PURDUE SCHOOL OF ENGINEERING AND TECHNOLOGY, IUPUI
Faculty Senate Meeting Minutes
February 10, 2004
FS03-5

Representatives in Attendance: Carmen Boje, Elaine Cooney, Bill Conrad, Jan Cowan, M. El-Sharkawy, Cliff Goodwin, Chul Kim, Keith Kovach, Razi Nalim, Armondo Pellerano, Ramana Pidaparti, Ken Reid, Maher Rizkalla, Joy Starks, Charlie Yokomoto, Bill Watson

Guests: Ed Berbari, Charles Feldhaus, Tom Ho, Marvin Needler, Ken Rennels, John Schild, Jan Stevens, Dean Yurtseven

Senate President, Bill Conrad, called the meeting to order at 11:00 a.m.

The minutes from December 9, 2003 were motioned for approval by Cliff Goodwin and rest of faculty agreed. Minutes will be e-mailed to Faculty Senate and no copies will be distributed at the meeting.

Administration Report

Dean Yurtseven presented the Administration Report *(Attachment I).*

Academic News:

Dean Yurtseven advised credit hours decreased by 1.48% for spring 2004 in comparison to same time last year, the headcount increased by 0.2%. Campus overall had an increase in their numbers.

Purdue University Board of Trustees approved the Biomedical Engineering program to begin July 1, 2004. Funding for this department will come from the campus.

The Interior Design BS degree was approved by the Purdue University Board of Trustees. This degree will now be on the agenda at the Indiana Commission for Higher Education on Friday, February 13; Gayle Shiel and Dr. Yurtseven will attend this meeting.

Faculty and Staff News:

Marv Needler received the 2004 ASEE Engineering Technology Division Recognition Award.

The December 2003 issue of ASEE Prism published an article that highlighted a design process Ramana Pidaparti used with both engineering students and one art student; Dr. Yurtseven advised it was a complimentary article.

The school will be visiting with Raytheon on February 27 and Dr. Y. Chen will be getting a group of faculty together to go there. Raytheon will be giving the school money for research.

Purdue University Discovery Park will be here for a ½ day conference on Thursday, February 26th. Dr. Yurtseven advised around 25 faculty from Engineering & Technology have signed up to attend at this time.

Four faculty members received funds for winning proposals for the Indiana 21st Century Research Funds. The faculty members are Razi Nalim, Akin Ecer, Paul Salama, Yaobin Chen and Steven Rovnyak.

Events:

The first Robotics Competition was held in the Lecture Hall on January 10, 2004. Around 150 students, teachers and guests attended the event.

Some of our faculty were selected from student athletes as their "favorite professors" and these faculty were invited to the "Favorite Professor Night" on January 29, 2004.

The school had a nice tea party reception on January 28th for Pat Ault's retirement party for 20 years of service to the school.

New Space Allocation (added information, not in the Dean's Report):

Dr. Yurtseven advised Faculty Senate about the space in the basement we will receive this summer after UITS vacates the space in May or June. CIT will move into this space around December 2004 after renovation of the space and will lose their current second floor labs. The school will have a net gain of around 12,000 square feet. Our taxes will increase with the additional space we are receiving.

There is a possibility in the future (2008 – 2010) of adding on to the LD building and connecting LD to New York Street; this would be a joint project between various schools.

For any further details of the Dean's report see attachment I.

E Learning Committee

Dean Rennels reported on the ad hoc committee started by Dr. Paydar and chaired by Ed Sullivan. This committee looked at student evaluation methods and distance learning. They also created a series of Best Practices with regards to student evaluations. This report will also be forwarded to Academic Affairs and Undergraduate Affairs to look over. A handout was distributed at the meeting titled "Student Evaluation Methods in a Distant Learning Environment." See Page 8 of minutes for a copy of this document.

Course Evaluations

Dean Rennels also advised Faculty Senate that all evaluations would be done 100% online this spring semester. There were pilot evaluations done in ECET and CIT previously. The school is in process of moving the software from CIT to a CNC server. The evaluations may be available by mid-term, but otherwise should be available two weeks prior to the end of the semester. Instructions will be distributed to each student. The faculty ballots will display with the evaluations also. Various faculty and schools will be able to use parts of the survey for informational purposes.

Charlie Yokomoto asked about giving incentives to students for filling out the evaluation. Joy Starks advised she told her students that after she saw 70% response on the evaluations she would start giving the class some extra credit. The evaluations can be announced through Oncourse.

Constitution & Bylaws Committee – No Report

Graduate Education – No Report

Student Affairs – No Report

Budgetary Affairs – No Report

Faculty Affairs – No Report

Grievance Board – No Report

Nominations

Doug Acheson advised Faculty Senate he was working with Mary Reiman to get faculty nominations online again for this year. He asked that everyone encourage their faculty to vote and participate. There are school wide elections and elections for committee members and departmental representatives. Doug is currently speaking with Dr. Yurtseven about faculty accountability in attending meetings. Doug would like to see faculty be more involved and want to attend meetings, and work together as a school. You can view the current committee assignments under the *G drive, Common folder, word document, Committee Assignments for 2003-2004.*

Educational Policy

Ed Berbari brought several topics from the Ed. Policy committee.

CIT Security Certificate: The classes for this certificate were previously approved and the corresponding certificate was approved with Faculty Senate today (February 10, 2004).

CIT 307 and ECET 106 classes were approved.

There are seven overlapping courses students take to get both a BSEE and BSCmpE degree. These classes apply only to a student who is getting both degrees simultaneously. This was approved.

CIT E Series Courses

The E series 100 level courses were approved in December. The 200 and 300 level courses were brought up during this meeting for discussion and approval. The E series courses are as follows:

E100   Using Computer Software I
E101   Using Technology at IUPUI
E123   Internet Skills
E133   Maintaining a Computer System
E200   Using Computer Software II
E201   Information Technology for the Consumer
E203   Desktop Publishing
E205   Creating Web Pages I
E235   Home and Small Business Networking
E301   Protecting Yourself in Cyberspace
E305   Creating Web Pages II

Tom Ho attended the meeting to answer questions and concerns about the classes, along with Joy Starks and Jan Stevens.

Some general concerns were that it seemed like quite a few classes to add at one time. Cliff advised OLS has every student take 24 hours of technology credits from the CIT department. Cliff asked if he should advise students to take the E-series courses. Tom advised CIT and OLS should probably have a meeting to discuss these classes and make a decision from there. Someone questioned how the courses would be viewed if someone took them and then applied to the Graduate Technology Program. Tom felt this was a question he could not answer at this time. Charlie felt each department will need to make a decision as to whether they will accept the E series courses in their curriculum.

Tom felt there were two points regarding the E courses. There is the curriculum factor, in which he advised these courses will be assessed like all of our other courses. The CIT department continues to work on IT accreditation, and these courses would be under the same scrutiny as our major courses. The other reason to start these classes is for academic and business reasons and to develop new markets for CIT, whose numbers have been dropping. Ken Reid asked if the school wanted other departments to add non major courses to their curriculum and if this is the avenue the school wanted to take. Some felt this would possibly change the schools character. Dr. Yurtseven advised if there is a market need and a department feels they can meet that need then they could try their own non-major courses. Dr. Yurtseven advised Faculty Senate that the Dean's office asked CIT to develop these courses, prompted by the N series courses in Computer Science. Dr. Yurtseven and Tom advised Computer Science has had N courses for many years and they have done well. Charlie Yokomoto advised his department also has a course for non-majors.

Elaine questioned if there was enough lab space and resources for these new courses. Joy advised the E101 course will meet earlier in the day and will use a lab every other day. Jan advised the E100 course may bring a shift in population of students and advised Faculty Senate CIT 106 decreased by 84 students this past semester (meaning E100 may use the labs that CIT 106 normally uses). It is hard to determine at this point in time how these classes will affect lab space. Lab space and faculty will be reassigned from other sections that are cancelled due to lower enrollments as necessary. CIT will not hire new faculty to teach these courses in the fall.

Ken had concerns regarding course overlap with other departments. Ed Berbari advised all that Education Policy committee noted there were 4 E series courses that had similar titles with current CIT courses. The group was reminded, though, that these are courses for non-majors. Joy advised Faculty Senate she used the Biology department model for the E courses. Dean Yurtseven reminded the senate that the Educational Policy meeting would have been the appropriate forum for other departments who felt there were some overlaps.

Joy said she would be happy to answer any questions about the classes and meet with other departments. Tom advised he is not asking the other departments to use these courses. Each department can decide how it might like to utilize these courses. CIT department does not accept Computer Science N series courses for their majors, and that Computer Science does not even accept their own N-series courses for majors. Tom advised when CIT designed the IT and E Commerce certificate courses so they could accept them for their major.

Cliff asked if these courses could be articulated with Ivy Tech courses. Tom advised at this time we have articulation agreements for our major courses and there are no current plans to articulate these courses. Rich Pfile felt the school should just watch the courses and see how they do. This is a new area for the school so we can judge how they work in the next few semesters.

Elaine Cooney had concerns about the physical issues of adding these classes. She felt earlier in the year it was mentioned the school should not go after more students and faculty, but should concentrate on gaining research dollars. Dr. Yurtseven advised these classes were not brought in to increase our income, but to gain back the credit hours CIT has lost over the last few semesters. Cliff asked how many credit hours CIT was hoping to gain from these new courses, at this time there is no way to predict this.

Ken Reid mentioned an overlap of courses between CGT, CpET and CIT; some did agree there is overlapping of courses within our own school and this should be brought up as a separate issue beginning with Educational Policy committee.

After much discussion, Faculty Senate did approve the 200 and 300 level E Series Courses for the CIT Department.

Dean's List

Ed Berbari mentioned the dean's list issue again, asking if Faculty Senate wished to adopt the Purdue dean's list policy. Ken Rennels asked if Faculty Senate could table this issue so that the dean's office could possibly simulate an example of this policy to make sure our system could work properly. Also, Ken will meet with Education Policy Committee to discuss this issue further.

IUPUI Faculty Council

Charlie Feldhaus advised all of a few items from the February 3 Faculty Council meeting. The website for Faculty Council is www.iupui.edu/~fcouncil if you want to see meeting minutes, agendas, etc.

Hasan Akay will be on a faculty wide board. There were also elections for the Faculty Grievance Advisory Panel. Onestart was also discussed at the February meeting; this will be a portal to get to Oncourse, which gets nearly 10,000 hits per day.

The January Faculty Council meeting was also mentioned; IU President Herbert attended and gave a speech, which was quite positive toward IUPUI.

New Business

Bill mentioned there are parking problems if you try parking in the North Street garage from 12:00-2:00 pm. He is currently speaking with Parking Services about this issue.

Bill also asked if the school should have an Honors Program, but little was discussed on this issue.

Old Business – No Report

Resource Policy

Cliff reminded all that nominations for faculty and staff awards are due on Friday, February 13, Monday at the latest. Research and internal grants also go through Resource Policy Committee.

Purdue Intercampus Faculty – No Report

Purdue Technology Senate – No Report

Nominations – No Report

The meeting was adjourned at 12:45 pm. The next Faculty Senate meeting is Tuesday, March 9, 2004.

Attachment I

Dean's Report for February 9, 2004 Faculty Senate Meeting

Academic Programs
- Our student credit hours decreased by 1.48% for spring 2004 semester as compared to spring 2003 semester. Headcount increased by 0.2%.
- Purdue University Board of Trustees approved the establishment of the Department of Biomedical Engineering at its February 6, 2004 meeting. The department will be in place by July 1, 2004.
- Interior Design Technology-BS degree proposal was approved by the Purdue University Board of Trustees and it is now on the February 13, 2004 meeting agenda of the Indiana Commission for Higher Education.

Faculty News
- Marv Needler was received the 2004 ASEE Engineering Technology Division Recognition Award that was presented to him at the ASEE Conference for Industry and Education Collaboration annual meeting.
- The December 2003 issue of ASEE Prism published an article "Design Students Take on Rhinos" to highlight the design process Ramana Pidaparti used in senior mechanical engineering design course by a team of engineering students and one art student.
- Three engineering and technical managers from Raytheon visited the School on January 23, 2004 and open discussions took place with them and several interested faculty for collaborative research. A similar meeting was held on January 29, 2004 with technical managers from Naval Surface Weapon Center, Crane.
- Purdue University Discovery Park directors will visit IUPUI on Thursday, February 26, 2004 and make presentations. All faculty are invited to attend in an effort to seek collaborative research opportunities.
- Bob Pennington, our part-time faculty member in Biomedical Electronics Technology program was selected as the Indiana Biomedical Society Professional of the year.
- Four of our faculty members were in the winning proposals for the Indiana 21st Century Research Funds. The proposals are:

    1. Title: Expansion of propulsion and power center of excellence. PI: Dr. Lynn Snyder (Allison Advanced Development Company), Partners: PU, IUPUI (Razi Nalim, $341,524), Indiana Space, LLC.
    2. Title: Enabling technologies for 70% Nox reduction in next generation environmentally friendly aircraft engines. PI: Dr. M.S. Anand (Rolls Royce), Partners: PU, IUPUI (Akin Ecer, $98,400)

    3. Title: Advanced digital video compression: new techniques for security applications. PI: Dr. Ed Delp (PU), Partners: NAVSEA-Crane, Delphi Delco, Thomson, EG&G, U of Notre Dame, IUPUI (Paul Salama)
    4. Title: Design, development and demonstration of an integrated and optimized distributed generation and interconnect system controller. PI: Mr. Tim Chambers (iPower Technologies), Partners: IUPUI (Yaobin Chen and Steven Rovnyak, $471,246)

Events
- First Robotics Competition meeting was held in Lecture Hall on January 10, 2004 with close to 150 high school students, teachers, and guests attending. Peter Orono and our student Michael Long are the School connections to five high schools teams.
- Our student athletes selected the faculty members Max Myers, Stephen Laymon, Hazim El-Mounayri, Jerome Clark, and Brian Kinsey as their "favorite professors" and invited them to "Favorite Professor Night" for men's basketball game on January 29, 2004.
- Pat Ault retired after 20 years of service in our School. She was the smiling and friendly face of the School to our students, general public, faculty, and staff members.

School of Engineering and Technology

Student Evaluation Methods in a Distant Learning Environment

December, 2003

Background: In many ways the use of technology to enable Web-based education is no longer leading-edge territory. Courses have been successfully delivered totally over the Web for almost 10 years. While this pales in comparison to classroom-based experience, most of us who have been involved with distance education for five years or longer feel very strongly that we have come a long way in a pretty short timeframe. And indeed, we have. Numerous studies have provided convincing evidence that, while distance education is not a panacea, it can be delivered in ways equal and even superior to its classroom equivalents. According to the 2002-03 Sloan Consortium report, "Sizing the Opportunity", a majority of academic leaders already are convinced that the "learning outcomes for online education are equal to or superior to those of face-to-face instruction." In addition, numerous studies have concluded that Distance Learning is as effective as traditional classroom learning.[1,2,3] On the other hand, we must not delude ourselves into thinking that we have mastered the art of distance education. There are still many challenges that face the distance education community. The integrity of the student evaluation process is certainly one of them.

[1] Young, J.R. (2000). Scholar Concludes That Distance Ed Is as Effective as Traditional   Instruction. Chronicle of Higher Education: Distance Education. http://chronicle.com/free/2000/02/2000021001u.htm.

[2] Russell, T. L. (1999). The No Significant Difference Phenomenon. Chapel Hill, NC: Office of Instructional Telecommunication, North Carolina State University Press.

[3] Carey, J. M. (2001). Effective student outcomes: A comparison of online and face-to face delivery modes. DEOSNEWS, Vol. 11, no. 9, ISSN 1062-9416. http://www.ed.psu.edu/ascde/deos/deosnews/deosarchives.asp.

Issue: How can instructors be certain that there is not some form of academic dishonesty occurring during the student evaluation process of a distance education course? Does the time and distance that are an inherent part of a distance education environment enable student dishonesty? Certainly, distance education does not have the academic dishonesty market cornered as classroom-based courses continue to have varying degrees of cheating occurring on a regular basis. There is a general perception, though, that academic dishonesty is "easier" in a distance education class. In some cases, that is an accurate statement. This document provides strategies that can minimize the degree of cheating in distance education courses and in some cases provides solutions that can be applied to classroom courses as well.

Faculty Engagement: Faculty need to understand the reasons why students circumvent course guidelines. Types of student dishonesty are generally common to all classroom formats. Once the problem is understood, faculty can work to craft roadblocks to dishonesty as well as clearly identify expectations. Lastly, faculty need to separate the identified inappropriate activity from the educational format. For example, a student may seek substantial assistance from someone when preparing a paper regardless of the student's physical location. By understanding the problem, one can develop strategies to better obtain individual student work.

Environment: Another complicating factor in the student evaluation process is that the vast majority of our distance education courses have a major asynchronous component. That is, students can pretty much access and participate in the class "anytime, anywhere". This flexibility is both a blessing and a curse. For many of our non-traditional students, asynchronous courses are the only practical way they can continue their education. On the other hand, this flexibility can be abused when it comes to the student evaluation process.

Strategies: Just as there is no singular technique to promote honesty in the traditional classroom, there is clearly not a single path for maximizing the integrity of the student evaluation process. There is also clearly not a single evaluation tool for distance education courses. The proper evaluation tool must be matched with the content and objectives of the course. By creating broad categories of evaluation, faculty can choose strategies that best meet the needs of their individual courses.

Course Design and Content: One of the keys to valid student performance evaluation is well-crafted and well-implemented behavioral and content objectives. Students must be clearly informed as to an instructor's expectations. Inappropriate behavior must be defined and consequences identified. Technical issues and complications, which are bound to arise, must have policies which are clearly stated. To ensure a valid educational environment, faculty should investigate resources to assist them in good, overall course design.

Breadth of Evaluation Resources: To best prevent dishonest activity, faculty should investigate the numerous resources available for online educators. These include Chickering and Gamson's work on best practice with technology, The IUPUI Practices and Policies for Distance Education document, Teaching Online: A Practical Guide by Susan Ko, e-Learning: Science of Instruction by Clark and Mayer, The Online Learning Handbook by Jolliffe and the many other books published in this area and available at the Center for Teaching and Learning.

Best Practices: Shown below are major categories for evaluating student course deliverables and some suggested techniques to maximize the effectiveness and integrity of the student evaluation process.

1. Interaction-based Evaluation
    a. Strategies
        i. Synchronous chat sessions should be used for direct contact with each student. This provides insight into the student's capabilities.
        ii. Qualitative and quantitative measures should be used for evaluating on-line interactions (both synchronous and asynchronous).
    b. Issues
        i. Large classes make individual contact difficult. In addition, due to some inherent inefficiencies, on-line classes require more effort than classroom courses. Students and faculty would be better served if a distant learning section would be limited to 30 students or less. In CIT, we have found that 24 students is the optimal number for an on-line section.
        ii. The quantitative aspect of interactions must not be weighted too heavily or students will be motivated to produce spam-like responses.

2. Project-based Evaluation
    a. Strategies
        i. Student collaboration on projects is often an effective learning tool but individual evaluation is also needed. This requires that each student work on separate project components.
        ii. Deliverables should be provided as numerous small evaluation components instead of a few large components.
        iii. Faculty expectations for student behavior on projects must be explicitly stated.
    b. Issues
        i. Creating separate project components can be time-consuming to create…and to grade.
        ii. Frequent assignments require more instructor effort.
        iii. It may take a faculty member several semesters to be able to predict unacceptable behaviors

3. Testing/Quizzing Evaluation Methods
    a. Strategies
        i. Consider evaluation activities threaded throughout course material that provides immediate feedback. This may be ungraded work but will force the student to answer questions throughout the learning process.
        ii. Student tests should be randomly delivered from a test bank to ensure that each student receives a unique test.
        iii. Numerous small tests/quizzes should be provided instead of a few, large tests.
        iv. Time-frame for tests and quizzes should normally be limited to a window of several days unless each student can be assured of

receiving a unique test (through the randomized extraction of test questions from a test bank).
   v. Open-ended questions are often better than close-ended questions.
   vi. Faculty should assume that a student will use a variety of resources while taking the test. Questions should be crafted in such a way to be unavailable in a search engine, for example.
   vii. Faculty need to use all tracking tools available to them to monitor student activity during a test
   viii. Tests should use a variety of question formats as well as focus on multiple areas of Bloom's taxonomy and reference Angelo and Cross' evaluation techniques for creative ideas

b. Issues
   i. Test-bank needs to be "large" and refreshed each year to ensure that students are seeing unique questions each semester.
   ii. Open-ended questions involve more instructor effort to grade.
   iii. Multiple evaluation tools require a great deal of time to create

The evaluation categories listed above should not be considered mutually exclusive. In fact, both students and instructors would be served better, from a learning and evaluation perspective, with some combination of approaches.