UCLA

OFFICE OF INSTRUCTIONAL DEVELOPMENT
EDUCATIONAL TECHNOLOGY SERVICES

ANNUAL REPORT 2007-2008



TEACHING AND LEARNING TECHNOLOGY IN UCLA GENERAL ASSIGNMENT CLASSROOMS

UCLA Office of Instructional Development
Educational Technology Systems

Annual Report 2007 - 2008

Teaching and Learning Technology in General Assignment Classrooms

Contents

Introduction

This report contains statistical data and information about the general assignment classrooms at UCLA, including current teaching and learning technology installations and plans for future upgrades. It also describes the development issues facing the Educational Technology Systems unit, current and upcoming projects, long term plans, and information about procedures and equipment. Educational Technology Systems consists of:

- Audio-Visual Services
- Classroom Technology Design and Maintenance
- BruinCast
- Educational Technology Innovations

Audio-Visual Services provides technical support, training, scheduling, and other services directly to users of UCLA General Assignment Classrooms. Classroom Technology Design and Maintenance works with other campus units including Capital Programs, Facilities, and the Registrar's Office to design, install, and maintain educational technology in general assignment classrooms. BruinCast is a services that records and webstreams undergraduate courses for use by students as a study aid. Educational Technology Innovations is the research, development and training unit of ETS, investigating and implementing technologies such as audience response systems ("clickers,") rich media presentation, enhanced podcasting, etc.

Classroom Equipment Statistics, as of Fall 2008

There are approximately 200 General Assignment Classrooms available for instruction. The number varies as much as 5% annually due to construction, seismic retrofitting, and maintenance. During Summer 2008, one technology classroom, Life Sciences 4127, was removed from the General Assignment Classroom pool to be converted into departmental space. The replacement room, Botany 133, was deemed not suitable for conversion to a technology classroom.

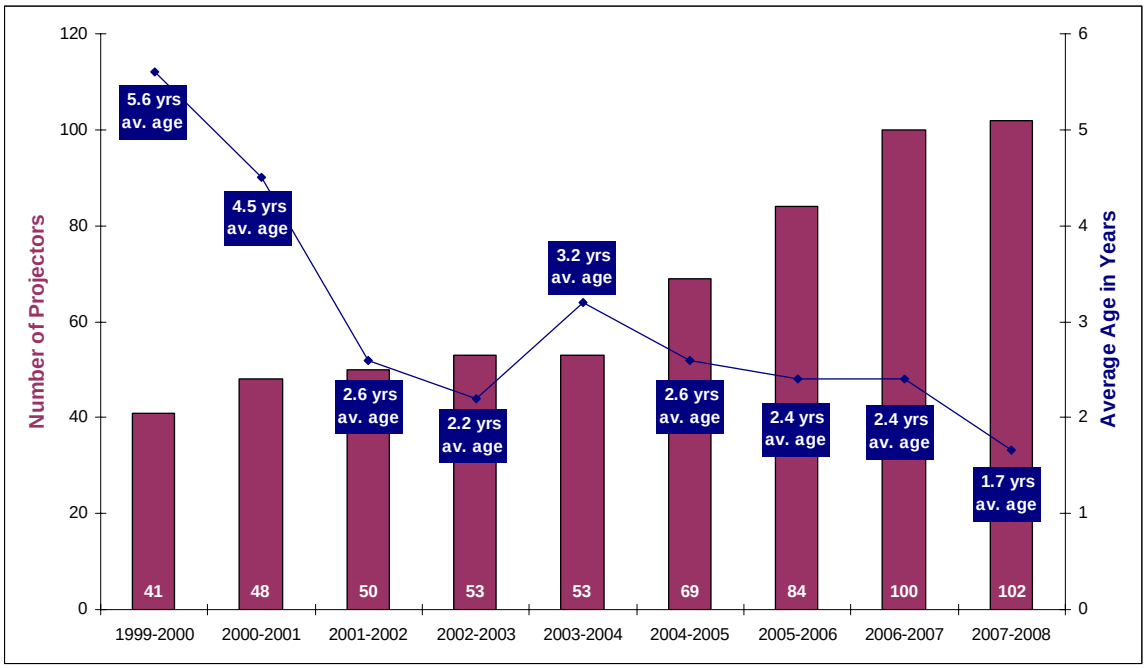
- 100% have network and Internet access,
- 89% have installed video playback equipment,
- 52% have installed data projection projectors,
- 33% have installed classroom computers
- 22% have installed slide projectors,
- 21% have streaming or podcasting capability.

Classroom Size	# of Rooms	Overhead Projector	Network Connection	Video Playback	Data Projection	Media Amplification	Voice Amplification	Installed Computer	Slide Projection	Streaming / Podcast
10-19	16	16	16	15	1	1	0	0	0	0
20-39	86	86	86	71	27	27	10	12	4	1
40-59	39	39	39	38	21	21	16	21	3	2
60-99	21	21	21	18	18	18	18	14	11	5
100-149	17	17	17	16	16	17	17	9	11	11
150-199	6	6	6	6	6	6	6	3	4	3
200-299	6	6	6	6	6	6	6	3	5	5
300+	7	7	7	7	7	7	7	4	6	7
Totals	**198**	**198**	**198**	**177**	**102**	**103**	**80**	**66**	**44**	**42**
%		**100%**	**100%**	**89%**	**52%**	**52%**	**40%**	**33%**	**22%**	**21%**

During the 2007-2008 Academic Year OID…

- continued to install equipment to support the BruinCast course webcasting project, including audio-streaming devices in eleven additional rooms,
- installed a rich media capture station in LaKretz 110 during Spring Quarter 2008 as part of the ongoing Rich Media Pilot Project,
- upgraded six rooms to full technology classroom status, including three rooms in Rolfe, two rooms in Haines, and one room in Boelter,
- renovated the teaching and learning technology installations in two large lecture halls: Court of Sciences 50 and Moore 100,
- added two classroom computers to existing technology classrooms,
- replaced 40 aging video/data projectors in existing technology classrooms,
- installed a second projector and screen in the back of LaKretz 120 to support video-conferencing courses,
- converted eleven technology classrooms to a new wireless microphone system,
- ran workshops, trainings, and events in the OID Training and Demonstration classroom in Powell Library,
- and continued to research and develop new classroom technologies to enhance instruction.

Age of Installed Data/Video Projectors



In recent years the average projector age has remained relatively stable as a result of increasing the number of new installations each year. Although the statistics look good, many rooms had projectors that were five or more years old. In 2007-2008, priorities were shifted from new installations to replacing these older projectors. The result is the lowest average projector age since statistics have been kept. With the funding of the Classroom Business plan in 2008-2009, the projector replacements will continue while the rate of new installations returns to planned levels.

Classroom Upgrade Plan
Fall 2008 – Summer 2009

New Installations: General Assignment Classrooms that have never had installed educational technology of any kind. The rooms listed below represent the current plans; the actual installations may vary due to scheduling and special departmental and faculty requests.

Upgrades: Rooms that have had installed educational technology, but the current inventory is either obsolete or an incomplete equipment suite. When completed, these rooms will meet current standards for classrooms of their size.

Equipment Refreshment: Rooms that meet current standards, but have equipment that needs replacing according to lifespan estimates. In most cases, this involves the

installed data/video projectors, which have a shorter useful life than sound systems, screens, source, system and switching equipment, etc.

Fall 2008

New Installations:

Boelter 2760
Boelter 5420
Boelter 5440
Dodd 154
Dodd 162
Geology 6704
Royce 154
Haines A74
Haines A78
Haines 110
Haines 122
Royce 148
Royce 150

Upgrades:

Court of Sciences 50
Dodd 147
Moore 100

Equipment Refreshment:

Data/Video Projector Replacements:

Boelter 3400
Court of Sciences 76
Haines A25
Haines A44

Winter 2009

New Installations:

Boelter 5422
Dodd 78
Dodd 178
Royce 152
Royce 156
Royce 160

Spring 2009

New Installations:

Bunche 3170 Royce 162
Bunche 3178 Royce 164
Bunche 3211 Royce 166

Summer 2009

New Installations:

Boelter 9436

Franz 2258A

Royce 362

Upgrades:

Court of Sciences 24

Franz 1178

Equipment Refreshment
Data/Video Projector Replacements:

Math Sciences 5117

Math Sciences 5118

Math Sciences 5127

Math Sciences 5128

Math Sciences 5137

Math Sciences 5138

OID Educational Technology Systems
Classroom Technology Planning

In 2006, OID developed and submitted a business plan to the Chancellor requesting funding to convert all UCLA general assignment classrooms to technology rooms, maintain them to current standards, and invest in emerging teaching and learning tools. The plan was funded beginning in the 2008-2009 fiscal year. The summary of the plan as originally submitted is provided below for context, followed by current revisions based on two additional years of experience.

Classroom Technology Business Plan *(pub. 2006)*
2008-2012

Introduction

The Office of Instructional Development has responsibility for providing teaching and learning technologies to UCLA general assignment classrooms in support of undergraduate instruction. The model for providing technology has changed over the years, driven by advances in technology, changes in the ratio between staff and equipment costs, and the needs and desires of the teaching faculty. UCLA classrooms reflect the technology and teaching methods of the era in which they were built.

Background

In response to faculty demand and with support from the Chancellor, in 1980 OID spearheaded an ambitious collaboration among Capital Programs, Facilities Management, the Registrar's Office and its own Media Systems Design group to develop a ten-year plan for:

1. replacing damaged flooring and ceilings
2. bringing rooms up to ADA access standards
3. restoring or replacing damaged writing surfaces
4. recovering seating or replacing missing seats
5. painting walls
6. enabling rooms to be darkened for projection
7. building projection booths, where possible, in three large lecture halls
8. installing screens in rooms
9. equipping ten classrooms for media projection.

That plan was successfully concluded in 1990 and new practices were developed for cleaning classrooms, regularly cleaning boards and supplying chalk, scheduling media classrooms, and developing delivery systems for media in the 195 rooms which did not have installed equipment.

A second ten year plan was developed with more modest goals: attempting to refresh classrooms at least once every 20 years, and to install more media as faculty use of both film and video began to surge. This plan quickly foundered in the severe budget cuts of the early 1990's. The reduced circumstances forced a number of major concessions and an agenda which:

1. limited room renovations and eliminated refreshment schedules
2. decreased the number of equipment operators and converted those funds for the purchase of overhead projectors and television monitors
3. phased out all equipment delivery and pick-up by mid-decade
4. re-charged all professional school programs for media use
5. emphasized equipment for the expanded use of video over film
6. supported the industry changeover from 3/4 inch video to VHS video standards
7. attempted to coordinate media installation and lighting changes with seismic renovation projects, rather than based on room conditions and use.

The 1994 Northridge earthquake further reduced resource availability, and classrooms again began to deteriorate, even as the faculty expressed interest in using expanded new media as part of their teaching. OID requested annual funding for the installation and upgrade of media equipment in classrooms, while continuing to act as an advocate to other campus units for refreshment and renovation of the physical facilities. The chancellor allocated $463,000 annually for the media equipment, allowing OID to increase the number of equipped rooms to around 65, or 33% of the inventory. In 2005, an additional $300,000 per year was approved by the campus administration, which has led to an additional 37 installations planned or completed by July 1, 2007. This represents roughly half of all general assignment classrooms.

In 1992, OID initiated a plan to connect all classrooms on campus to the backbone network. Then EVC Rich, suggested that the plan should be expanded to wire all workplaces on campus. While enthusiasm developed for the latter plan, classrooms, somewhat ironically, were left out of the

agenda. OID redirected some internal funding and staff, and wiring of classrooms for network connection was finally completed almost a decade later, in 2004. Operation of the classroom network was then turned over to Campus Telecommunication Services.

Current Environment

As OID strives to build additional media classrooms and refresh current installations, the technology environment for classrooms continues to undergo continuous change. Media projection has progressed from film to 3/4 inch video to VHS video, to DVD video. Slide projection – a major classroom investment – is no longer viable as digital projection has overtaken the market. Electro-mechanical equipment has become much less common, and preventive maintenance is not possible for electronic equipment. Thus the emphasis must now be on replacement rather than repair. Microsoft PowerPoint and similar software require the use of digital projection in all classrooms. Faculty rely on the availability of digital projection regardless of class enrollment. As the basic equipment suite continues to undergo change, faculty express keen interest in using other systems: e.g. electronic writing tablets, personal response systems, live data streaming, wireless study groups, etc. The demand for faculty consultation in equipment use, software applications, teaching methodologies, and media alternatives has increased dramatically since 1998-1999 most likely covariant with the implementation of the Instructional Enhancement Initiative.

New media formats, and concerns about intellectual property, have created a radically different classroom environment. At the same time, technological capability often conflicts with legal capability. Increased use of new media has also expanded the use of traditional media. The use of time-shifting media systems – such as Bruincast, Video Furnace, and Pod-casting – have expanded faculty initiatives for teaching in a next-generation format. Efforts to move instruction out of the classroom (such as evidenced by the Blended Instruction Case Studies project) have not been embraced by either faculty or students. And when such projects are successful, they require a larger support system than the campus is capable of providing.

Technological changes often require additional large investments in resources – such as the current request to implement a campus-wide course management system. Much of this investment will reap only partial returns if classrooms remain one to three generations behind the current teaching environment.

The shift from delivery of overhead projectors and television monitors on carts to the installation of data/video projection systems with in-room sources and remote monitoring and troubleshooting has caused major shifts in both funding priorities and needs. OID, in consultation with campus partners and other UC experts have used industry practices to develop UCLA Campus Classroom Standards. These standards define the equipment suite needed for each room to support currently accepted instruction practice. However, UCLA invests less per classroom for equipment and maintenance than do the other UC Campuses, and is comparatively behind them in the quality of the rooms. The existing budget allocation, even with the addition of recent augmentations, has reached the limit where maintenance and upgrade costs over the next five years will not support any additional room installations to meet the standards. Thus, while other UC campuses either plan or already have completed in room data/video projection in every classroom, UCLA is currently slightly over 50%, without existing or planned resource capability for augmentation.

Classroom Technology Business Plan

In order to enable UCLA faculty to achieve their full teaching potential, 100% of UCLA general assignment classrooms must have digital projection capability. To achieve this goal, the Office of Instructional Development proposed a five year plan for installation, upgrade, and maintenance of media equipment. As of October 1, 2007, there will be 95 classrooms without installed equipment. A funding proposal was submitted to the Chancellor's Office for the equipment expenses required to complete the fitting of these rooms. In addition, based on the assumptions below, an additional amount was requested over the next five years to keep the classrooms refreshed with current equipment. For the 2008-2009 fiscal year, OID will receive additional permanent allocations to achieve the stated goals of the plan.

The following information describes some of the assumptions used to create the plan.

General

1. Classroom technology standards are those described in UCLA Classroom Standards, available on the OID website (www.oid.ucla.edu.) These have been developed by UCLA Classroom Technology Design and Maintenance staff based on campus practice, UC wide consultation, and industry standards.

2. Equipment costs are assumed to remain basically constant, as the pattern over the last few years suggests that price drops accompany increases in performance.
3. Video Projectors need to be replaced every 5 years. Media source, switching, and control systems need to be replaced every 10 years. Sound systems, speakers, and screens need to be replaced every 15 years. These assumptions are subject to annual review based on technological change.
4. Some rooms require a higher level of equipment than the standard to meet teaching needs.
5. Auditoriums require two projectors and two screens for displaying visual presenter output as well as subsidiary equipment such as personal response systems. (See the following New Auditorium Standard.)
6. All auditoriums, and most large lecture halls where the room configuration is appropriate, will receive equipment to enable video webcasting. All classrooms, lecture halls, and auditorium will receive equipment to enable audio webcasting.
7. Changes in technology are not accounted for. There are no current plans to upgrade to plasma monitors, high definition DVD players, wireless projection, etc. If these, or other currently unknown technologies become the industry standards, the plan may need to be revisited before the next five year cycle.

Staffing

1. Media Systems Design currently has 3 FTE: Principal Electronics Technician, Principal Television Technician, Electronics Technician.
2. These staff, with consultation and professional technician temporary assistance as needed, can carry out the goals of the plan for the first 3 years.
3. One additional FTE of maintenance staff will be required when the number of equipped classrooms exceeds 150.

Maintenance

- Media Rooms require the following maintenance:
    1. Monitoring lamp life
    2. Changing lamps
    3. Changing out equipment
    4. Sending out and monitoring equipment repair
    5. Adjusting and tuning

- Annual Maintenance cost for all classrooms is cost of projector lamps, projected cost of repairs and replacements, and staffing.

- 1 FTE is required per 100 rooms for annual maintenance.

Visual Presentation Equipment

- All 200 classrooms currently have overhead projectors on carts. This equipment is obsolete.
- Replacement of overhead projectors with visual presentation equipment is included in the installation and upgrade equipment estimates. All overhead projectors will be replaced with visual presenters. Installations will be permanent where possible; otherwise a cart will be used.

OID Educational Technology Systems
Current Classroom Technology Planning *(pub. 2008)*

The Classroom Technology Business plan was developed and presented for approval in 2006. Since that time, while the overall goals have remained the same, changes in the environment have necessitated revisions in some areas such as scheduling and staffing. In addition, growth in demand for the BruinCast undergraduate course webcasting program has led to reallocations of internal resources to meet that demand.

Changes to the Plan

1. *Schedule Changes.* The schedule of upgrades and installations in the plan were developed using basic information such as equipment age and time since installation. However, real-world constraints such as availability of UCLA Facilities craftsmen and room schedules necessitate modifications to the listed

classrooms. The current plan, showing the year of expected completion for all rooms on campus, is attached as Appendix 1.

2. *Equipment Changes.* Although the general types of equipment outlined in the plan remain the same, specific brands, model numbers listed in the Cost Estimates page have been updated. One significant alteration is the decision to more closely tie the size, brightness and resolution of data/video projectors to the classroom capacity and usage. Thus, instead of two models only, multiple types of projector are now being used. An updated equipment list is attached as Appendix 2.

3. *Installation and Upgrade Staffing.* The plan originally called for an additional career Electronics Technician to meet the demand of the upgrade and installation schedule. Experience over the last two years since the plan was originally developed has shown that the current staff can handle most of the installation tasks, supported as needed by contract labor as intended.

4. *Maintenance Staffing.* Experience with the latest technology equipment has shown that the estimated number of 1 FTE per 100 equipped classrooms is still valid. However, at completion all 200 rooms will have an installed computer, which will stretch the resources of the OID Information Technology Services unit (the organization currently responsible for maintaining classroom computers.) It is likely that the responsibility for the computers will switch to the Educational Technology Innovations unit, which has trained Programmer/Analysts in place. An additional Programmer/Analyst may have to be hired, using classroom resources.

5. *Auditorium Installations*. The plan called for multiple projectors and screens in each large auditorium on campus. Although the design of some of the rooms makes installation of this capability very challenging, new technologies now allow a single projector to create a split image generated from separate sources onto one large screen. The current auditorium standard, with a preliminary installation schedule, is attached as Appendix 3.

6. *Webcasting Equipment.* The plan included installed equipment for course webcasting in many larger rooms, including Niagara web streaming encoders for video and Barix Instreamers for audio podcasting. Two additional years of the BruinCast program, including advances in affordable technology and increased student and faculty demand, have led to significant alterations in the methodology used to record and distribute course webcasts. Further information on course webcasting is available in the next section.

BruinCast Undergraduate Course Webcasting

The BruinCast undergraduate course webcasting program has grown from four courses offered to over 40 since the introduction of the first pilot test in Fall 2005. The current methodology is labor intensive, and while very popular with both students and faculty the Educational Technology Systems staff has been investigating other options for capturing and presenting classroom instruction. In Spring 2008, a second pilot test was run to evaluate rich media capture stations and automatic cameras to determine if greater efficiency will allow program expansion and increased educational satisfaction and outcomes. As the installation of automatic cameras has proved to be more challenging than anticipated, that portion of the project will be completed during the 2008-2009 academic year.

Current Methodology

- In room camera operator
- Single view
    - Camera shoots instructor, board, screen
- Some installed encoders, other rooms require post class encoding

Pros:

- Simple
- Inexpensive equipment
- Operator can shift focus and zoom where needed
- Viewed by students in commonly available software

Cons:

- Labor intensive
- Not scalable
- Scheduling difficulties

Proposed Upgrade: Rich Media (currently in testing)

- Multiple cameras can shoot instructor and boards
    - Possible use of automated cameras to follow instructor
    - Possible use of remote control cameras
    - Possible use of higher quality fixed cameras

- Multiple view
    - Instructor camera window
    - Data/video projector output window
        - Computer (PowerPoint)
        - Video (DVD/VHS)
        - Visual Presenter
    - Outline/notes window
    - Caption window

Pros:

- Potentially low labor requirements
- Enhanced presentation leads to increased utility
- Software interface integrates with Moodle (and other CMS) for search, archiving, retrieval, etc.
- Ability to create packaged or special presentations

Cons:

- Significantly more complex installation and networking
- Significantly increased expense per room
- Viewing software may not be as commonly available

The BruinCast program has made additional adjustments to the equipment used to support course webcasting, with greater variation based on room size and usage. The current equipment lists are attached as Appendix 4.

Further Information

OID Educational Technology Systems supports teaching at UCLA by providing and supporting a current, practical, functional, and user-friendly classroom instructional environment. The parameters of this mission and the solutions to achieve it are constantly changing. For the most current information on OID-ETS and UCLA General Assignment Classrooms please visit www.oid.ucla.edu.

Appendices

Appendix 1

UCLA General Assignment Classrooms
Office of Instructional Development
Classroom Upgrade Plan

Building/Room	Size	Building/Room	Size	Building/Room	Size
Moore 100	419	Royce 164	50	Rolfe 3105	30
BAC 2160E	405	Boelter 5264	48	Boelter 4283	29
Haines 39	371	Boelter 9436	48	Royce 148	29
Dodd 147	366	PAB 2434	48	Boelter 4413	28
LaKretz 110	352	PPB 1337	48	MS 6201	28
Young CS50	352	Royce 154	48	MS 5225	28
Fowler A103B	320	Bunche 3211	47	MS 5233	28
Franz 1178	293	PPB 2238	47	MS 5217	27
Rolfe 1200	292	LaKretz 120	46	Bunche 2156	26
Humanities A51	290	PPB 2242	45	Bunche 2168	26
Young CS24	239	Royce 162	45	Bunche 2181	26
Young CS76	229	Bunche 3178	44	Bunche 3117	26
MS 4000A	210	Geology 6704	43	Bunche 3123	26
PAB 1425	193	PAB 2748	43	Haines A74	26
Bunche 1209B	181	Royce 160	43	Haines A24	25
Bunche 2209A	177	Geology 4645	42	Haines A82	25
Knudsen 1220B	171	MS 5128	42	Moore 1003	25
Boelter 3400	167	MS 5137	42	Royce 152	25
Dodd 121	157	MS 5138	42	Franz 2288	24
Perloff 1102	148	MS 5147	42	Haines A76	24
Franz 1260	147	Rolfe 3134	42	Humanities A32	24
Haines 118	144	Boelter 5273	41	Humanities A46	24
Haines 220	144	Bunche 3157	41	Humanities A48	24
Haines A18	141	Bunche 2160	40	Humanities A66	24
Royce 362	131	Bunche 3156	40	Humanities A68	24
MS 5200	130	Bunche 3164	40	Kaufman 153	24
Haines A2	129	Bunche 3170	40	MS 3915A	24
Royce 190	120	MS 5117	40	MS 3915D	24
Knudsen 1200B	117	MS 5127	40	MS 3915G	24
Knudsen 1240B	117	PAB 1749	40	MS 3915H	24
Humanities A65	115	Boelter 5272	39	Bunche A152	22
Humanities 135	115	Boelter 5280	39	LaKretz 101	22
Humanities 169	115	Boelter 5419	39	LaKretz 100	22
Dodd 161	106	Boelter 5420	39	MS 7608	22
PPB 1246	103	Boelter 5422	39	Bunche 2121	20
Fowler A139	101	MS 5118	38	Haines A6	20
Dodd 175	98	Bunche 2178	37	Haines A20	20
PPB 1222	98	Bunche 3143	37	Haines A28	20
PPB 1234	98	Bunche 3153	37	Haines 110	20
PAB 1434A	95	Royce 150	37	Haines 122	20
Boelter 5249	92	Bunche 3150	36	Humanities A40	20
PPB 2214	89	Rolfe 3135	36	Humanities A56	20
Geology 3656	86	Young 1044	35	Humanities A60	20
Young 2200	84	Bunche 1221A	34	Rolfe 3112	20
Franz 2258A	82	Boelter 5252	32	Rolfe 3114	20
Dodd 146	81	Dodd 154	32	Rolfe 3115	20
Boelter 2444	80	Dodd 162	32	Rolfe 3118	20
Botany 325	79	Dodd 178	32	Rolfe 3119	20
BAC 2100A	79	Humanities A26	32	Rolfe 3120	20
PPB 2270	78	PPB 1256	32	Slichter 2834	20
Boelter 2760	71	PPB 1264	32	Royce 166	19
Haines A25	68	PPB 1270	32	Bunche 1265	16
Dodd 170	67	PPB 1278	32	Bunche 2150	16
Dodd 167	65	PPB 1284	32	Bunche 2173	16
Boelter 5440	65	PPB 1323	32	Bunche 2174	16
Young 4216	61	PPB 1329	32	Haines A78	16
PPB 2250	60	PPB 1343	32	Humanities A30	16
PPB 2232	57	PPB 2278	32	PPB 2292	16
Geology 4660	55	PPB 2284	32	Rolfe 2106	14
Kaufman 101	54	PPB 2317	32	Boelter 5514	13
Dodd 78	52	PPB 2319	32	Rolfe 3123	13
Royce 156	52	PPB 2325	32	Rolfe 3127	13
Boelter 5436	51	PPB 2333	32	Rolfe 3131	13
MS 6229	51	Botany 133	30	Kaufman 136	12
Haines A44	50	MS 5148	30	Rolfe 3106	11
Rolfe 3126	50	MS 5203	30	Franz 1354	11

Black: Already Completed
Blue: 2008-2009
Red: 2009-2010
Green: 2010-2011
Purple: 2011 -

Planning is complete only for 2008-2009.

Appendix 2

UCLA Office of Instructional Development
Classroom Technology Business Plan - Classroom Equipment Costs

Seminar Rooms, Category S	Current Model/Vendor	2008 Purchase Cost
Projector	Epson 6110p	$2,000
Media Sources and Controls	Extron	$5,500
Sound Systems and Speakers	JBL	$1,000
Screen	Da-Lite	$300
Visual Presenter	AVerMediaSPB370	$3,000
Classroom Computer	Dell	$2,000

Classrooms, Category C	Current Model/Vendor	2008 Purchase Cost
Projector	ASK/Proxima C460	$5,500
Media Sources and Controls	Extron	$6,000
Sound Systems and Speakers	JBL	$2,000
Screen	Da-Lite	$500
Visual Presenter	AVerMediaSPB370	$3,000
Classroom Computer	Dell	$2,000

Lecture Halls, Category L	Current Model/Vendor	2008 Purchase Cost
Projector	Mitsubishi FL7000	$15,000
Media Sources and Controls	Extron	$7,800
Sound Systems and Speakers	JBL	$1,500
Screen	Stewart	$5,000
Visual Presenter	AVerMediaSPB370	$3,000
Classroom Computer	Dell	$2,000

Auditoriums, Category A	Current Model/Vendor	2008 Purchase Cost
Projector	Panasonic PT-DW10000	$40,000
Additional Projector	ASK/Proxima C460	$5,500
Main Media Sources and Controls	Extron	$12,000
Multiple Projector Media Controls	Extron	$4,000
Sound Systems and Speakers	JBL	$4,000
Main Screen	Stewart	$9,000
Auxiliary Screen	Stewart	$5,000
Visual Presenter	AVerMediaSPB370	$3,000
Computer with Interactive Pen Display	Dell/Hitachi	$4,500
Special Equipment		
Webcasting	Variable	--
Facilities Cost Estimates		
Minimal to Light (mount speakers, install rack)		$2,000
Light to Medium (speakers in ceiling, mount projector, install screen)		$4,000
Medium to Heavy (build and install rack, run conduit)		$10,000
Heavy to Significant(change writing surfaces, build instructor station)		$17,500
Significant (major auditorium renovation)		$30,000

Appendix 3

New Auditorium Standard

Educational Technology Systems plans to upgrade the largest general assignment classrooms on campus to a higher level of teaching functionality. These changes, defined below, will allow instructors to make use of advanced teaching technologies such as audience response systems, digital presenters, multiple sources, side-by-side comparisons, etc. Due to the cost and complexity of the installations, the new standards will be phased in over several years.

Current Installation

LaKretz 110

Planned Future Installations

Moore 100	Fall 2008	Franz 1178	Summer 2012
Rolfe 1200	Summer 2011	Humanities 51	Summer 2010
Dodd 147	Summer 2009	CS50	Summer 2012
Fowler A103B	Summer 2011	Haines 39	Summer 2010
Broad 2160	Summer 2009	P&A 1425	Summer 2012

Standards

- Two projection screens, one large main in the center of the front wall and one smaller off to one side. Both screens should be visible from all seats in the room. Some rooms depending on design may have a third screen fitted.
- Two data video projectors, one for the large center screen and one for the side screen. If three screens are fitted, then a third projector will also be installed.
- If there is not room for dual screens and projectors, one each will be installed and fitted with split image hardware.
- Double width media cabinet with multiple sources (DVD, VHS, Computer, laptop interface) and projector switching to allow any output to be shown on any screen. Additional controls and computer inputs may be located on a permanent or movable teaching podium.
- A computer connected to the media system and the data network installed in the media cabinet with the keyboard on an articulated arm for standing or seated use. The monitor is replaced by an interactive pen display.
- An “electronic overhead projector” or digital presenter is provided for display of transparent or paper-based material. The output can be presented on a separate screen(s) to enable simultaneous use of the primary media system.

Appendix 4

UCLA Office of Instructional Development

Classroom Technology Business Plan

Webcasting Equipment Costs

Seminar Rooms, Category S	Current Model/Vendor	2008 Purchase Cost

There are no current plans to install streaming equipment in Seminar Rooms

Classrooms, Category C	Current Model/Vendor	2008 Purchase Cost
Small PC for audio/video capture	Apple Mac Mini	$1,000
Single Fixed Camera	TBD	$1,500
Capture Software	TBD	$250

Lecture Halls, Category L	Current Model/Vendor	2008 Purchase Cost
Small PC for audio/video capture	Apple Mac Mini	$1,000
3 Fixed Cameras	TBD	$4,500
Capture Software	TBD	$250
Switcher	Extron	$2,500

Auditoriums, Category A	Current Model/Vendor	2008 Purchase Cost
Rich Media Capture Station	Accordent	$12,000
3 Automated Cameras	Sony	$9,000
Sensors	TBD	$1,500
Capture Software	(included with Accordent)	$0
Sensor Management Switcher	Vaddio	$2,000