Thank you for this opportunity to speak with this group.

I'll give you a summary of our mission as we see it, our budget challenges and some strategies for addressing them.   We can discuss that or any other observations that you have about instructional computing. I'll ask for your advice on setting our priorities.

We are foremost a customer service group, and you are the customers.

These are the principles that drive us:

~~Mission Statement:~~

~~The EECS Instructional Support Group (ISG) installs and maintains networked computers that are used by EECS classes. ISG provides computer accounts for instructors and students in the Instructional labs and on Instructional servers. ISG purchases, installs and maintains application software needed for classes. ISG supports instructional labs in Cory Hall, Soda Hall and Sutardja-Ddai Hall.~~

~~ISG wishes to meet the computing needs of instructors and students in EECS courses and to provide support for new and innovative learning environments. We wish to be accessible and responsive to requests for service. We also wish to learn about new and interesting technologies that may be of value in this service.~~
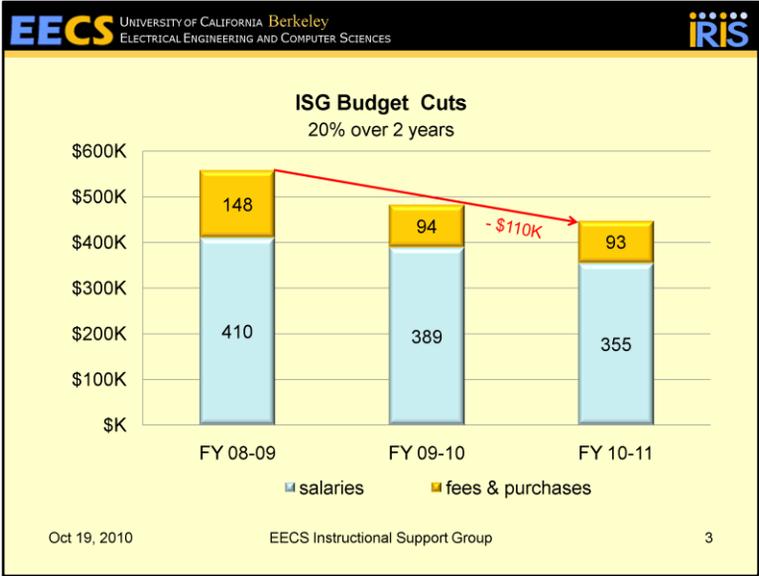
Budget Cuts

The funding that supports Instructional computing was cut by 20% ($110K) over 2 years, starting July 1 2009.

This funding supports computers, software, service contracts, printing, network fees, furniture, supplies and salaries.

We are now in a very austere spending mode, and more than ever we are relying on donations for any major new equipment.

ISG Budget – Coping with the cuts

➢ 1 career staff layoff - $40K

➢ no student staff - $5K

➢ voluntary salary reductions (START, LWOP) - $13K

➢ canceled contracts (Sun, Legato, Coventor) - $12K

➢ deferred maintenance (no new chairs, etc) - $40K

➢ donations such as
- Sun AEG (4 servers worth $65K)
- Intel (330 Soda, worth $70K)

➢ some CMF are possible

Cut $110K over 2 years; permanent

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We've reduced capital and operating costs by eliminating service contacts and the purchases of new equipment.

We've reduced salaries by taking voluntary leaves without pay and by eliminating our student employee positions.   In July 2010, we've had to layoff a career staff member.

Negative effects:

➢Staffing shortage: delayed response to requests, reactive instead of proactive

➢Deferred maintenance of infrastructure: chairs, printers, computers all getting old

Good news - donations (for example):

➢Intel parallel processing workstations (Cathy Yelick)

➢SUN (Marcelino Enriquez)

➢VMs on the Amazon EC2 cloud (Armondo Fox, Dan Klein)

➢NI (Ferenc Kovac)

➢Apple (2009, Dan Garcia)

➢LCDs (2009, Eric Fraser)

No alternative funding for…
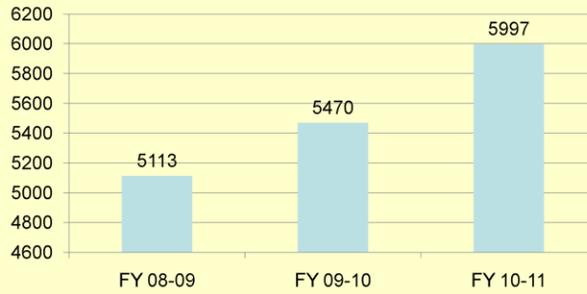
staff (our most valuable resource)

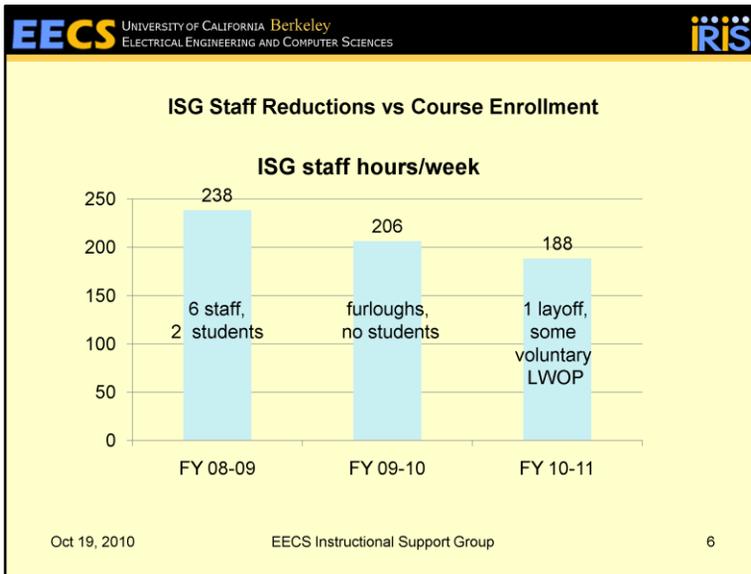infrastructure (such as network fees and chairs)

Potential alternative funding for…

computers (donations, or course fees for virtual servers on commercial sites)

software (donations, course fees or GPL versions such as Gimp instead of Photoshop)

To dramatize the loss of staff, here is a contrast between the increasing enrollment in EECS classes…

And the decreasing number of ISG staff hours to provide services for them.

~~Two students worked about 20 hrs/week in FY 2008-09.~~
~~Furloughs took up about 12/hours a week in FY 2009-10.~~
~~1 career staff was laid off in July 2010.~~
~~We are now 5 career staff (after the layoff).~~
~~3 staff are on reduced time (10% each) this year.~~

Service reductions include:

- CS student position eliminated, no development work on Berkeley Scheme, CS61A Complaint/Resolve WEB service, CS61A Hadoop/MapReduce. (We had an understanding with the CS Lower Division that one student would be available for their projects; career staff are nowmaintaining the current projects.)

- No lab checks on weekends.

- Lost primary support staff for UNIX CAD tools such as Cadence and Synopsys.

- Slower responses to some service requests.

Strategies

1) Use low-cost virtual servers
2) Leverage student laptops
3) Share licenses & costs with other departments
4) Recharge for workshops, etc
5) Industry partnerships
6) UCB IT partnerships
7) Student group partnerships
8) Survey the instructors
9) Offer help sessions for GSIs

The budget cuts have, of course, been devastating, and it's not over yet. But with that pressure, we are forced to change old habits and look for creative new solutions. Although the OE Organization Simplification has everyone looking over their shoulders, it will also foster collaboration and cooperation amongst units that would not otherwise have had that motivation.

In the spirit of the campus Operational Excellence initiative, these permanent budgets cut drive us to look for creative solutions to support and improve our services at lower costs, such as:

1) Reduce the cost of compute servers by supporting low-cost virtual servers (such as the Amazon EC2 cloud) for students to do course assignments.

2) Reduce the cost of workstations by providing better services for student-owned laptops (access to wired network, files, printers, licenses).

3) Reduce the cost of software by sharing licenses with other departments.

4) Gain revenue by recharging for the use of our computer resources by workshops and classes from other departments.

5) Foster industry partnerships: Amazon EC2, Lenovo Thinkcentre, Intel

6) Foster UCB partnerships: share more resources & costs with other units

7) Foster student group partnerships: can we enlist student orgs for help with lab maintenance?

8) Plan farther ahead for new services and potential course fees for classes. We will survey the instructors before each semester to determine needs and priorities.

9) Communicate better with the GSIs and instructors at the start of the semester, to understand their needs and to guide them to best practices how to manage the grading software, file security, web content and files suitable for printing. We will offer help sessions for GSIs and advertise the instructions that are on our WEB site.

EECS University of California Berkeley
Electrical Engineering and Computer Sciences — IRIS

Priorities?

- ❑ Improve services for students' laptops
- ❑ Provide virtual servers and VM images for classes
- ❑ Improve course WEB site management
- ❑ Retire the ISG (imail.eecs) email server
- ❑ … your idea here …

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Based on student surveys, on requests from our instructors and on our own observations, these are projects we could work on.   We could use help in setting priorities for them:

1) Improve service to users who bring their own laptops. Install power strips and wired network connectivity for laptop users in 199 Cory, 277 Soda and elsewhere. Enable authenticated access to floating software licenses for laptop users when permissible. Set up laptop stations in each lab (seating, table space, power, faster wireless).

2) Provide virtual servers and VM images for classes to allow for more rapid implementation of new computing environments for class projects.

3) Improve the WEB interfaces for ISG services such as course WEB site development, bSpace archives, grading software, user documentation, and user account self-maintenance.   (Our WEB sites still test well on Mosaic.) Need for mobile apps?   Leverage students in DeCal classes and student orgs to help with the development.

4) Retire the ISG (imail.eecs) email server (and bounce incoming email)? Should we manage the communications services to our students? Are these alternatives acceptable: bSpace (IST), lists.eecs (IDSG), news.berkeley.edu (CSUA), Google groups, ...

5) ~~Here is a wish list for which we lack funding:~~

  - ~~Upgrade workstations in instructional labs ($234K total)~~
  - ~~Renovate 105 Cory: new furniture, wiring, A/V ($30K)~~
  - ~~Salaries for 2 student staff for 1 year ($8K)~~
  - ~~Replace old chairs in 1 lab per year (about $6K per lab)~~

Instructional Support Group (ISG)
Questions & Discussion

What are your priorities for ISG?

Have you provided services for a class instead of asking ISG?
(such as access to the EC2 or research servers)

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Questions:

1) What are your priorities for ISG?
2) Have you provided services for a class instead of asking ISG? (such as EC2 or access to research servers)