTEE

Minutes of Meeting – April 22, 2014


The Board members and faculty met at the SIU Engineering Building SEED conference room from 10 AM until 3:30 PM. Meeting called to order at 10:10 am.

The meeting started with faculty and IAC member introductions and opening comments. K. Meyer, B. Nielsen were absent due to schedule conflicts. Anthony Browning of Hella Electronics Corporation was added to the board starting this meeting.

Improvements and Changes

M. Savage discusses the state of the department. The topic areas included condition of the graduate program, the IT program and the budget. Budget constraints include only offering summer school courses on cost recovery basis. This should have minimal affect on department since we do not currently offer summer courses. Other budget items include increased technology fees for computers and telecommunication that reduce the OTS budget significantly. M. Savage presented current enrollment data for all programs.

C. Spezia continued the meeting with a review of the previous year. Major changes include the completion of the D122 lab renovation, electronic equipment purchases, and reduction of inventory through retirement to surplus property.

C. Spezia presented results from November 2013 ABET-ETAC accreditation review. He discussed the finding of the review team. The review team reported no weakness but had concerns regarding assessment feedback loop, and lack of integrative capstone course for the program. Board and faculty had a brief discussion regarding the role of IAB members in the process. Further discuss of a capstone course to afternon session. The need for newer PLC equipment and Electric machines reported.

Promotion and Tenure of Dr. Crosby announced. Staff retirements discussed and how this impacts the program and the university.

C. Spezia reports on activities in college that include the move of off campus programs to online model, the affects of college performance metrics on department and program funding, and the policy change allowing off-campus and online students to be included in computing cost metrics. Target metric is less than 1 to avoid internal review and possible program/department elimination.

Possible merger of college with department of computer science reported and discussed. The program loses space initially. However, it could benefit in the future from transfer from CS program into EET. There are also chances to share lab space in the future.

Enrollment discussed. Number of student tours is increasing. This should translate into more program admits. Dave Williams reported on his efforts in recruiting student transfers from other programs in college. Responsible for several student transfers. Currently 42 students enrolled in program as of 4-18-14 from advisement reports.
Program Assessment

Meeting reconvened after lunch to review new course syllabi for proposed senior design course, ET 495ab and changes to the program communication classes, ET 437ab and electronics Design courses ET 403ab.

The consensus of the IAB members was that the introduction of the ET 495ab course would add value to the program graduates and should be pursued. A. Browning in particular indicated that this experience would be beneficial.

E. Rossi mentioned several free software packages that help people working on projects. These included Openproject, which allows group collaboration and operates from a server through a browser interface, and Xmind. Xmind is brainstorming software that is useful in collaboration and idea development. He also stated that program should standardize on a schematic capture software and board routing software. He suggested Eagle. C. Spezia indicated that low cost of software is prime consideration in selection.

IAB members recommend the use of 3-D printer as part of design projects. This is used in industry for rapid prototyping at Hella Electronics.

S. Lazorchak suggests we include content on how to “sell” technical ideas and proposal. Other IAB members agree this is important communication skill. Faculty will consider adding content of this type into 495.

Etching of circuit boards discussed for projects. D. Williams indicated that we have ability to do in house and that many students are gaining hands-on experience with this task. R. Marusarz indicated that costs to send to board fabricating companies are low and turn-around time is short. Program should consider this option. Rossi re-enforced this option.

There is general discussion of course credit hours. D. Short indicates that 1 credit hour may not represent the actual working involved and should be increased. There is a recommendation of 2 credit hours. Faculty members indicate that workload issues may restrict the number of credit hours assigned to course.

IAB members suggest reducing hours from other course such as ET 403ab ET 438ab and ET 437ab as solution. Faculty members will take these suggestions under advisement when developing ET 495ab.

Workload in 400 level labs may need adjustment to give students time to develop projects. D. Williams suggests creating project modules that can be used in developing larger projects.

R. Marusarz suggests we discuss plans with ECE 495 faculty to determine best practices from their experiences.

G. Crosby presents new topic outlines for ET 437ab. L. Ray suggests that older analog modulation schemes be de-emphasized in favor of new technologies. (Topics 1-11 on 437a listing) He still considers antennas and transmission lines as valuable in many employment areas.

L. Ray indicates that the networking part of ET 437b is valuable since all phone systems are converting to packet-switched network. There are also possibilities for interaction with Computer science if they integrate into college.

E. Rossi suggests introduction of Linex into 437b and the industrial communication protocols like Fieldbus Modbus, CAN, DeviceNET, Modbus has free software tools to aid in development. We should allocate time to emerging technologies and use that as focus of courses.

G. Crosby discusses developing communications lab. He is considering TIMs system and NI Elvis. Costs are high $10k-$15k. IAB members suggest a combination of pre-developed experiments and faculty custom developed experiments.

D. Williams discussed his plans for ET 403ab. Re-introduce embedded system design into 403b using Arduino. Give good blend of discrete devices and IC’s De-emphasize OPAMPs since this content is duplicated in other
courses. Rossi indicates that student should know about interfacing electronics to embedded controllers, particularly open collect devices and power control applications.

The IAC reviewed summary assessment data from ET 150, 332a, 438a from the fall semester 2013.

The committee and faculty members reviewed results from last spring’s SME sponsored assessment exam. ten students took the exam in spring of 2013. The faculty and IAC members review the results. The committee reviewed longitudinal data from the last four years of SME/EET exams. Students show performance increases in digital electronics, microprocessors, and basic circuit concepts. AC circuit concepts show lower student performance. Basic circuit analysis techniques, analog electronics and instrumentation performance is flat.

Meeting concluded at 3:15 pm.

Minutes prepared by Carl Spezia 4-23-2014