

ANNUAL FACULTY MEETING
MAY 21, 2014



UC DAVIS
COLLEGE OF ENGINEERING

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

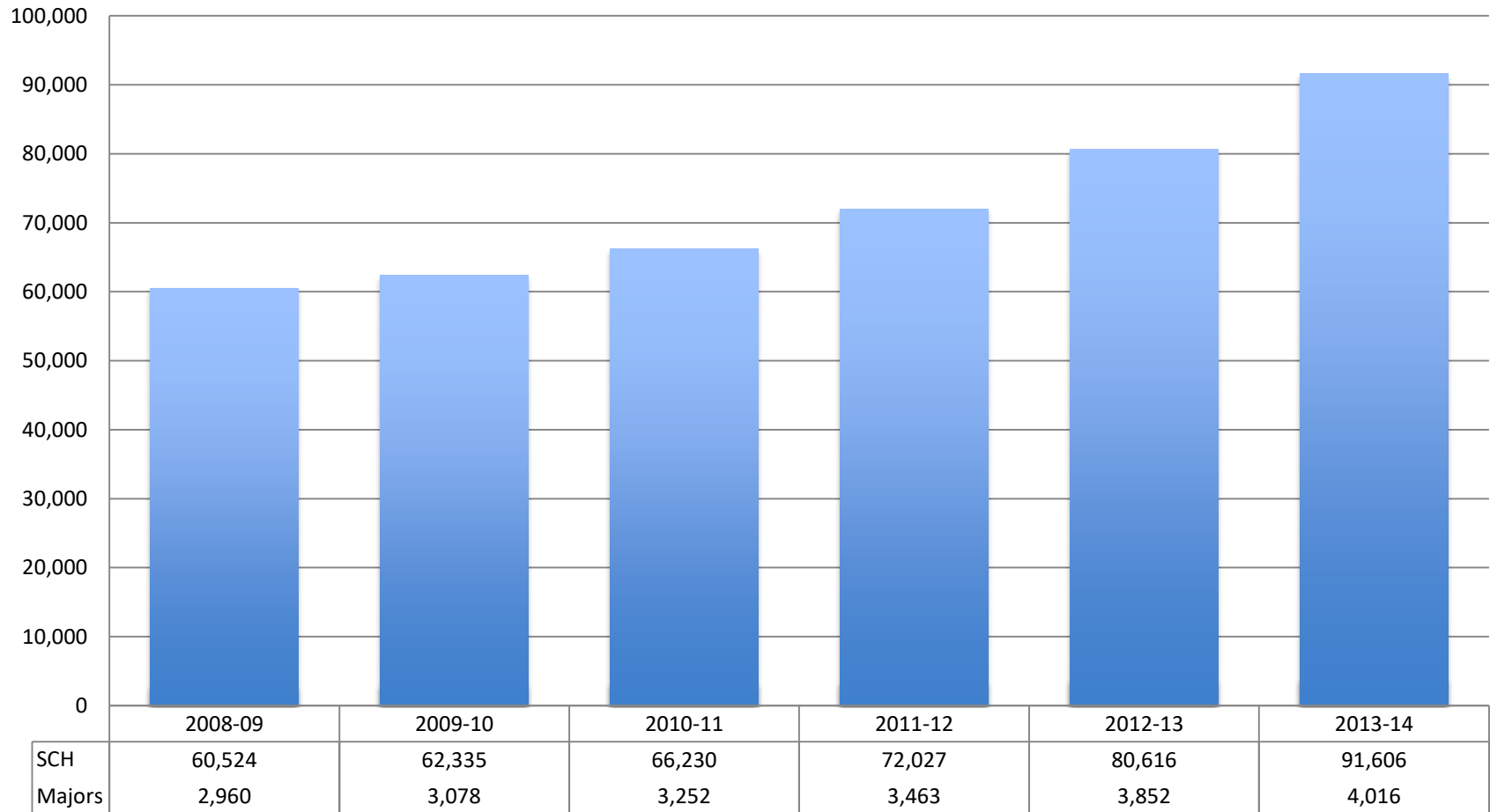
- New base revenues, GF = \$1,409K
 - COE generated 8.2% of campus SCH, last year 7.3%
 - COE has 15.1 % of UG majors, last year 14.5%
- New investments:
 - Teaching Assistants: 9.0 additional FTE (~54 courses) = \$300K
 - Department operations (BST phase-out) = \$450K
 - Includes new SAO positions
 - 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+)

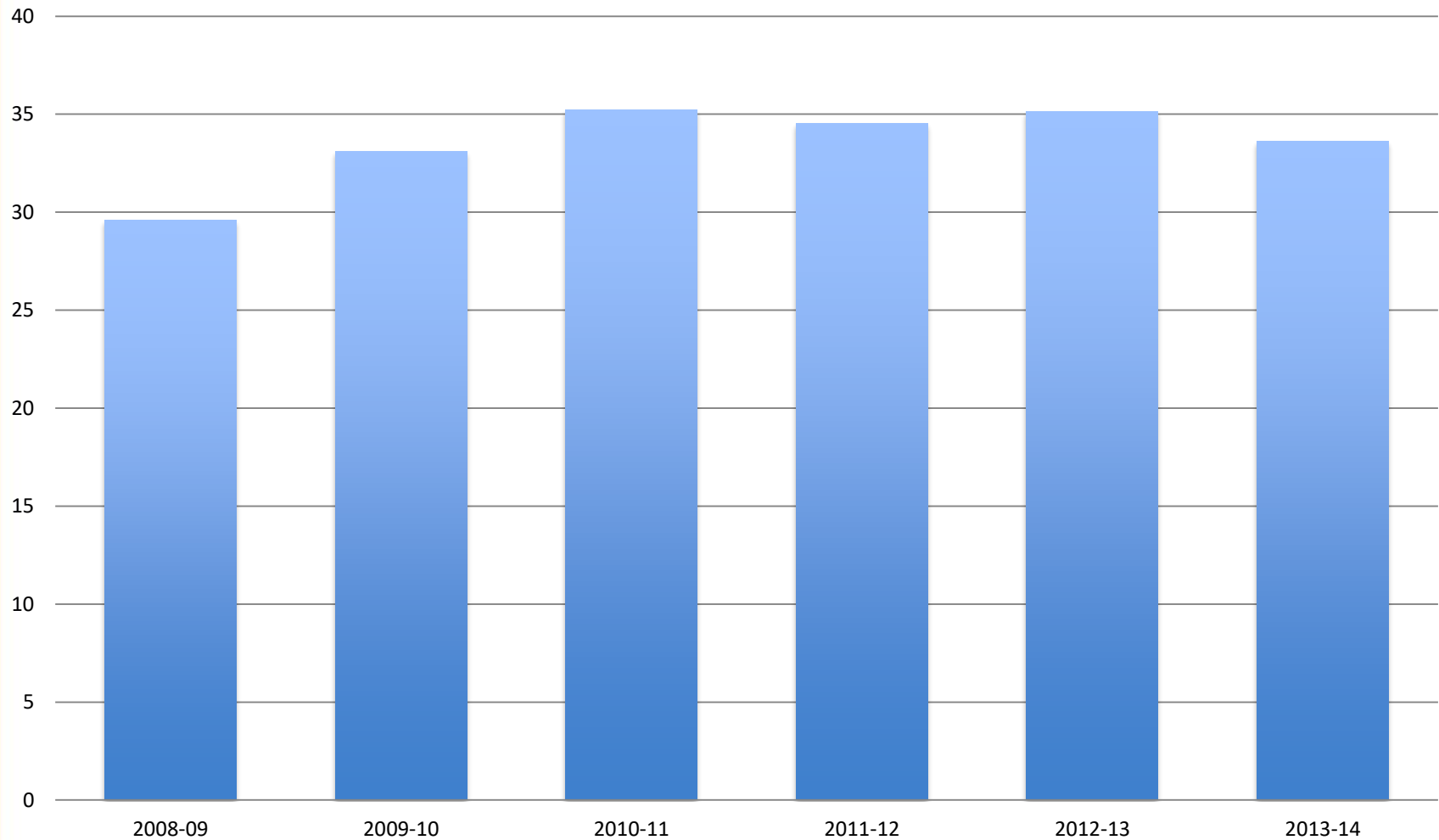
- COE Total: July 1, 2013 = \$20.2M
 - Dean's office CF = \$7.7M
 - Committed obligations: previous start-ups = \$5.8M
 - Committed obligations: retentions, etc = \$1.5M
 - Known obligations: start-ups in recruitment = \$1.8M
 - Over-commitment of \$1.4M to grow over next two years
 - Departmental accounts 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



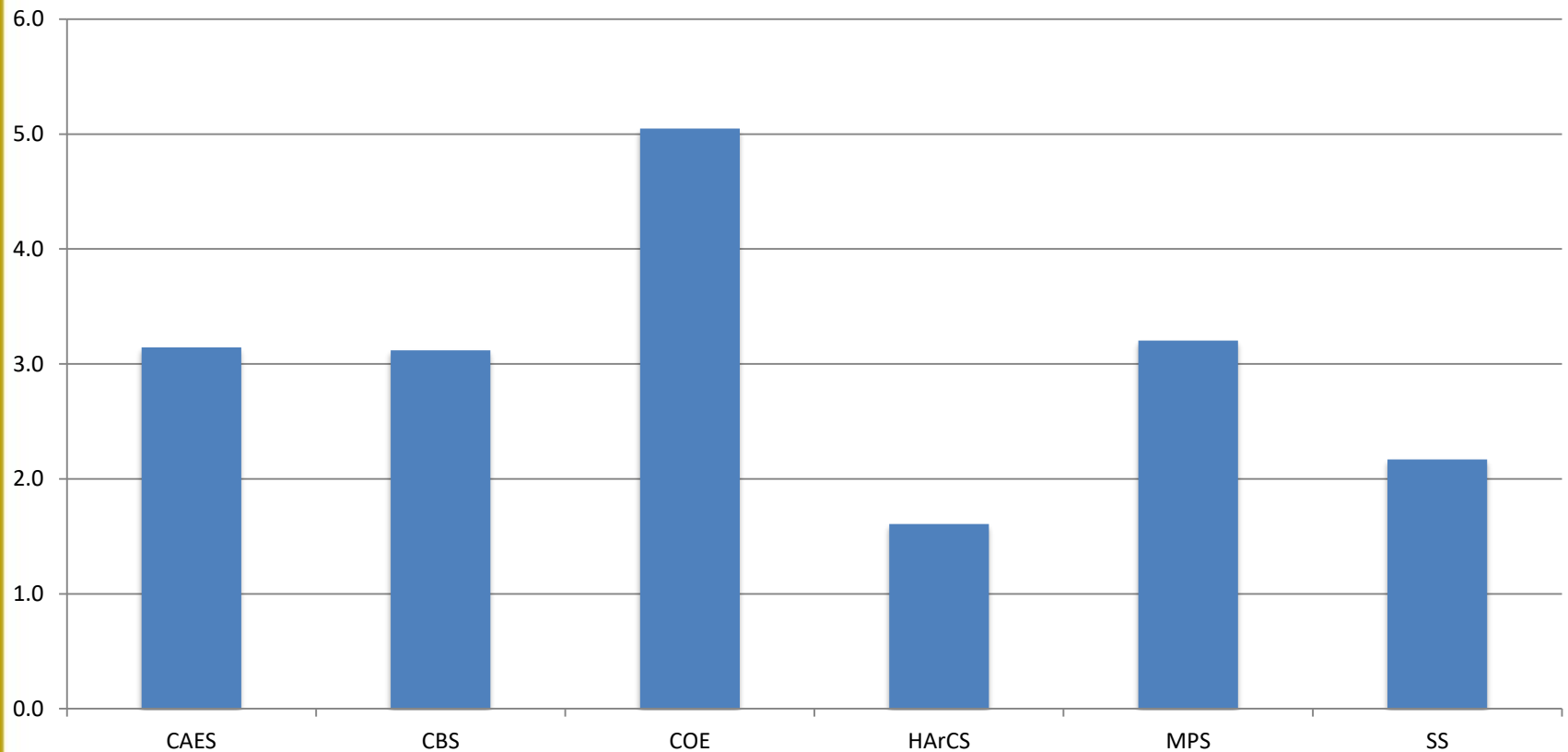
Average SCH within COE per declared major = 21.0
 2013-14 includes projection for spring quarter

Undergraduate Majors per TA



Average undergraduate student majors per 9-month, 50% TA
2013-14 projected as of April 2014

Graduate Students per Faculty FTE (budgeted), 2011-12

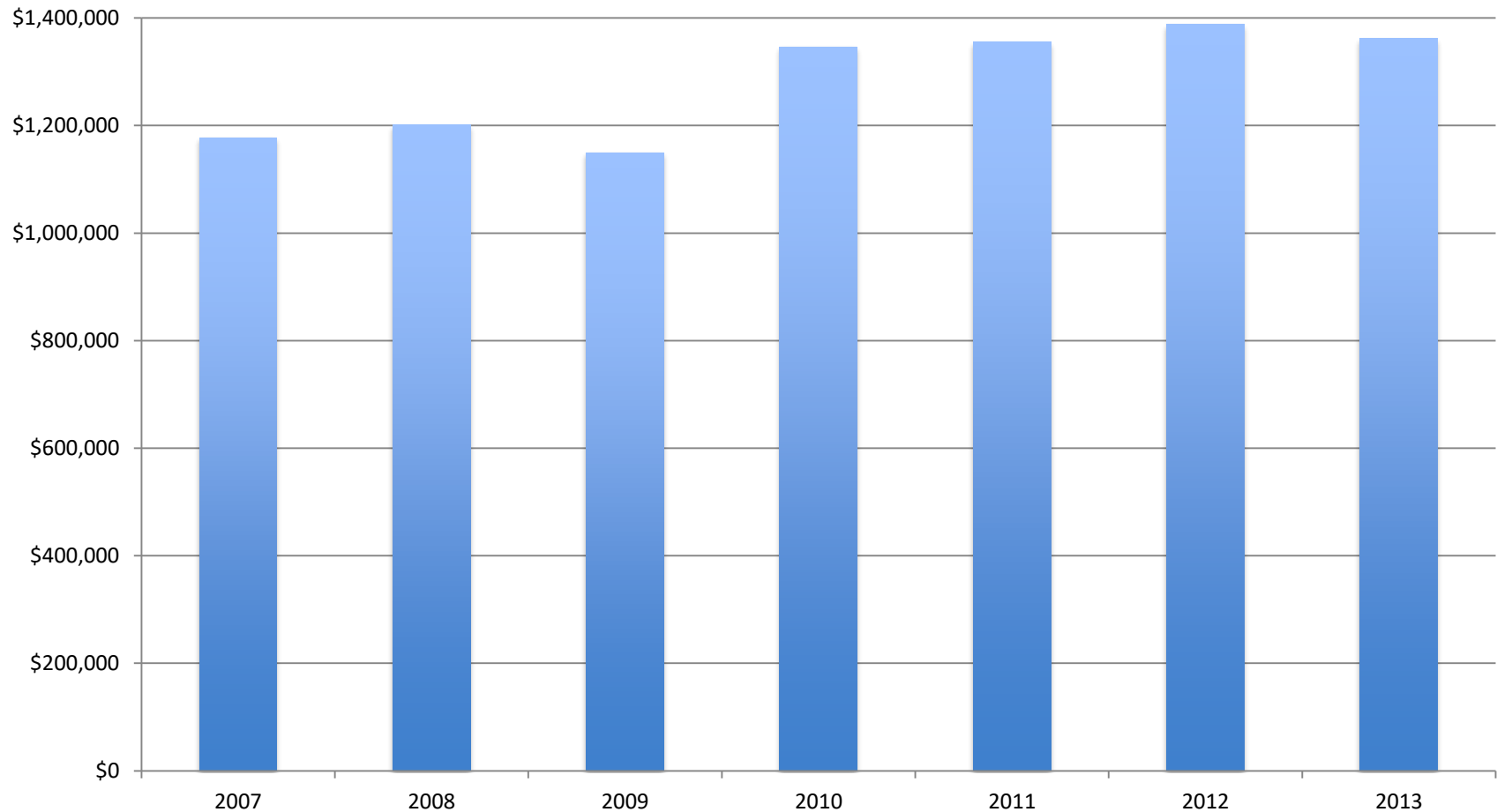


→ Ratio of COE graduate students to undergraduates = 0.31

→ Ratio of PhD to all graduate students = 0.68

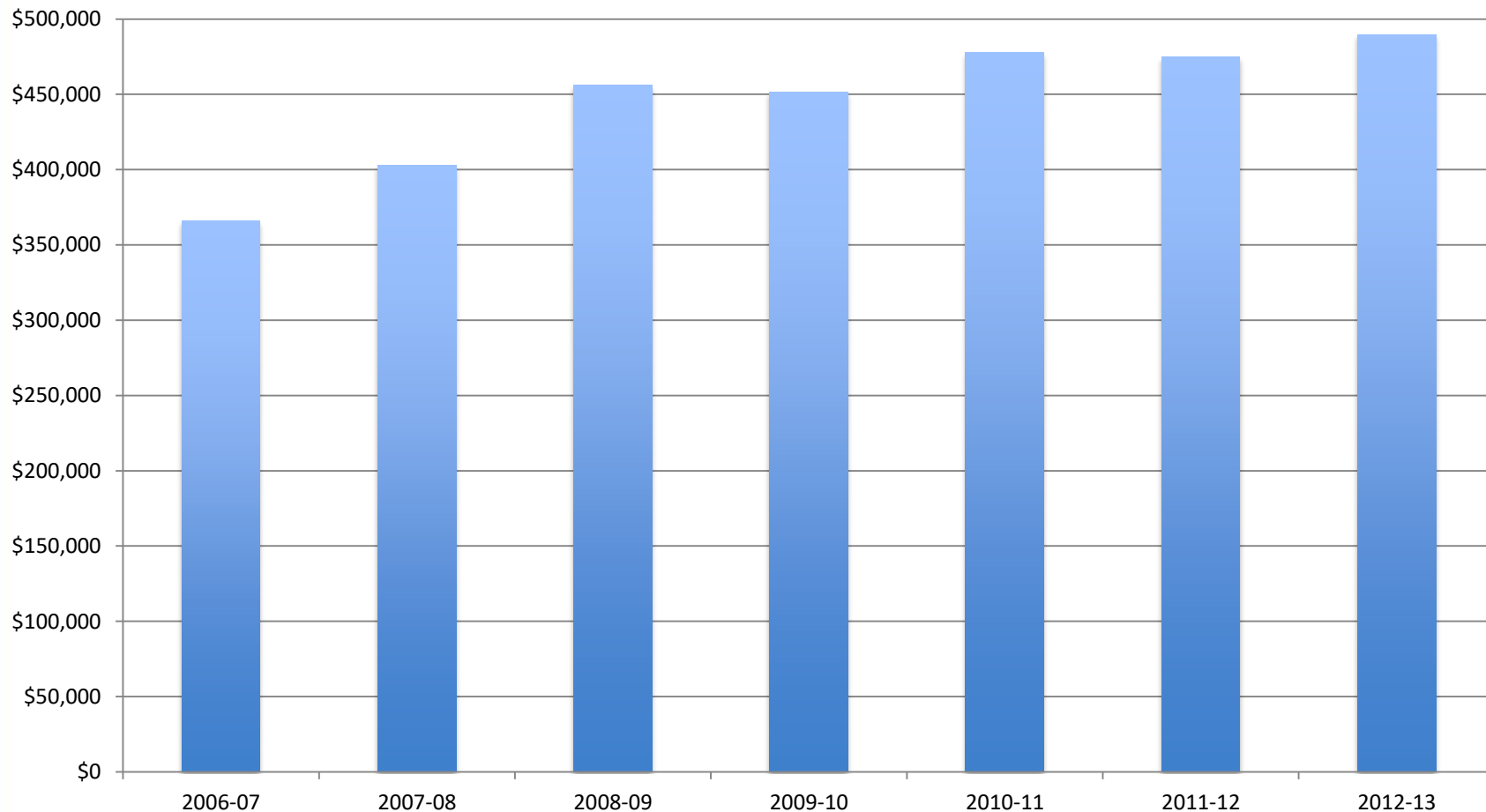
Graduate Student Support

Monthly fall stipends for GSRs, TAs, Fellowships



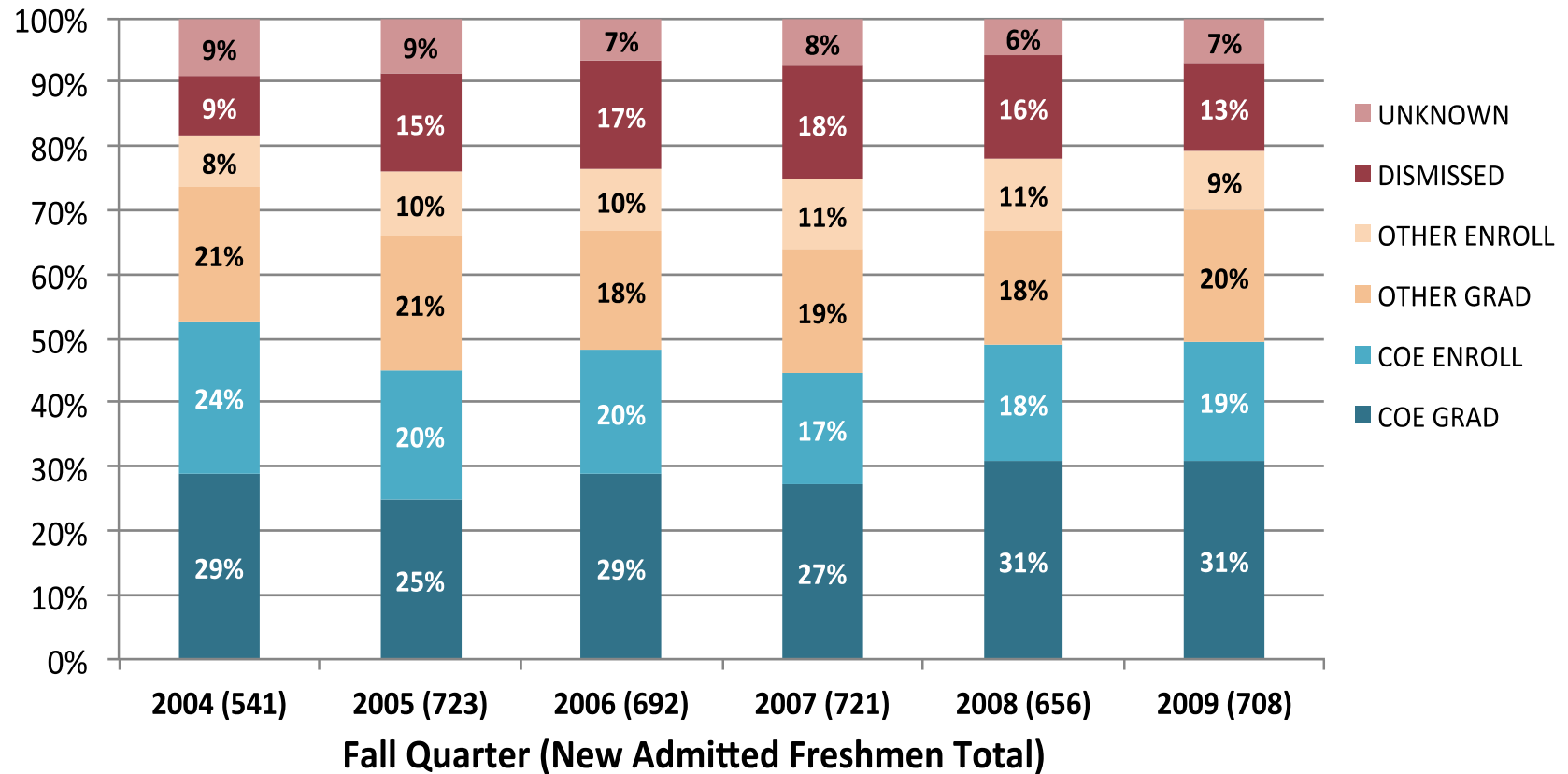
In 2013, 89% of active PhD students receive financial support.
Total active PhD students = 683.

COE Extramural Research Expenditures per Faculty FTE



College of Engineering

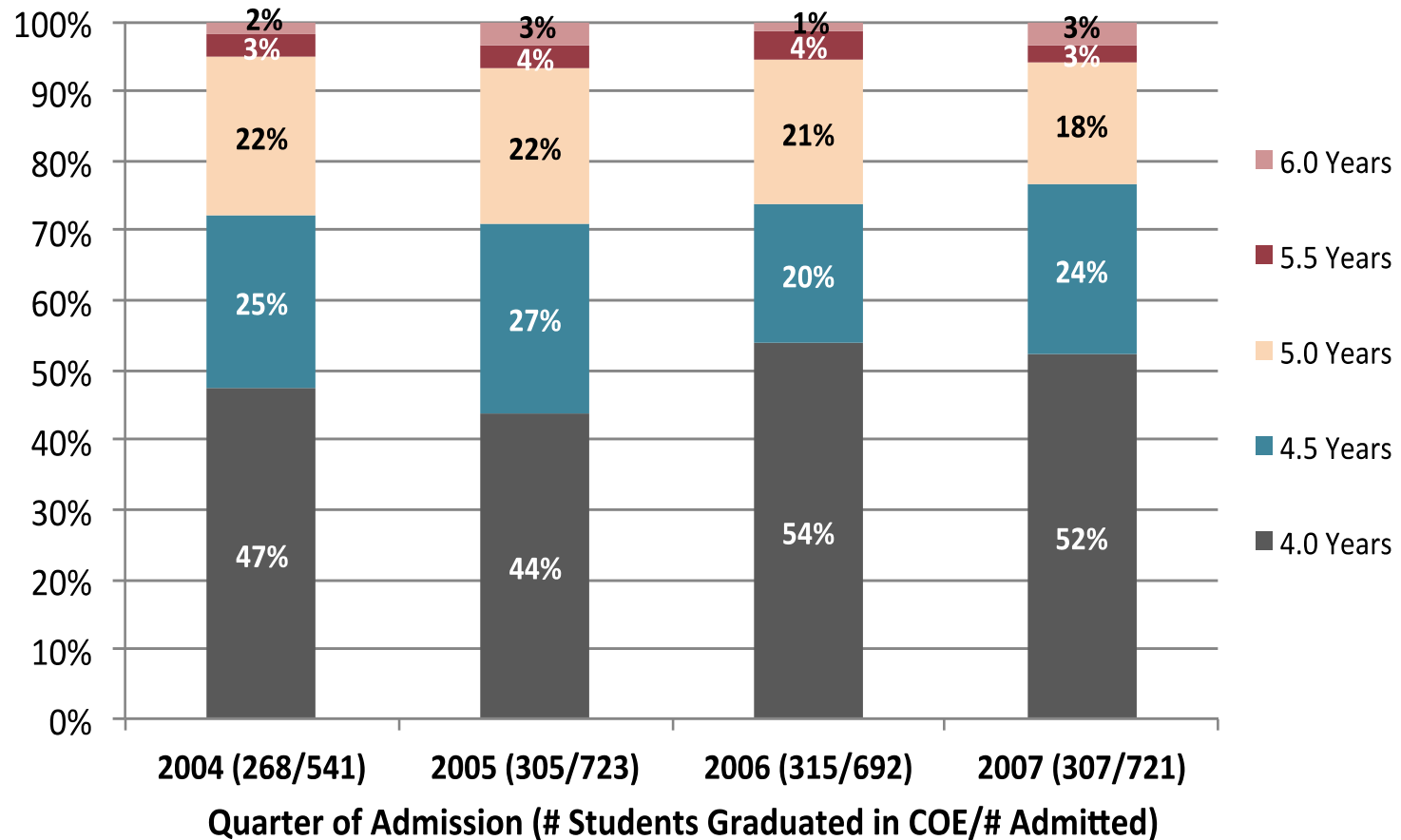
4-Year Freshmen Retention



SOURCE: Banner, New Freshmen admitted 2004-2009, 4 years after entry.

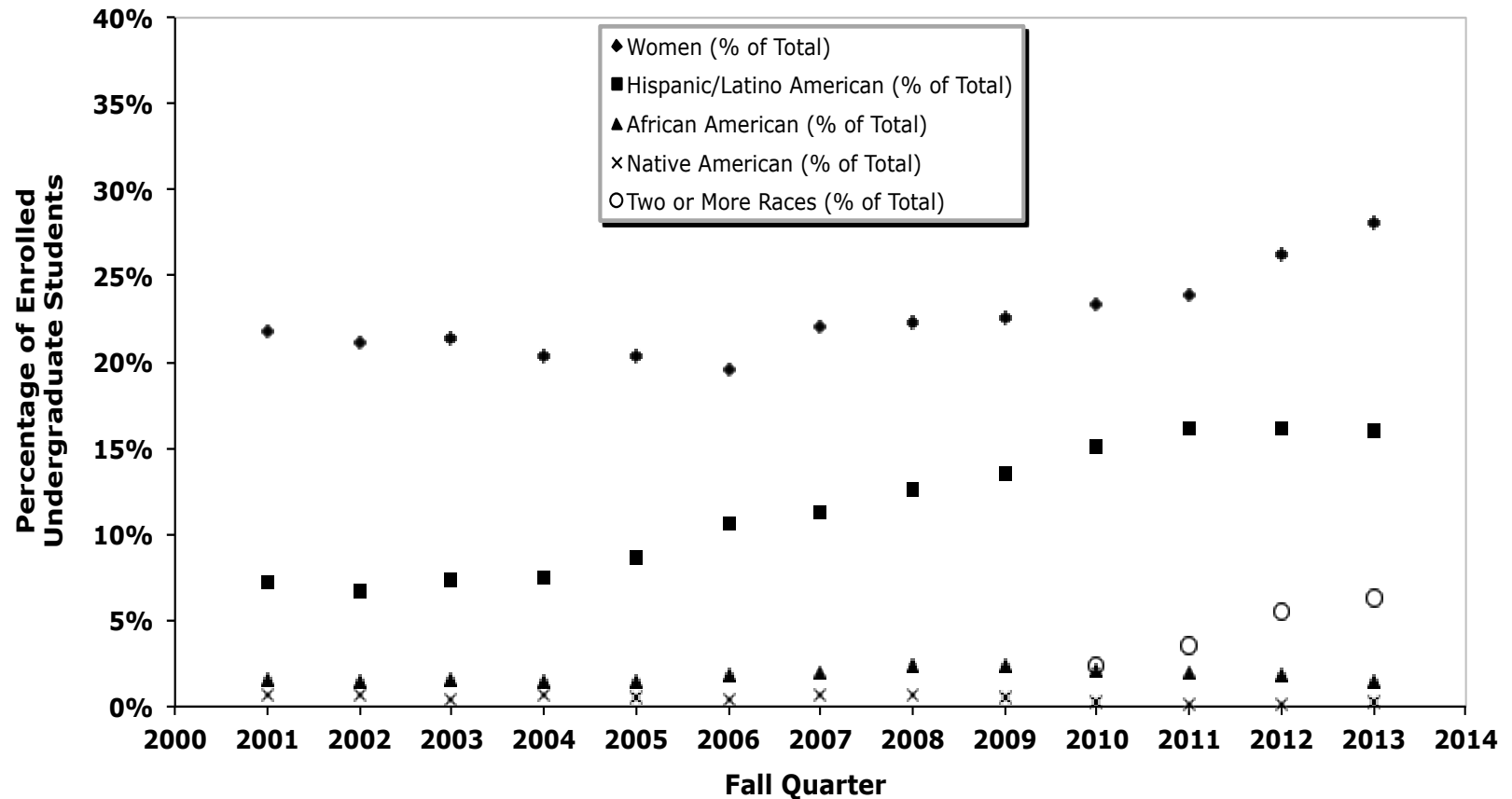
College of Engineering

Time to Degree within 6 Years



SOURCE: Banner, New Freshmen admitted 2004-2007, COE graduates 6 years after entry
(L&S Computer Science major not included)

College of Engineering Undergraduate Diversity



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

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