

University of California at Berkeley
MEETING OF THE FACULTY OF THE COLLEGE OF ENGINEERING
November 1, 2010, 11:30 AM to 1:15 PM
290 Hearst Memorial Mining Building

Chair of the Faculty, Kameshwar Poolla, opened the meeting with a welcome and thanks to all attending.

SPECIAL GUEST SPEAKER

Albert P. (Al) Pisano, Professor of Mechanical Engineering, was a special guest in his capacity as Faculty Head of Operational Excellence (OE). The OE initiative's goal has been described by Chancellor Birgeneau as bringing "a coherent, integrated, and systematic approach" to campus operations while reducing administrative costs. Prof. Pisano acknowledged that the goal of saving \$75 million per year in operational expenses is daunting, and that members of the campus community are understandably concerned about what these changes will mean for the campus and for them personally. Prof. Pisano said saving \$75 million per year through efficiency gains could be equivalent to the financial savings of the combination of:

- 20 days of furlough per year for faculty and staff; or
- 13% fee increase (on top of last year's hikes); or
- \$500 million endowment

Further, a stream of \$75 million per year is the equivalent to approximately 500 faculty positions across the campus.

Prof. Pisano shared some of the options under discussion in areas of Procurement, Organizational Simplification (which includes Human Resources and Business Services), and Information Technology.

APPROVAL OF MINUTES

Chair Poolla called for a motion to approve the Minutes of the April 19, 2010 meeting. A motion was made and seconded. There was no discussion. The motion passed.

REPORT OF THE DEAN

State of the College

Dean Sastry thanked the college faculty, staff and advisory board for the ideas and documentation for the new Master of Engineering program. The proposal has been approved by Graduate Council and several other University-wide committees. Currently a joint faculty-staff task force led by J. Malik and D. Craig is working out details of admissions, student aid, and operations. The College expects to submit a request for a Professional Degree Fee to The Regents at their November meeting.

Coleman Fung Institute

Alumni Coleman Fung made a gift to the College to provide funding to help the College start new instructional programs based on the premise that technology can give people tools to work themselves out of poverty.

These programs will be housed in the Coleman Fung Institute working closely with the Blum Center for Developing Economies. A search for a director of the Fung Institute is underway, led by T. J. King-Liu.

Operational Excellence

Organizational Simplification is the part of the Organizational Excellence initiative dealing with human resources. Departments have been asked to draft reorganization plans using a management approach called “spans and layers,” which refers to the number of employees and organizational levels that report to each supervisor. This information has been used to establish the amount of budget cuts for each department. Aggregating support functions into administrative clusters has been advocated; COE contends that it is large enough to federate support functions within the College, without joining another department. The College intends to employ several lessons learned with Engineering Research Support Organization, such as the importance of geography in federating services.

REPORTS OF STANDING COMMITTEES

Graduate Study Committee

Co-Chair R. Horowitz reported that the committee has approved eight new courses, withdrawn approval for one course, and approved changes in two courses. In addition, the Committee reviewed and provided feedback to the Dean on the academic content of the Master of Engineering proposals submitted by several COE departments.

Eight new courses were approved: CE C276: Seismic Hazard Analysis and Design; CE 291G: Advanced estimation, control and optimization of partial differential equations; COMSPCI 261N: Internet and Network Security; ENGIN 271: Engineering Leadership I; ENGIN 272: Engineering Leadership I; ENGIN 296M-A: Master of Engineering Capstone Project; ENGIN 296M-B: Master of Engineering Capstone Project; EE 219D: Concurrent Models of Computation.

Withdrawal was approved for one course: ENGIN 300: The Teaching of Engineering.

Also approved were changes in numbering, title, description, unit value, format or prerequisites for the **following two courses:** EL ENG 219A: Numerical Simulation and Modeling (change title, description and unit value); EE 244: Fundamental Algorithms for System Modeling, Analysis and Optimization (change title, description and unit value).

Undergraduate Study Committee

Chair C. Yano briefly explained an item in the committee report relating to Reading and Composition courses. She also noted that the Computational Engineering Science program within Engineering Science is disbanding itself due to lack of both students and faculty; the program will be folded into the Engineering Math and Statistics program later in the academic year.

Two new courses were approved: ME C134/EE C128: *Feedback Control Systems*; NE 102: Nuclear reactions and Radiation Laboratory

Withdrawals were approved for five courses: ENGIN 130AC: Cases and Conflicts in Engineering Ethics; ENGIN 140: Technical Communication for Non-Native Speakers of English; ENGIN 190: Technical Communication; ENGIN 196: Professional Communication for Engineers; NE 39A: Issues in Nuclear Science and Technology

Also approved were changes in numbering, title, description, unit value, format or prerequisites for the following courses: BIOE 131: Introduction to Computational Molecular Cellular Biology (Change description, prerequisites and restrictions); EE 127A: Optimization Models in Engineering (Change prerequisite, unit value and semester offered); EE 144: Fundamental Algorithms for System Modeling, Analysis and Optimization (Change description, prerequisite and title); ME 102A: Introduction to Measurement Systems for Mechatronics(Change prerequisite); ME 106: Fluid Mechanics (Change prerequisite); ME 118: Introduction to Nanotechnology and Nanoscience (Change prerequisite);ME 128 Computer-Aided Mechanical Design(Change description and prerequisite); NE 92: Issues in Nuclear Science & Technology (Change prerequisite); NE 104: Radiation Detection and Nuclear Instrumentation Laboratory(Change unit value)

Two curriculum changes, approved unanimously by the committee, are being submitted to the College Faculty for their consideration:

Bioengineering: Drop the Chem 3B requirement. Eliminate Chemistry 3B as a required course, make it a technical elective that pre-meds can take and substitute the course with an engineering course in the sophomore year.

Computational Engineering Science: Discontinue the Computational Engineering Science Major (see attached memo for details). Note that the Engineering Science Committee will put forward a proposal to fold the Computational Engineering Science major into the Engineering Mathematics and Science major after curricular details have been worked out.

Details of the proposed curriculum changes are included in the full committee report which was provided to faculty in advance of the meeting.

The following proposals were unanimously approved by the committee:

B-1.Beginning Fall 2011, College of Engineering students must complete a course from the B-1 list (courses approved by UCB colleges as appropriate options for completing the second half of the reading and composition requirement) to satisfy the second half of the reading and composition requirement.

Fifth semester. Effective immediately, departments will be able to opt into an arrangement whereby Engineering Student Services can approve a fifth semester for transfer students who, upon entry, lack three or more lower division requirements.

E10. The Committee approved a sense motion to discontinue E10 in its current format. The committee's perspective is that, in view of recent budget cuts, the resource requirements of the course are disproportionate to the benefits. Ensuing discussion of the chairs of the Common First Year and Undergraduate Study Committee with Dean Sastry and Associate Dean Tomizuka led to the Common First Year Committee being charged with developing a proposal for a new version of the course that is sustainable vis-a-vis faculty, GSI and laboratory

REPORTS OF AD HOC COMMITTEES

Common First Year

F. Doyle noted that it has been 7 semesters since departments (except EECS) agreed to a common first year and reported that the committee thinks overall this has been good for students, particularly for those who enter the College as undeclared majors. Some of our strongest students enter as undeclared to keep options open; by taking Common First Year, including E7 and E10, they have exposure to the field which gives them an opportunity to make an informed choice about their majors. The committee is aware of serious issues

surrounding E10 and of efforts to revise E10 so it responds to student concerns and is more sustainable for departmental faculty. The committee will report its findings at the Spring meeting.

SPECIAL ORDERS, CONSENT CALENDAR

Chair Poolla called for a motion to approve the Consent Calendar reports for the following committees.

1. Standing Committees

Graduate Study Committee, B. Boser & R. Horowitz Co-Chairs (Verbal and Written Report)

Undergraduate Study Committee, C. Yano Chair (Verbal and Written Report)

2. Ad Hoc Administrative Committees

ABET Preparation, D. Chrzan Chair (Written Report)

Common First Year, R. Gronsky Chair (Written Report)

Engineering Library, A. Glaeser, Chair (Written Report)

3. Interdisciplinary Studies Committees

Art, Technology and Culture Committee, K. Goldberg Chair (Written Report)

Engineering Science, T. Zohdi, Chair (Written Report)

Entrepreneurship & Technology Faculty Committee, I. Sidhu, Chair (Written Report)

Applied Science and Technology, D. Attwood, Chair

Nanoscale Science and Engineering, R. Ramesh Chair

A motion was made and seconded. There was no discussion. The motion was approved.

PETITIONS OF STUDENTS

There were no Petitions of Students.

UNFINISHED BUSINESS

There was no Unfinished Business.

NEW BUSINESS

There was no New Business.

ADJOURNMENT

A motion was made and seconded to adjourn the meeting. The motion passed.

Respectfully submitted,
Stephanie Smith

Attendees:

Matt Tirrell	Bioengineering
Song Li	Bioengineering
Lisa Alvarez-Cohen	Civil & Environmental Engineering
Gladys Khoury	Dean's Office
Dat Le	Dean's Office
Enid Pollack	Dean's Office
Karen Rhodes	Dean's Office
Masayoshi Tomizuka	Dean's Office
Melissa Nidever	Dean's Office
Stephanie Smith	Dean's Office
Marcia Steinfeld	Dean's Office
Valerie Ventre-Hutton	Dean's Office
Claire Tomlin	Electrical Engineering & Computer Science
David Culler	Electrical Engineering & Computer Science
Brian Harvey	Electrical Engineering & Computer Science
David Attwood	Electrical Engineering & Computer Science
Tsu-Jae King Liu	Electrical Engineering & Computer Science
Ruzena Bajcsy	Electrical Engineering & Computer Science
Richard Karp	Electrical Engineering & Computer Science
David Patterson	Electrical Engineering & Computer Science
Costas Spanos	Electrical Engineering & Computer Science
Eli Yablonovitch	Electrical Engineering & Computer Science
Rhonda Righter	Industrial Engineering & Operations Research
Ikhlaq Sidhu	Industrial Engineering & Operations Research
Rhonda Righter	Industrial Engineering & Operations Research
Phil Kaminsky	Industrial Engineering & Operations Research
Fiona Doyle	Materials Science Engineering
Ron Gronsky	Materials Science Engineering
Roberto Horowitz	Mechanical Engineering
Sara McMains	Mechanical Engineering
Poolla Kameshwar	Mechanical Engineering
Omer Savas	Mechanical Engineering
Tarek Zohdi	Mechanical Engineering
Albert Pisano	Mechanical Engineering
Dale Masterson	Other
Mary Howell	Other