

## Who We Are

The College of Engineering plays a central role in the mission of UC Davis, one of the nation's top public research universities. The College integrates teaching, research and service to society, advancing the leading edge of engineering knowledge and training the next generation of engineers who will make a difference in our world.

# research

# hands-on skills



# UC DAVIS

## COLLEGE OF ENGINEERING

Annual Faculty Meeting  
May 23, 2012

# historical

# collaborative culture

# MEETING MINUTES

- UNIVERSITY OF CALIFORNIA, DAVIS  
VOLUME XXXVIII, NO. 3
- ACADEMIC SENATE
- MINUTES
- REGULAR MEETING
- FACULTY OF THE COLLEGE OF ENGINEERING  
(DAVIS)
- May 23, 2012, 3:30 p.m., room 1065 Kemper Hall

# Order of Business

- 1. Announcements by the President, Mark Yudof (none)
  
- 2. Announcements by the Chair, Marjorie Longo
  - Slides to follow

# Executive Committee Activities

- Department of Applied Science – signed off on proposal to close.
- Optical Science Major and Minor – voted to discontinue.
- Merger of the Division of Textiles and Clothing with BAE – signed off on proposed merger.
- Electronic Materials Major – voted to discontinue.
- Combined COE-MPS Spring Commencement – voted to reject Chancellor's proposal.
- Three new minors approved at campus level – Biomedical Engineering, Computational Biology, Materials Science.
- GE2 to GE3 Transition – continues to cause difficulties.

# Executive Committee Activities Cont.

- COE 50<sup>th</sup> Anniversary Advertising and Website – voiced concerns to COE administration.
- Incentive Based Tuition Model – concerns forwarded to AS Chair Bison and COE Members of 2020 Taskforce.
- New ICR Model – request to Dean Lavernia that Dean's Office returns ICR to departments minimally at current level.
- Engineering Supplemental Fee – we continue to discuss our response to UC Deans' Position Paper.
- Bernard Levy (ECE) elected as Vice-Chair for AY 2012/13, Jeannie Darby (CEE), will serve as Chair of CEC for AY 2012/13.

# ORDER OF BUSINESS

## 3. Announcements by Dean, Enrique J. Lavernia

Separate Presentation

# New Faculty since July 2011

Eduardo Silva (BME) appointed 11/1/2011

Joshua Hihath (ECE) appointed 7/1/2011

Xiaoguang (Leo) Liu (ECE) appointed 11/1/2011

Omeed Momeni (ECE) appointed 7/1/2011

Erkin Seker (ECE) appointed 7/1/2011

# Faculty Searches in Progress

Neural Bioengineering (BME)  
Geotechnical Engineering (CEE:TOE)  
Microwave, Millimeter-Wave and THz  
Electronics (ECE: 2 FTE)  
Manufacturing (MAE)  
Manufacturing/Energy Interface (MAE)



# REPORTS FROM STANDING COMMITTEES

Committee on Undergraduate Educational Policy,  
Angie Louie, Chair

Awards Committee, John Bolander, Chair  
Report presented by Bruce Hartsough

# REPORTS CONTINUED....

Research and Library Committee,  
Alex Revzin, Chair

Committee on Graduate Study,  
Roland Faller, Chair

Committee on Student Recruitment, Development,  
and Welfare, Anna Scaglione, Chair  
Report presented by Fadi Fathallah

# 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

- **SEE HAND OUT**
- Change in units from 10 to 16 for UNEX Courses, Approved
- Reg. #35-D Double Counting of Units, Approved
- Reg. #35-F GE Requirements before graduation, Approved
- Former Reg. #35-C Deleted: Of the total units required for the Bachelor of Science Degree in Engineering, at least 35 of the final 45 units characteristic of the student's curriculum must be completed while he or she is registered in the College of Engineering, Approved.
- 41 Faculty were in attendance at this meeting.

# COE Standing Committees 2012/13

## *EXECUTIVE COMMITTEE*

David Slaughter	BAE
Simon Cherry	BME
Marjorie Longo	CHMS
Jeannie Darby, Chair	CEE
Nina Amenta	CS
Bernard Levy, Vice-Chair	ECE
Niels Jensen	MAE

# COE Standing Committees 2012/13

## ***COMMITTEE ON STUDENT RECRUITMENT, DEVELOPMENT AND WELFARE***

Tina Jeoh Zicari	BAE
Marc Facciotti	BME
Adam Moule	CHMS
Kenneth Loh	CEE
Matt Franklin	CS
Xiaoguang Liu	ECE
Valeria La Saponara	MAE

# COE Standing Committees 2012/13

## ***COMMITTEE ON UNDERGRADUATE EDUCATIONAL POLICY***

Michael Delwiche

BAE

Tony Passerini

BME

Julie Schoenung

CHMS

Amit Kanvinde

CEE

Phillip Rogaway

CS

Saif Islam

ECE

Mike Hill

MAE

# COE Standing Committees 2012/13

## ***AWARDS COMMITTEE***

Bryan Jenkins

Atul Parikh

Bruce Gates

Boris Jeremic

Zhendong Su

Anh-Vu Pham

Ian Kennedy

BAE

BME

CHMS

CEE

CS

ECE

MAE



# COE Standing Committees 2012/13

## ***RESEARCH & LIBRARY COMMITTEE***

Julia Fan

BAE

Leonor Saiz

BME

Pieter Stroeve

CHMS

N. Sukumar

CEE

Michael Neff

CS

Soheil Ghiasi

ECE

Harry Cheng

MAE

# COE Standing Committees 2012/13

## ***COMMITTEE ON GRADUATE STUDY***

Niels Jensen	DAS
Fadi Fathallah	BAE
Kent Leach	BME
Yayoi Takamura	CHMS
Frank Loge	CEE
Pat Mokhtarian	TTP
Kwan-Liu Ma	CS
TBA	ECE
Jean-Pierre Delplanque	MAE

# College of Engineering Budget Briefing

*Presented to:*

Annual faculty meeting – May 23, 2012

Faculty Executive Committee – May 30, 2012

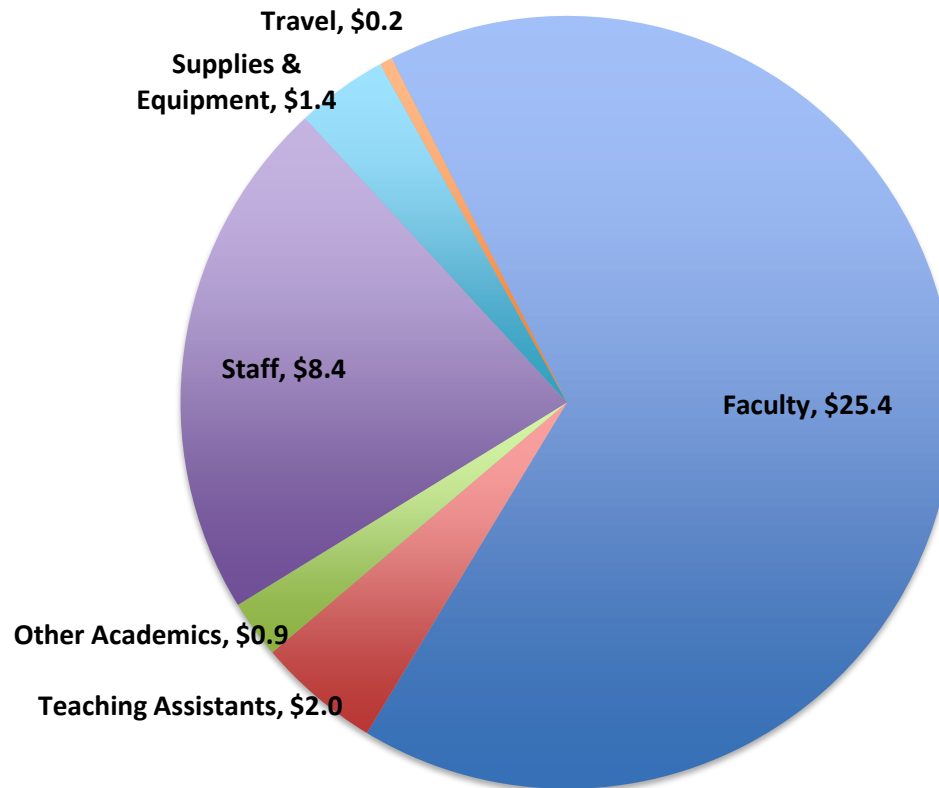
Provost and Executive Vice Chancellor – May 31, 2012

# College Overview

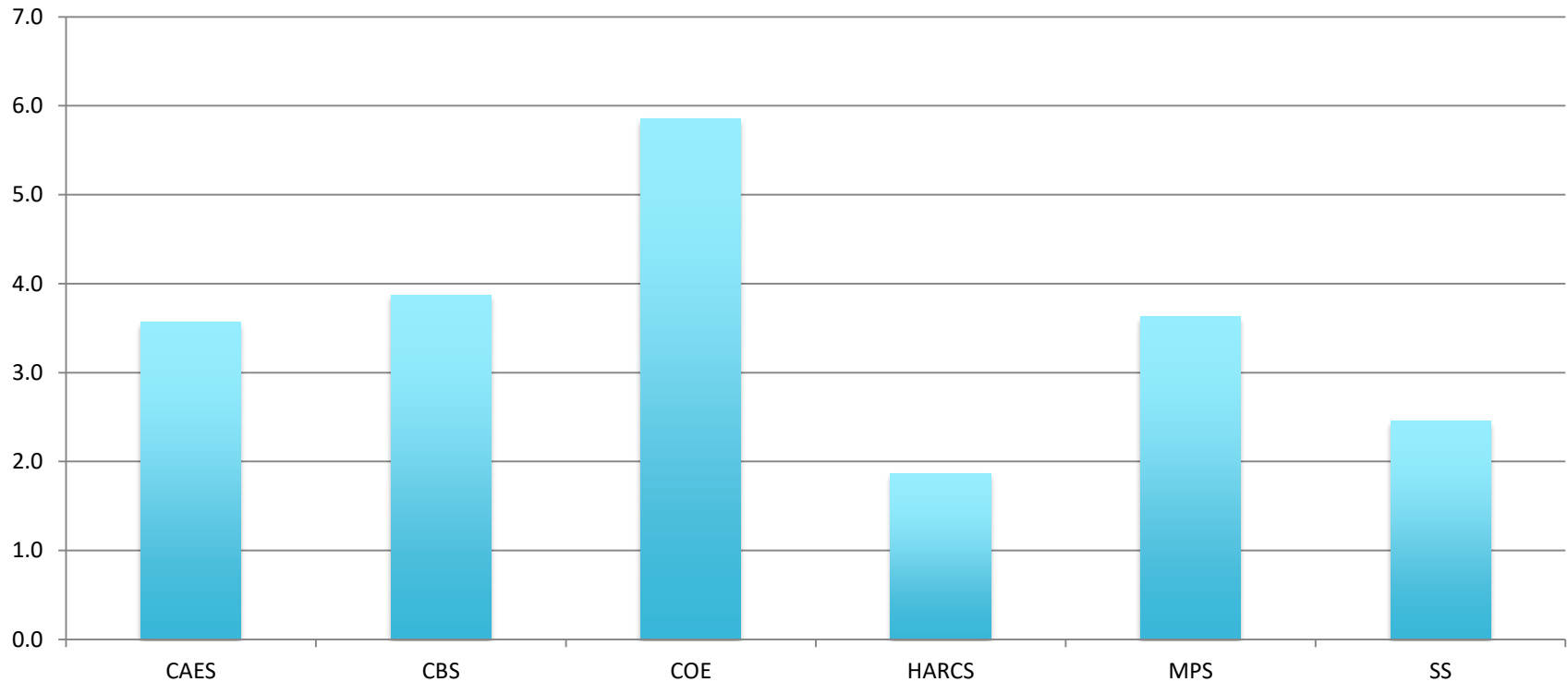
- 3,463 undergraduate majors
- 1,252 graduate students (includes 826 PhD students)
- 194 faculty FTE (paid)
- 7 departments, history of decentralized administration
  - Departments are generally consistent in size and academic foundations
- General fund expenditures, unrestricted = \$38.4 million
  - Net of Budgetary Savings Target = \$907K, shared
- Extramural expenditures = \$90.4 million
  - Includes gifts = \$4.5 million
  - Nearly all restricted

Head counts: Fall 2011. Expenditures: FY 2010-11.

# COE General Fund Expenditures, Unrestricted FY 2010-11



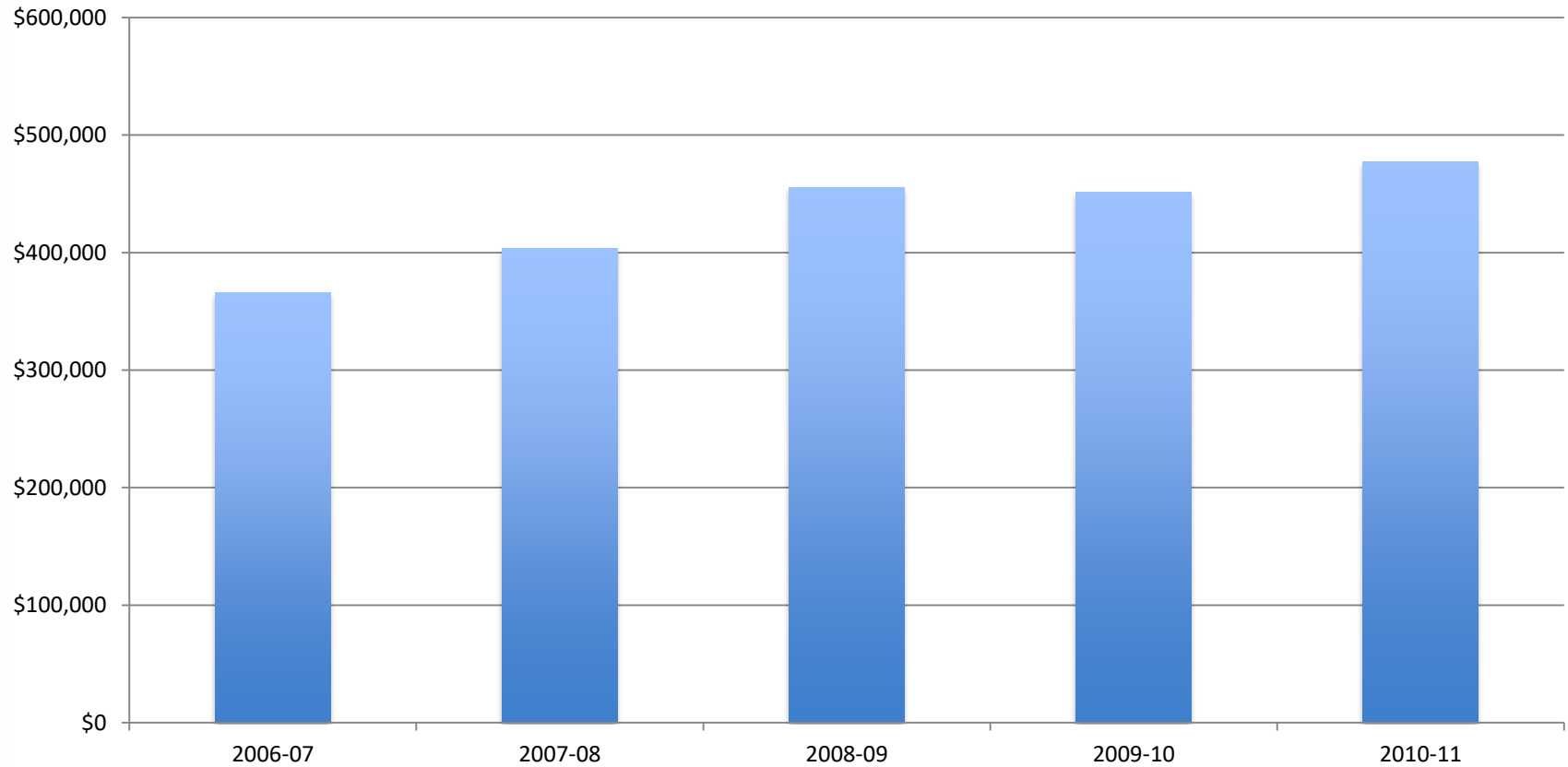
## Graduate Students per Faculty FTE (filled), 2010-11



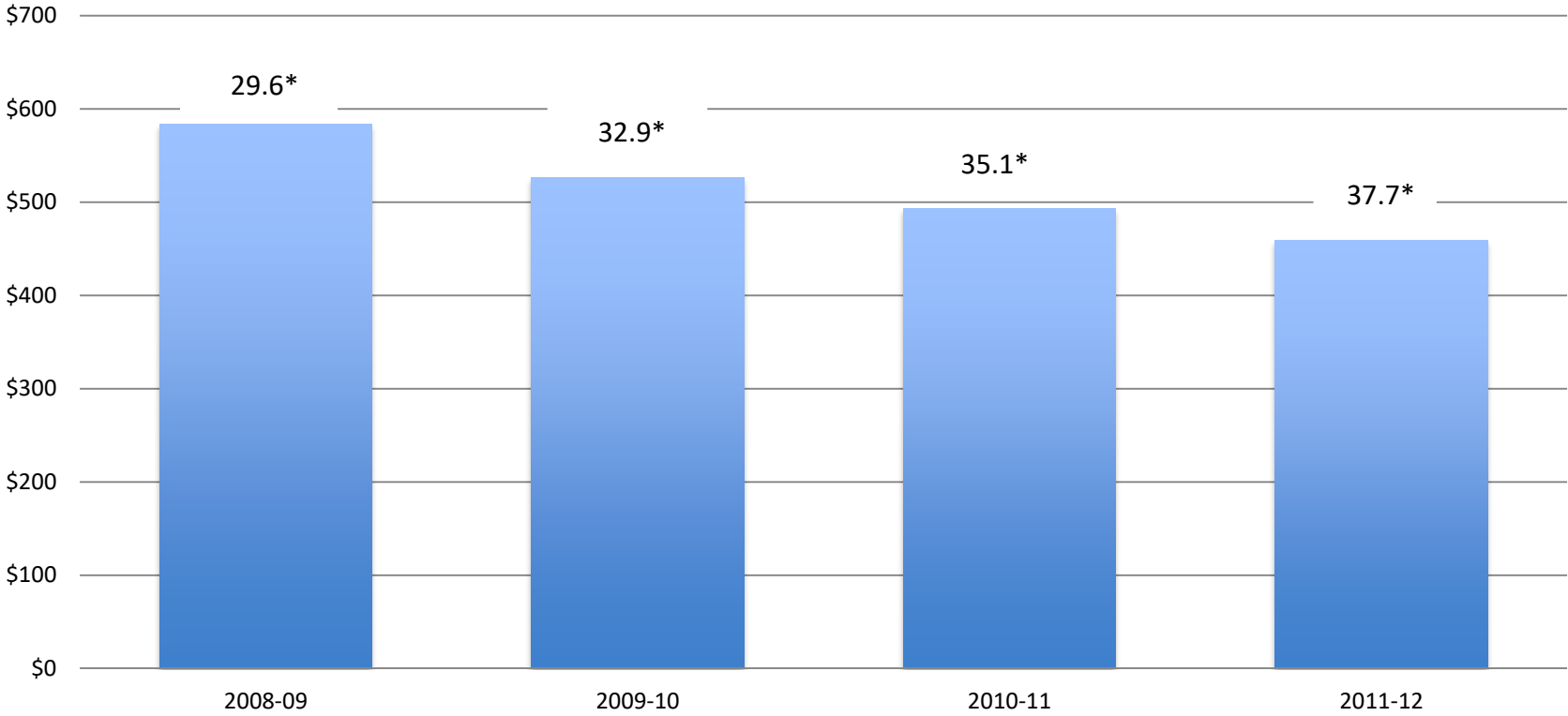
→ Ratio of COE graduate students to undergraduates = 0.36

→ Ratio of PhD to all graduate students = 0.66

## COE Extramural Research Expenditures per Faculty FTE



# TA Salary Expenditures per Undergraduate Major

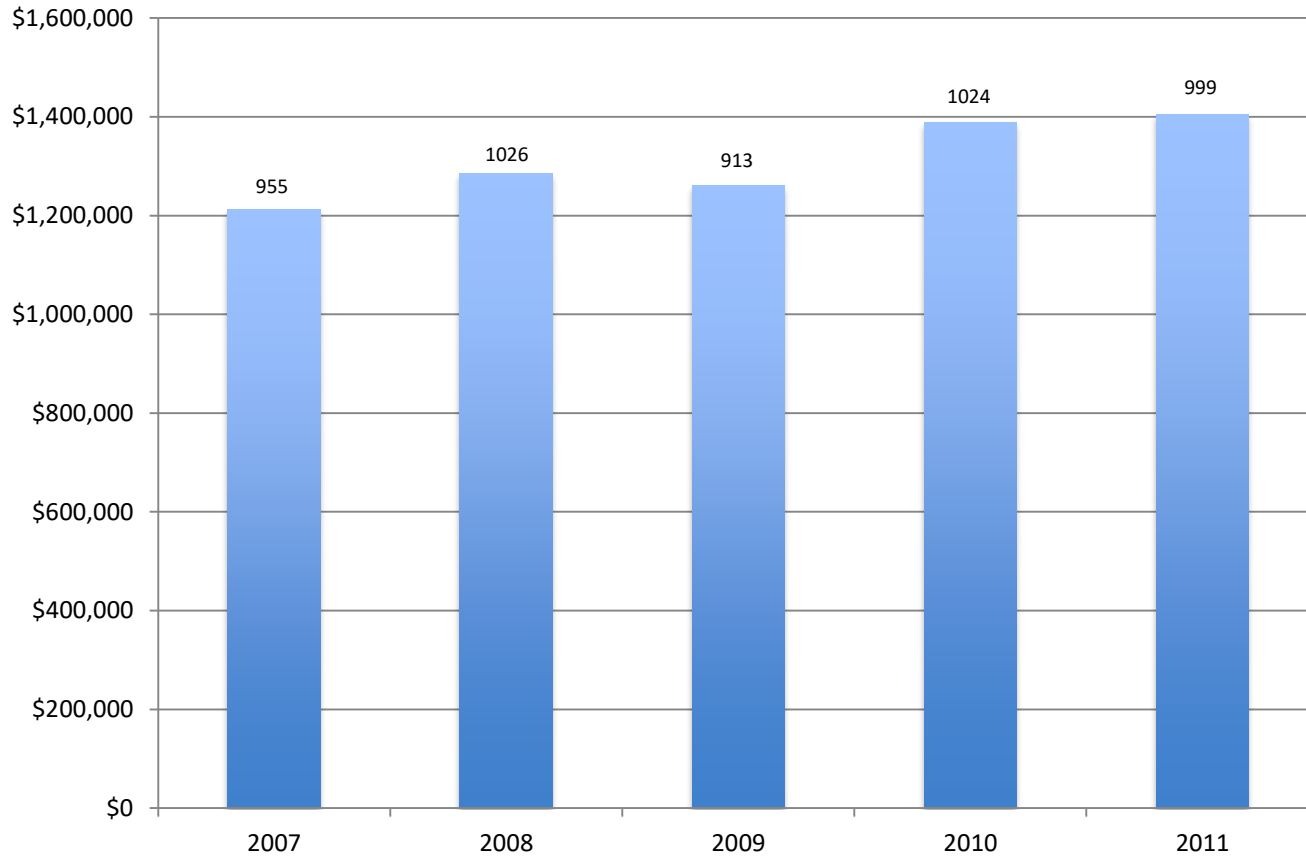


\* Average undergraduate student majors per 9-month, 50% TA  
Note: Expenditures are corrected for salary range adjustments (constant 2011-12 dollars)



# Graduate Student Support

Monthly fall stipends for GSRs, TAs, Fellowships



Numbers above bars are appointments with stipends

# Budget Structure

## Departmental base budgets

- Allocation methodology driven by workload metrics:
  - Extramural expenditures: weighted 50%
  - Student credit hours: weighted 20%
  - Undergraduate enrollments: weighted 10%
  - Graduate enrollments: weighted 10%
  - Faculty FTE: weighted 10%
- Recalculated annually
  - Uses 3-year average for each metric

# Base Budget Allocation Methodology, 2011-12

**Working Base Budget: \$3,756,585**

drivers:	Faculty FTE	Extramural Expenditures	Total SCH		UG Majors	Graduate Enrollments	Department Allocation	
			Course Origin	Pay Department				
%/driver:	10%	50%	15%	5%	10%	10%	100%	% of total
<b>Department</b>								
BAE	\$10,628	\$58,849	\$15,790	\$5,666	\$18,003	\$15,967	\$124,902	3%
BME	\$42,306	\$335,133	\$42,049	\$14,095	\$35,699	\$42,996	\$512,278	14%
CHMS	\$62,025	\$288,609	\$70,671	\$29,730	\$51,953	\$45,189	\$548,177	15%
CEE	\$64,296	\$406,450	\$106,101	\$35,106	\$77,585	\$78,502	\$768,041	20%
CS	\$64,152	\$249,828	\$114,529	\$37,233	\$56,726	\$69,367	\$591,837	16%
ECE	\$61,751	\$302,648	\$106,875	\$30,053	\$60,774	\$70,051	\$632,153	17%
MAE	\$70,499	\$236,775	\$107,473	\$35,947	\$74,918	\$53,585	\$579,197	15%
<i>allocation/driver:</i>	<b>\$375,659</b>	<b>\$1,878,293</b>	<b>\$563,488</b>	<b>\$187,829</b>	<b>\$375,659</b>	<b>\$375,659</b>	<b>\$3,756,585</b>	<b>100%</b>

**Three-year average: AY 2007-08, 2008-09, 2009-10**

Source/Metrics	BAE*	BME	CEE	CHMS	CS	ECE	MAE	Total
<b>Ladder faculty/Lecturer-SOE FTE</b>	5.2	20.6	31.2	30.1	31.2	30.0	34.3	<b>182.5</b>
<b>Total Undergraduate SCHs</b>	1,422	2,914	11,026	7,413	12,716	11,534	12,883	<b>59,910</b>
<b>Graduate Student Credit Hours (course origin)</b>	1,081	3,752	5,796	3,791	5,441	5,410	4,156	<b>29,427</b>
<b>Undergraduate Student Enrollments, SISDS 410</b>								
<i>Majors by discipline (3-qtr average, first major count)</i>	135	268	583	391	426	457	563	<b>2,824</b>
<b>Graduate Student Enrollments (3-qtr average)</b>	36	97	177	102	156	158	121	<b>847</b>
<b>Extramural expenditures, including indirects</b>								
<i>UCD Campus Financial Schedule E + C Overhead</i>	\$1,859,865	\$10,591,478	\$12,845,384	\$9,121,135	\$7,895,529	\$9,564,845	\$7,483,004	<b>\$59,361,240</b>

# Budget Structure

## Impacts of budget cuts

- Absorbing last 3 years of budget cuts
  - 2009-10 = \$1.67M: About half within dean's office, half to departments
    - Shared services for purchasing, HR/payroll, IT
  - 2010-11 = \$2.45M: All in dean's office. College has returned exit salaries for 16.6 faculty retirements. Another \$162K remains.
  - 2011-12 = \$521K: Campus guidance on implementation. COE formed two faculty committees to evaluate feasibility.
    - Salary cost recovery is a no-go.
    - New revenues are promising. Collaborations with Unex & Summer Sessions.
    - Absorbed \$159K through staff reductions; another \$362K remains in dean's office.
- Dean's Office operating deficit 2011-12 = \$942K
- Changes for 2012-13:
  - Reduced deficit for NCNC = \$266K
  - Retired previous years deficit in Development = \$303K
  - Use \$362K from new ICR distribution to absorb remaining 2011-12 budget cut

# Budget Structure

## Anticipated changes

- Budgetary Savings Target: cost = \$907K
  - May use new ICRs to phase out, over multiple years. Approx 75% would go to departments, 25% to EDO.
- Northern California Nanotechnology Center: cost = \$325K
  - Large staff reductions implemented, reduced deficit by 50%.
  - Newly engaged faculty → higher usage → increase recharge by ~\$100K
- Development: cost = \$270K
  - Will worsen when campus support for Exec Director ends 2013-14
  - Campus-wide problem: Development very successful, but mostly restricted
  - COE will request additional support from Provost

# Strategic Goals

2012/13 to 2015/16

- Instructional support
  - Teaching Assistants and computer labs
  - Absorb influx of international students
  - Est. cost = \$300K-\$400K annually to return to 2008-09 levels
- Curriculum Changes
  - Student Retention and 2025 Committee Recommendations
  - Engineering design experience during freshman year
  - Est. cost = \$300K-\$350K annually for curriculum development and teaching support
- Student Diversity and Retention in Engineering
  - New SAO funded by Provost to develop programs to retain students
  - Gifts of \$150K to fund construction of student study space

# Strategic Goals

2012/13 to 2015/16

- Support Research with Financial Incentives
  - Return some ICRs directly to PI discretionary accounts
  - Est. cost = \$460K/year for 5% return
  - ICRs to COE must cover OP tax \$748K and benefits \$427K
- EME-50 Course Bottleneck
  - Est. cost = \$1M-\$2M for lab expansion/renovation
- Recruitments and Start-Up Costs
  - Est. cost = \$5M-\$10M over next 3 years
- Special Challenges
  - Skewed age distribution in MAE
  - Garamendi and BME