Chairs' & Center Directors' Meeting Minutes

Date: October 20, 2008 (12:00 to 2:00 pm)
Location: EBU II – Room 443
Attendees: Abbaschian, Reza
                 Balandin, Alex
                 Bhuyan, Laxmi
                 Boretz, Mitch
                 Childers, Joe
                 Dexter, Jim
                 Hartney, Pat
                 Lake, Roger
                 Mahalingam, Shankar
                 Matsumoto, Mark
                 Parker, Linda
                 Payne, Tom
                 Ravishankar, Chinya
                 Schultz, Jerry
                 Yan, Yushan

Absent: Barth, Matt
                 Bhanu, Bir
                 Haddon, Robert
                 Norbeck, Joe

The agenda for the meeting is shown in Appendix 1.

1. Welcome – Request for Agenda Items from the Floor – Reza
Jim added the topic "Research Facilities listed on BCoE's website" to the agenda.

2. Graduate Student Funding & Recruitment Issues – Joe Childers
Reza welcomed Joe Childers to the meeting. Reza noted that Tom Payne is preparing an MEng (on-line) degree program that will need to be reviewed by the Graduate Division. Joe responded that UCR needs to set policies for on-line programs. It was pointed out to Joe that the MEng Program will not require residency at UCR (similar to a Masters degree program at UCLA). MEng will deliver courses using both real-time video streaming of existing BCoE courses over the internet and podcast-style downloadable versions of these lectures.

Also, Alex noted that MSE's graduate degree program has been sent to UCOP for approval. Alex hopes that it will be able to be initiated in Spring 2008 but Joe indicated that the System's CCGA committee may not be able to complete its review that quickly. It normally takes six months for programs to be approved by CCGA.

Joe stated that the Grad Division's FY 09/10 budget for grad student fellowships and NRT will be about the same as FY 08/09. He stated that the Chancellor wants to move towards AAU status. Profiles of AAU universities indicate that 15% of enrolled students are grad students. Currently, 13% of UCR's

students are grad students. In order to reach this 15% level, UCR needs to enroll 80 more grad students per year for the next five years. He noted that not all 80 need to be paid by UCR, i.e., can be enrolled in self-supporting programs, like the ones being developed by AGSM. Joe estimates that $1.5 – 2.0M will be needed for each additional 40 (non self-supporting) students. He expects grad student funding to be flat the year afterwards due to budget cuts. For BCoE, Joe wants to establish a funding target of 150 incoming grad students, 115 PhD and 35 MS. The 115 PhD students would be funded at approximately the same level as this year. The 35 MS students would be funded at a total amount of $80-100K (about $2.5K/student). He stated that BCoE typically enrolls 8-10 MS students per year that eventually enter the PhD program. As such, he expects offers to these MS students to be greater than the $2.5K average. He wants to provide maximum flexibility to BCoE to manage grad student fellowship funding. However, he noted that if a student leaves, any unused fellowship funds revert to the Grad Division. BCoE grad students can use their fellowship funds at any time in their graduate career. He noted that this year's final grad student fellowship funding agreement will be in writing between the Grad Division and BCoE. The Grad Division had written agreements with all other UCR grad degree programs but BCoE had a separate (unwritten) agreement with the EVC which caused problems. MS students won't be considered for future year PhD cohort fellowship funds unless they leave UCR for at least one year. Joe will investigate if unused NRT can be converted to fellowship funds for the same (or different) student. Unused NRT now goes back to the Grad Division. The Grad Division's $9M annual budget includes $7M for NRT. Joe wants to implement the practice that the Grad Division will fund first year NRT but will give each Program flexibility on how it wants to allocate the second year NRT amount. Ideally, Joe would like to give each Program (i.e., BCoE) a total amount of funds to allocate for each cohort and let the Program determine how much to allocate to fellowships vs. NRT. The funds would be tied to the student (not cohort). Reza commented that Joe is intent on changing the culture at the Grad Division to a facilitation role, versus a policeman role. Joe added that many Grad Division rules were determined by the Academic Senate, i.e., the faculty. Joe stated that he views BCoE as the growth college at UCR for graduate students since he didn't see much growth potential in the other colleges. As such, he stated that BCoE needs more grad student resources.

Laxmi commented that the Grad Division seems to require a lot of (unnecessary) written justifications. Joe responded that he wants to schedule a meeting with all BCoE Grad Advisors to discuss policies and procedures. Joe added that it's important for the Grad Advisors, not individual faculty members, to contact the Grad Division regarding issues or questions. Also, it was noted that the Graduate Council appears to want to micromanage graduate programs.

Reza stated that BCoE Grad Advisors are actively involved with recruiting. Joe noted that he wants to provide about $15K in quality incentives for each college. The first incentive would be given to the grad degree program with the highest GRE scores, GPA's or some other pre-determined measure. The second would be given to the program with the most improved cohort. These incentives could be used for fellowships or NRT. A future third incentive would be related to placement success.

Reza stated that UCR has finally agreed to consider providing a different FTE coefficient for grad students (vs undergrads). Also, Reza noted that it costs considerably more to educate a student in BCoE vs. CHASS and that this difference needs to be addressed by UCR. At this point, Joe had to leave to attend another meeting.

3. Minutes Approval - Pat
The revised minutes of the 10/6/08 Chairs/Directors meeting were unanimously approved.

4. Budget – Reza
Reza pointed out the budget handout attached to the agenda. This handout indicates that UCR has about $8M in unfunded costs during FY 08/09. Reza stated that BCoE's share of this $8M is about $350K. Pat

is working on options to cover this level of budget reduction. At this time, no staff layoffs are planned in BCoE. UCR is now discussing a 'hard' hiring freeze for staff to replace the 'soft' one currently in place. Also under discussion is extending this hiring freeze to faculty. If implemented, it is unclear if such a faculty hiring freeze would be effective this fiscal year or next. Reza stated that the Eminent Scholars program has been cancelled this year due to the budget cuts.

5. UC MICRO Fellowships – Reza
Reza noted the UC MICRO announcement and application attached to the agenda. BCoE has been awarded $40K to match (on a 1:1 basis) industrial grad student fellowship funds. Another $20K in MICRO funding could be available if BCoE can provide an additional $20K in industrial match. Laxmi indicated that CSE could provide $60K in industry matching funds alone. Reza hopes that all BCoE departments will be able to share in these UC MICRO funds.

6. Course Buyout – Reza
Reza noted the BCoE Course Buyout Request form attached to the agenda. Reza stated that BCoE's new Course Buyout policy requires requests to be routed through department chairs for the Dean's approval. This draft form formalizes that policy. Roger pointed out that most course buyouts occur before courses are assigned for the year so the section on the form asking for specific course names and numbers isn't applicable to EE. Other departments voiced similar opinions. After discussion, Reza stated that he wants to make sure that faculty buying out one course teach three other **real** courses. Also, it was noted that a timeline for course buyout requests should be established. Due to time constraints, further discussion of this topic was tabled.

7. Faculty Recruitment – Mark
Mark announced that BCoE's faculty recruitment website is now available.

8. Graduate Education – Mark
Mark stated that we won't know the final number of incoming grad students until UCR's 3rd week enrollment numbers are released.

9. Undergraduate Education – Ravi
Ravi stated that the names of 'at risk' students in Math classes have been sent to BCoE departments. Also, Ravi noted that some BCoE departments haven't assigned faculty mentors to engineering undergraduates yet. Ravi will send out an email to department Chairs requesting the names of faculty mentors be sent to the Student Affairs Office. Ravi distributed a Draft Proposal for Technology-Based General Education Concentrations. This draft was developed to correspond to general education proposals from CNAS and CHASS. CNAS's theme is Sustainability while CHASS's theme is related to California. BCoE's proposal addresses both non-technical majors (i.e., in CHASS) and technical majors. BCoE's classes will be designated as ENGR so they aren't tied to specific BCoE departments. Ravi anticipates that most of these classes will be taught by lecturers. Reza indicated that BCoE departments that offer these (ENGR) classes will receive credit for the undergrad FTE generated. It is unknown if the Academic Senate will approve BCoE's proposal so Reza will ask BCoE faculty that are on Academic Senate committees to support it. This draft proposal was reviewed by BCoE's Executive Committee. Tom suggested that the proposal be sent to all BCoE faculty.

10. Other items
Due to time constraints, Jim's discussion of research facilities listed on BCoE's website was postponed to the next Chairs/Directors meeting.

UNIVERSITY OF CALIFORNIA
UC RIVERSIDE
BOURNS COLLEGE OF ENGINEERING

Chairs' & Center Directors' Meeting

October 20, 2008

Agenda

Engineering Building Unit II – Room 443

1.	Welcome - Request for Agenda Items from the Floor	Reza
2.	Approval of Minutes from October 6, 2008 Meeting	Pat
3.	Graduate Student Funding & Recruitment Issues	Joe Childers
4.	Budget	Reza
5.	UC Micro Fellowship	Reza
6.	Course Buyout	Reza
7.	Departmental Updates	
8.	Faculty Recruitment	Mark
9.	Graduate Education	Mark
10.	Undergraduate Education	Ravi
11.	Other items	

Reminder: *College meeting is next Monday, October 27, 2008 3-5pm*
                Chancellor will be in attendance
                Reception to follow afterwards

The next scheduled meeting will be
Monday, November 3, 2008

Please note: Meetings will be held in EBU II – Room 443

POTENTIAL UNFUNDED COSTS IN 2008-09   (General Fund only)

2007-08 Faculty Salary Continuation	$1,385,503 --- Permanent
2007-08 Staff Salary Continuation	$ 563,903 --- Permanent
Benefit Continuation	$ 620,000 --- annual cost est.
7/1/08 Faculty Merit/Promotions	$1,600,000 --- Permanent
7/1/08 Other Academic Merits	$ 115,000 --- Permanent
2008-09 Benefit Cost Increase	??????? --- annual cost est.
2008-09 Grad TA/RA Fee Remissions	$ 329,909 --- Permanent
Staff Salary Adjustments – represented	?????? --- Permanent
TA salary adjustment – represented	$150,000 --- Permanent
2007-08 Enrollment Shortfall	$3,664,000 --- one time
2008-09 Reduction to support Enrollment growth at Merced	$ 642,000 --- one time???
2008-09 Mid Year Reduction	$2,500,000 ---- est.

Bolar
16 Oct 2008

Dear Colleagues,

I am pleased to inform you that we have received a $40,000 UC Micro graduate fellowship award to leverage industry funds (1:1) and create additional PhD fellowships. In addition, we have an opportunity to obtain another $20,000 in UC Micro funds if we can raise an additional $20,000 from industries, bringing the total Micro support to $60,000, and grand total to $120,000.

If you have qualifying (contract, grant or gift) industrial support of your PhD students during the current fiscal year (7/1/08 – 6/30/09), you can apply for the additional Micro fellowship funding by filling out the attached form. The PhD fellowships will be given in $5,000 increments. A BCoE faculty member may receive multiple $5,000 Micro amounts, depending on the total amount of funds available and our ability to provide industry matching funds for the additional $20,000 from UC Micro. If the requests exceed the funding available, I will have a faculty committee make recommendations. The due date for Micro fellowship requests to the BCoE Dean's Office is Monday, October 27th.

Bourns College of Engineering
UC Micro Graduate Fellowship Matching Funds Request

Faculty Name:_____

BCoE Department/Center:_____

UC Micro Fellowship Funds Requested: ( ) $5,000   ( ) $10,000   ( ) $15,000

Name of Company providing fellowship matching funds:_____

Date of receipt of funds from Company:_____

Company Matching Funds deposited to UCR FAU:_____

Name of PhD student receiving industrial support:_____

Expected graduation date of above PhD student:_____

Note: Any UC Micro funds awarded in response to this request can only be used for BCoE PhD student salaries, benefits and fees. Industrial matching funds must be utilized for the same PhD student's salaries, benefits and fees.

Approvals:

Faculty Member:_____

Department Chair:_____

BCoE Course Buyout Request Form

Faculty Name:_____

Department:_____

In conformance with BCoE's Course Buyout Policy, I am requesting to buyout the following course(s) during the terms noted using external sources of funds. During this Buyout period, I will continue to participate in my service and research activities and will continue to be available on campus.

Course Name(s) and Number(s):_____ Term:_____

_____ Term:_____

	Course Number (and Number of Units)		
	Fall	Winter	Spring
Courses Taught by Faculty Member:			
Previous Academic Year			
Current Academic Year			
Next Academic Year			

Approvals:

Faculty Member:_____ Date:_____

Department Chair certification:

The above course(s) will be taught by:
    ( ) Department Faculty
    ( ) Lecturer(s)
Additional resources for instruction:
    ( ) are required
    ( ) are not required.

Department Chair:_____ Date:_____

BCoE Dean's Office:_____ Date:_____

Draft Proposal for Technology-Based General Education Concentrations

The Bourns College of Engineering proposes two General Education concentration streams under the new rubric proposed by the Ad-hoc Committee on General Education. The first, *Technological Foundations for Modern Citizenship*, is appropriate for non-technical majors. The second, *Global and Ethical Dimensions of Technology*, is appropriate for students majoring in the technical fields.

1 Technological Foundations for Modern Citizenship

This concentration lays the foundations of technological literacy essential for making informed decisions on important issues in the modern world, and is recommended for students in non-technical majors intending to enter positions of economic, social, political, or educational leadership. It will not satisfy General Education requirements for majors within the Bourns College of Engineering.

Technology pervades our society and culture, and the largest ethical and policy concerns of our time have technological underpinnings. Technological literacy is central to good citizenship, and to full and fruitful participation in the world around us. A technologically literate person understands technology sufficiently to use it effectively, and understands its underpinnings sufficiently to think critically about technological issues and act accordingly. The National Academy of Engineering identifies three aspects to technological literacy:

Knowledge

- Understanding the significance and pervasiveness of technology in everyday life.
- Understanding basic engineering concepts, such as systems, constraints, and trade-offs.
- Familiarity with the the engineering design process and cost-benefit tradeoffs.
- Understanding how technology shapes human history and people shape technology.
- Appreciating the risk-benefit tradeoffs in technology.
- Appreciation that technology reflects the values and culture of society.

Ways of Thinking and Acting

- Actively seeking to learn about new technologies.
- Asking pertinent questions regarding the benefits and risks of technologies.
- Learning to make decisions about the development and use of technologies.

Capabilities

- Ability to apply basic mathematical concepts related to probability, scale, and estimation to make informed judgments about technologies, risks, and benefits.
- Ability to identify and fix simple mechanical or technical problems.
- Having a range of hands-on skills, such as computer skills and operating a variety of home and office appliances.

1.1 Proposed Concentration Coursework

Several new courses are proposed, many jointly with other departments. Preliminary discussions with the chairs of these departments indicate considerable interest in these new course offerings.

Lower-Division Coursework (Seminar + 3 Courses)

1. **Freshman seminar: ENGR 1/HASS 001/...?**

2. **SOC/ENGR L_1: Technology and Culture**

   Deals with the impact of technology on culture and vice versa, and the interplay of technology, environment and culture. Discusses the role of *appropriate technologies* in the context of different cultures. Satisfies the "ethnicity" requirement.

3. **ENGR L_2: Numeracy and Basics of Modeling**

   Understanding the world in terms of numerical and mathematical concepts and principles. Chance and elementary statistics. Modeling of simple real-world phenomena using elementary mathematical techniques. Prerequisite to U_1 and U_2.

4. **Introduction to Computing: CS 5 / CS 8**

   Already used widely across campus to satisfy the mathematics requirement.

Upper Division Coursework (Capstone + 3 Courses)

1. **ENGR U_1: Systems and Mechanisms of Everyday Life**

   Engineering products are the cornerstones of modern civilization, with a transformative impact on our society and culture. This course discusses the functioning of and the principles underlying a variety of everyday systems (computers, cars, airplanes, iPods, household appliances, etc.). Topics also include the "system" concept, the engineering design process, the inter-plays between function, form, and design constraints, and the differences between "design" in art versus engineering.

2. **ENGR U_2: Decision Making in a Technical World**

   Data analysis techniques. Data-driven decision making. Utility functions and optimization concepts. Case studies of inter-plays between technical and socio-political considerations in policy making.

3. **HIST/ENGR U_3: History of Technology**

   Perspectives on the historical inter-plays between technology, culture, and history from the point of view of scientists and technologists. (C.f. Bronowski, Burke, etc.)

4. **ENGR 180: Technical Communications**

   General Education capstone. Also satisfies the **English 1C** requirement.

2　Global and Ethical Dimensions of Technological Innovation

The functioning of engineering systems and the principles underlying them are subject to natural laws. However, the process of technological innovation and its consequences for society and the physical world are both intimately linked with culture. Conversely, technology has been a major force in shaping culture throughout human history.

This concentration is intended to give students in technical majors the social, ethical, and global context in which to understand and exercise their art. While conferring breadth, it emphasizes the importance of the Humanities and Social Sciences to technical majors by elaborating concepts and theories from these fields in the context of the process of technological innovation.

2.1　Significance of this Concentration

Many of the courses in this proposed concentration are new courses, shared with the *Technological Foundations for Citizenship* concentration, and cross-listed between BCoE and non-BCoE departments. In understanding the suitability of these cross-listings for "breadth" courses, it may help to note the following:

1. The cross-listings do not specify departments within BCoE, but carry a generic "ENGR" designation. It is important to understand that "Engineering" is not a department or even a single discipline, but a collection of distinct disciplines, which, in large measure, do not even share a common vocabulary. The diversity among the Engineering disciplines is comparable to the diversity among disciplines in other colleges.

   Engineering, as a broad field, has always been greatly concerned about ensuring breadth. Despite the diversity in the disciplines under the "engineering" designation, Engineering has historically looked askance at the practice of counting coursework in one Engineering discipline as conferring breadth for another. This is very unlike practice in the Humanities, Social Sciences, or the Physical Sciences, which accept courses taught exclusively from within their own disciplinary umbrellas as conferring breadth.

   This philosophical difference is also manifest in the other two proposed concentrations under Senate consideration, which contain little or no coursework from outside their own colleges of origin. In contrast, the BCoE proposal includes at least one "free" CHASS elective, and ensures that all but one of the other courses are cross-listed with non-BCoE departments.

   Finally, the instructors in charge of the "ENGR" part of these cross-listed courses will be drawn from various departments in BCoE, further strengthening our ability to confer breadth.

2. We anticipate no difficulty in having these courses in place next year. We have already identified faculty within BCoE who have agreed to take the lead for these courses. We have also been in contact with the chairs of the cross-listed departments in CHASS, who have indicated strong interest in helping create and teach these courses.

This breadth sequence also conforms to the latest accreditation requirements for Engineering programs set forth by the Accreditation Board for Engineering and Technology, which mandate *a general education component that complements the technical content of the curriculum and is consistent with the program and institutional objectives.*

2.2 Proposed Concentration Coursework

Lower Division Coursework: Seminar + 3 courses

1. **Intro Seminar: ENGR 1**

2. **SOC/ENGR L_1: Technology and Culture**

   Deals with the impact of technology on culture and vice versa, and the interplay of technology, environment and culture. Discusses the role of *appropriate technologies* in the context of different cultures. Satisfies the "ethnicity" requirement.

3. **ENGR/ECON L_3: Engineering Economics**

   Cash flows, time value of money, ROI, cost-benefit-, and break-even analysis. Utility theory. Taxation. Optimization concepts. Principles and theories of Economics. Application of these principles and theories to the evaluation of technological alternatives.

4. **Open CHASS Elective:**

   One course from an extensive list of CHASS courses.

Upper Division Coursework: Capstone + 3 courses

1. **ENGR/PBPL U_1: Technology, Policy, and Ethics**

   Contemporary perspectives on inter-plays between technology, public policy, and ethics. Social, legal and ethical issues. Liability, environmental, patent, and copyright law.

2. **HIST/ENGR U_3: History of Technology**

   Perspectives on the historical inter-plays between technology, culture, and history from the point of view of scientists and technologists. (C.f. Bronowski, Burke, etc.)

3. **ENGR/PBPL U_5: Globalization**

   Technological drivers of globalization. Its social, economic, and political consequences. Its cultural aspects. Barriers and drivers for economic and cultural interdependence and integration. Virtual global organizations.

4. **ENGR 180: Technical Communications**

   General Education capstone. Also satisfies the **English 1C** requirement.