MEETING MINUTES

• UNIVERSITY OF CALIFORNIA, DAVIS
  VOLUME XXXVIII, NO. 3
• ACADEMIC SENATE
• MINUTES (posted to COE Intranet)
• REGULAR MEETING
• FACULTY OF THE COLLEGE OF
  ENGINEERING (DAVIS)
• May 21, 2014, 3:00 p.m., room 1065 Kemper Hall
Order of Business

• 1. Announcements by the President, Janet Napolitano (none)

• 2. Announcements by the Chair, Bernard Levy
  – Presented by Niels Jensen, Vice Chair of CEC
    • Slides to follow
Executive Committee Activities

• Reviewed COE Advising Plan for Undergraduate Foreign Students.
• Reviewed four course materials fees.
• Continued discussion regarding implementation of a COE “technology” fee for upper division students.
• Reviewed and commented on proposed policy related to faculty discretionary funds and carry forward balances.
• Continued discussion regarding an Instructional Lab Fee to replace instructional equipment.
• Reviewed COE proposal for Undergraduate Advising.
• Reviewed and recommended approval for two student petitions.
Executive Committee Activities Cont.

- Reviewed and recommended approval for a minor in Electrical Engineering.
- Discussed recommendation from Committee on Elections, Rules and Jurisdiction (CERJ) regarding COE Bylaw changes and Voting.
- Discussed proposed changes for OVCR Faculty Bridge Program.
- Discussed issues related to Committee on Courses of Instruction (COCI) regarding curriculum change roadblocks.
- Reviewed the COE budget process with Dean Lavernia and Assistant Dean Lefkoff.
Executive Committee Activities Cont.

Responded to the following requests for comments from the Academic Senate:

- Report on the Student Experience
- Summer Sessions
- Bylaw 55 Proposed Changes
- HIP-Faculty Hiring Investment Program
- Academic Personnel Streamlining
- Carry-forward Funds
- Graduate Tuition Budget Model
ORDER OF BUSINESS

3. Announcements by Dean, Enrique J. Lavernia

Separate Presentation
New Faculty since July 1, 2013

Cheemeng Tan – Biomedical Engineering, August, 2013
Sharon Aviran – Biomedical Engineering, January, 2014
Faculty Searches in Progress

Department Chair (ECE)
Hyundai Director (MAE)
Food Production/Processing Engr. (BAE)
Department Chair (CHMS)
Infrastructure Syst./Water Resources (CEE)
Transportation (CEE)
Lecturer Security of Employment (BME)
Systems Dynamics & Control (MAE)
Aerospace Design (MAE)
Thermal Fluid Engineering (MAE)
Algorithms (CS)
Machine Learning (CS)
REPORTS FROM STANDING COMMITTEES

Committee on Undergraduate Educational Policy: Amit Kanvinde, Chair

Awards Committee, Ian Kennedy: Chair
Report presented by Roland Faller

Research and Library Committee:
Natarajan Sukumar, Chair
REPORTS CONTINUED....

Committee on Graduate Study:
Frank Loge, Chair; presented by Jean VanderGheynst

Committee on Student Recruitment, Development, and Welfare: Adam Moule, Chair

Committee on Information Technology and Innovation Services: Mike Kleeman, Chair
Order of Business continued...

4. Special orders (none)

5. Petitions of students (none)

6. Unfinished business (none)

7. New business: *Proposed Bylaw Changes*
Proposed Bylaw Changes

• Proposed change to Article 31.

• See Handout
  – Adding ability to vote electronically for a two-week period after the bylaw or regulation change has been debated and discussed at an annual faculty meeting. Raising required minimum quorum from 15% to 25% of COE senate faculty. The motion was made and seconded to approve this change, all members voted in favor, non opposed or abstained.

  – 40 members of the COE senate faculty attended this meeting.
COE Standing Committees 2014/15

EXECUTIVE COMMITTEE

Mark Grismer, Vice-Chair  BAE
Michael Savageau         BME
Marjorie Longo           CHMS
Jason DeJong             CEE
Felix Wu                 CS
Anh-Vu Pham              ECE
Niels Jensen, Chair      MAE
COE Standing Committees 2014/15

COMMITTEE ON STUDENT RECRUITMENT, DEVELOPMENT AND WELFARE

Stavros Vougioukas     BAE
Sharon Aviran          BME
Adam Moule             CHMS
Alissa Kendall         CEE
Ron Olsson             CS
Erkin Seker            ECE
Valeria La Saponara    MAE
COE Standing Committees 2014/15

COMMITTEE ON UNDERGRADUATE EDUCATIONAL POLICY

Tina Jeoh          BAE
Tony Passerini     BME
Nael El-Farra      CHMS
Amit Kanvinde      CEE
Vladimir Filkov    CS
Charles Hunt       ECE
Ben Shaw           MAE
COE Standing Committees 2014/15

AWARDS COMMITTEE

Bruce Hartsough  BAE
Kathy Ferrara  BME
Roland Faller  CHMS
Michael Zhang  CEE
Karl Levitt  CS
Jerry Woodall  ECE
Ian Kennedy  MAE
COE Standing Committees 2014/15

RESEARCH & LIBRARY COMMITTEE

Julia Fan       BAE
Marc Facciotti  BME
Pieter Stroeve  CHMS
Dawn Cheng      CEE
Ilias Tagkopoulos CS
Brian Kolner    ECE
Fidelis Eke     MAE
COE Standing Committees 2014/15

COMMITTEE ON GRADUATE STUDY

Niels Jensen  DAS
Bryan Jenkins  BAE
Kent Leach  BME
Yayoi Takamura  CHMS
Frank Loge  CEE
John Harvey  TTP
Kwan-Liu Ma  CS
Raj Amirtharajah  ECE
Roger Davis  MAE
COE Standing Committees 2014/15

COMMITTEE FOR INFORMATION TECHNOLOGY & INNOVATIONS SERVICES

David Slaughter    BAE
Scott Simon, Vice-Chair    BME
Roland Faller    CHMS
Michael Kleeman, Chair    CEE
Matt Bishop    CS
Bevan Baas    ECE
Roger Davis    MAE
College of Engineering
Budget Briefing

Presented to:

Faculty Executive Committee – May 13, 2014
Annual faculty meeting – May 21, 2014
Provost and Executive Vice Chancellor – June 11, 2014
Recent Campus Investments in COE

• Student Advising Officers
  – Four new positions at 50% each: CS, CEE, MAE, BME
  – Director of Undergraduate Advising and Programs: 0.85 FTE
  – COE funding portion 60% using enrollment growth revenues

• Faculty Recruitment: 12 hires started 2011-12 & 2012-13
  – Start-up funds from Provost = $4.9M
  – Start-up funds from COE and corporate partners = $4.1M
  – Total research awards to date = $5.1M

• Development
  – New D.O. for corporate gifts, started Jan 2014
    • Corporate Partners program
  – New D.O. for major gifts, started April 2014
College Overview
Fall 2013

• Undergraduate majors: 4,016
  – 36% growth since 2008
  – Due to freshman increases and better retention
  – Strategic targeting of transfer students
    • Transfers now 27% of new students; grown from 14% in 2008

• Graduate students: 1,130
  – Includes 747 PhD students
  – 38% international

• Senate faculty headcount: 198
  – Decrease of 4 since 2012
  – Currently 17 open recruitments, including 3 PPF/CAMPOS

• Continuing lecturers: 2
COE Operational Budget, 2012-13
Unrestricted funds (GF, ICR)

- Operational costs and revenues are generally balanced
  - Total expenditures (unrestricted funds only) = $51.4M
  - Major costs:
    - Faculty salaries – 42%
    - Staff salaries – 14%
    - Faculty and staff benefits – 18%
    - Teaching Assistants – 4% (fee remission paid by campus)
    - Graduate Student Researchers – 6% (fee remission paid by campus)
    - Supplies – 6%
    - OP tax – 3%
Budget Changes, 2014-15
Unrestricted funds (GF, ICR), preliminary estimates

• New base revenues, GF = $1,409K
  – COE generated 8.2% of campus SCH, last year 7.3%
  – COE has 15.1% of UG majors, last year 14.5%

• New investments:
  – Teaching Assistants: 9.0 additional FTE (~54 courses) = $300K
  – Department operations (BST phase-out) = $450K
    • Includes new SAO positions
  – Faculty retentions = $300K
  – Faculty growth positions, 2 FTE = $250K
  – Summer sessions and OP tax increase = $100K

• New ICR revenues: none

• 2012-13 budget cut = $380K, yet to be absorbed
  – Use carry-forwards in 2014-15
**Carryforward Balances**

Core funds (GF+ICR+)

- **COE Total: July 1, 2013 = $20.2M**
  - Dean’s office CF = $7.7M
    - Committed obligations: previous start-ups = $5.8M
    - Committed obligations: retentions, etc = $1.5M
    - Known obligations: start-ups in recruitment = $1.8M
    - Over-commitment of $1.4M to grow over next two years
  - Departmental accounts CF = $5.5M
    - Committed obligations: previous start-ups = $0.8M
    - Known obligations: open and proposed recruitments = $1.9M
    - Known obligations: grad students, equipment, renovations, etc = $0.9M
  - Faculty accounts CF = $7.0M
    - Salary cost recovery on grants
    - Summer teaching compensation directed to research
    - Start-up funds; retentions
    - Administrative provisions; awards
### Undergraduate Student Credit Hours Delivered Within COE Courses

<table>
<thead>
<tr>
<th>Year</th>
<th>SCH (in 1,000s)</th>
<th>Majors</th>
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<tbody>
<tr>
<td>2008-09</td>
<td>60,524</td>
<td>2,960</td>
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<tr>
<td>2009-10</td>
<td>62,335</td>
<td>3,078</td>
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<td>2010-11</td>
<td>66,230</td>
<td>3,252</td>
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<tr>
<td>2011-12</td>
<td>72,027</td>
<td>3,463</td>
</tr>
<tr>
<td>2012-13</td>
<td>80,616</td>
<td>3,852</td>
</tr>
<tr>
<td>2013-14</td>
<td>91,606</td>
<td>4,016</td>
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</tbody>
</table>

Average SCH within COE per declared major = 21.0

2013-14 includes projection for spring quarter
Average undergraduate student majors per 9-month, 50% TA
2013-14 projected as of April 2014
→ Ratio of COE graduate students to undergraduates = 0.31
→ Ratio of PhD to all graduate students = 0.68
In 2013, 89% of active PhD students receive financial support. Total active PhD students = 683.
COE Extramural Research Expenditures per Faculty FTE
College of Engineering
4-Year Freshmen Retention

Fall Quarter (New Admitted Freshmen Total)

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</thead>
<tbody>
<tr>
<td>UNKNOWN</td>
<td>9%</td>
<td>9%</td>
<td>7%</td>
<td>8%</td>
<td>6%</td>
<td>7%</td>
</tr>
<tr>
<td>DISMISSED</td>
<td>8%</td>
<td>15%</td>
<td>17%</td>
<td>18%</td>
<td>16%</td>
<td>13%</td>
</tr>
<tr>
<td>OTHER ENROLL</td>
<td>21%</td>
<td>21%</td>
<td>18%</td>
<td>19%</td>
<td>18%</td>
<td>20%</td>
</tr>
<tr>
<td>OTHER GRAD</td>
<td>24%</td>
<td>20%</td>
<td>20%</td>
<td>17%</td>
<td>18%</td>
<td>19%</td>
</tr>
<tr>
<td>COE ENROLL</td>
<td>29%</td>
<td>25%</td>
<td>29%</td>
<td>27%</td>
<td>31%</td>
<td>31%</td>
</tr>
<tr>
<td>COE GRAD</td>
<td>9%</td>
<td>10%</td>
<td>10%</td>
<td>11%</td>
<td>11%</td>
<td>9%</td>
</tr>
</tbody>
</table>

College of Engineering
Time to Degree within 6 Years

Quarter of Admission (# Students Graduated in COE/# Admitted)


SOURCE: Banner, New Freshmen admitted 2004-2007, COE graduates 6 years after entry (L&S Computer Science major not included)
Beginning Fall Quarter 2010, the ethnicity standards defined by the Department of Education changed. Incoming students were categorized using the new standards, however the campus chose not to re-survey existing students. Hispanic/Latino American includes individuals of any race(s) who identify as Hispanic or Latino. Two or more races include any combination of two or more races that are not Hispanic/Latino ethnicity.
COE Strategic Initiatives, 2014-15

• Faculty Growth
  – Eleven recruitments proposed to Provost, including 8 growth
  – Two in BME are space constrained in GBSF

• Engineering Research Center proposals
  – Electronics for Harsh Environments (Woodall)
  – Bio-Mediated and Bio-Inspired Geotechnics (DeJong)
  – Partnering with OVCR, OGS to provide $3.0M matching funds

• Curriculum Changes
  – Engineering Communications and Design
  – Starting and Prototyping a Technology Venture
  – Design of Coffee

• Upgrade the Engineering Fabrication Laboratory
  – Phased project: Expansion and Renovation/Equipment

• Center for Nano and Micro Manufacturing (CNM2)
  – Support more PI research programs across campus
  – Develop biomedical capabilities
Engineering Research Center proposals

• Electronics for Harsh Environments
  – UC Davis is lead institution; partnering with USC, Purdue, FIU
  – Jerry Woodall (ECE) is lead PI
  – Total from NSF = $18.5M; campus contributions = $2.4M
  – Strategic opportunities: Industry engagement, future C&G

• Bio-Mediated and Bio-Inspired Geotechnics
  – ASU is lead institution
  – Jason DeJong (CEE) is campus lead
  – Total from NSF = $3.2M; campus contributions = $0.6M
  – Participation by CBS and CAES
Curriculum Changes and STEM Degrees

• Recommendations of Engineering 2025 Committee:
  – Need for design experience during freshman year
  – Need for engineering communications experience during freshman or sophomore year
  – Enhanced opportunities for freshmen to connect with COE faculty

• Implementation:
  – Design of Coffee, started Winter 2014
    • Enrollments: Winter = 276+164; Spring = 344
  – New course on technology translation: “Starting and Prototyping a Technology Venture:
    • Pilot course in Spring 2014
  – New course in “Engineering Communications and Design”
    • Pilot course in Fall 2014
    • Will ramp up to serve all Engineering majors

UCDAVIS
College of Engineering
Engineering Fabrication Laboratory

• Instructional lab that supports required courses
  – Bottleneck for many students; impacting time-to-degree
  – Phase 1: Expansion
    • Request to Provost for $1.0M-$1.5M
  – Phase 2: Renovation and Equipment Replacement
    • Gift campaign for $2M-$3M
    • Feasibility study just completed
    • Working with VC Keister on “mini” campaign

• Vision = Student Design Center
  – Undergraduate courses
  – Student club competitions
  – Engineering Student Startup Center
Center for Nano and Micro Manufacturing

• Class 100 Electronics Cleanroom, 10,000 square feet
  – Unique infrastructure among university cleanrooms
• Fabrication Equipment: Inventory is outdated/incomplete
  – Some PIs use UC Berkeley
• Transformative Vision
  – Articulated by our Chancellor
  – Support broader array of campus research programs
  – Develop capabilities in biomedical devices
  – Become a comprehensive center for research services, student learning, professional education and industry outreach
  – Establish a premier manufacturing research platform for biomedical devices, electronics, optoelectronics and MEMs fabrication, microfluidics, and materials research