

***UCLA OFFICE OF INSTRUCTIONAL DEVELOPMENT
EDUCATIONAL TECHNOLOGY SYSTEMS***

ANNUAL REPORT 2008 - 2009

***TEACHING AND LEARNING TECHNOLOGY IN
GENERAL ASSIGNMENT CLASSROOMS***

Contents

Introduction	2
Classroom Equipment Statistics	2
2008 – 2009 Update	3
Newly Equipped Technology Classrooms	4
Classroom Projects	4
Classroom Technology Planning	5
Classroom Technology Plan Updates	6
Technology Outlook	7
Further Information	9
Appendices:	
1. Classroom Status	10
2. Equipment Costs	12
3. Auditorium Standard	13

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 (ETS) 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 service 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 live streaming of courses, rich media presentation, enhanced podcasting, etc.

Classroom Equipment Statistics, as of Spring 2009

There have been approximately 200 General Assignment Classrooms available for instruction for the last several years. The number has varied as much as 5% annually due to construction, seismic retrofitting, and maintenance. In the last two years, three rooms have been permanently converted to departmental space, with only one replacement room provided. Additional conversions will make the availability of classrooms an issue.

- 100% have network and Internet access,
- 91% have installed video playback equipment,
- 59% have installed data projection projectors,
- 39% have installed classroom computers
- 11% have installed slide projectors,
- 28% have streaming or podcasting capability.

Classroom Size	# of Rooms	Network Connectivity	Transparency Projection	Video Playback	Data Projection	Voice Amplification	Installed Computer	Streaming / Podcast	Slide Projection	Document Camera
10-19	14	14	11	13	2	0	0	0	0	0
20-39	86	86	82	73	35	15	17	2	0	0
40-59	39	39	39	38	24	19	24	4	1	0
60-99	21	21	21	20	20	20	16	16	5	1
100-149	17	17	17	16	16	17	9	13	5	0
150-199	6	6	6	6	6	6	3	6	3	0
200-299	6	6	6	6	6	6	3	6	2	0
300+	7	7	7	7	7	7	4	7	5	1
Totals	196	196	189	179	116	90	76	54	21	2
%		100%	96%	91%	59%	46%	39%	28%	11%	1%

During the 2008-2009 Academic Year OID...

- continued to install equipment to support the BruinCast course webcasting project, including audio-streaming devices in nineteen additional rooms,
- upgraded fourteen rooms to full technology classroom status,
- renovated the teaching and learning technology installations in several large lecture halls, including Dodd 147 and Court of Sciences 76,
- added classroom computers to ten technology classrooms,
- installed digital presenters in two rooms,
- began the process of removing legacy technologies (e.g. 35mm slide projectors and overhead projectors) from classrooms,
- supported the UC Less Commonly Taught Languages program with space, distance learning equipment and technical assistance,
- ran workshops, training, and events in the OID Training and Demonstration classroom in Powell Library,
- and continued to research and develop new classroom technologies to enhance instruction.

2009-2010 Newly Equipped Technology Classrooms

Summer '09

Boelter 9436
Franz 2258A
Royce 362

Fall '09

Geology 4645
Public Affairs 1337 and 1343
Bunche 3156 and 3164

Winter '10

Math Sciences 5147 and 5148
Public Affairs 1323 and 1329
Bunche 3117 and 3123

Spring '10

Public Affairs 1256, 1264, and 1270
Bunche 3143, 3153, and 3157

Classroom Projects 2009-2010

Classroom Equipment Enhancements

- Multiple Projectors – the addition of one or more projectors and screens to a room allowing display from more than one source.
- Audio Outputs – installation of an “audio-out” connection to the control panel to enable recording of the audio signal.
- Digital Presenters – intended to replace overhead projectors providing the same function with additional enhancements such as the ability to project three dimensional objects.

Installed Streaming Equipment

- Audio Streaming – installation of audio capture devices.
- Video Streaming – installation of video capture computers and infrastructure.
- Automatic Cameras – development and implementation of in-room cameras for automated video capture.

Videoconferencing Installations

- Powell Library – updating and replacing the outdated videoconferencing/distance learning equipment in Powell 285.

Classroom Equipment Refreshment

- Replace Aging Projectors
- New Screens
- Upgraded Control Systems
- Upgraded Sound Systems
- Upgraded Wireless Microphone Systems

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 key points of the plan are:

- 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. All UCLA Classrooms will meet these standards when the plan is complete.
- Equipment is to be replaced on a regular cycle. 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.

- Some rooms, including the large auditoriums, may require a higher level of equipment than the standard to meet specialized teaching needs. The Auditorium Standard is included as Appendix 3.
- 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.
- The plan does not account for changes in technology. As the plan approaches completion, the standards for each size and type of classroom will be evaluated for currency in light of the availability of newer teaching technologies.

A complete summary of the plan is available for viewing on the OID UCLA Classrooms Website, www.oid.ucla.edu

OID Educational Technology Systems Classroom Technology Plan Updates

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 three 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 needed.

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.) Responsibility for the computers has now switched to the Educational Technology Innovations unit, which has trained Programmer/Analysts in place. An additional Programmer/Analyst has been 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 BruinCast Annual Report.

OID Educational Technology Systems Technology Outlook

As the Classroom Technology Business Plan approaches completion, the majority of the rooms that remain are of lower capacity and a consistent design. Thus, over the course of 2009-2010, Educational Technology Systems will be moving towards the second phase of the Plan, involving less of a focus on new installations and more on maintenance, upgrade, equipment refreshment, and innovation. Much of the innovation will be centered on enhancement to webcasting and streaming capabilities, but there are areas where in-class teaching technologies can be brought to a higher technological standard.

Projection and Display

Educational Technology Systems currently installs single projectors in most classrooms with sufficient resolution and power to enable full lighting levels during presentation. Some larger rooms have multiple projectors, but many mid-sized classrooms are not appropriate for an installation of that type. One solution is to use split image processors, allowing a single projector to display two (or more) sources. Current display screens in classrooms will need to be upgraded to support this technology, as well as the shift to HD (High Definition) projection. ETS plans to upgrade all classroom screens within the scope of the Business Plan.

Some classrooms are appropriately sized for installation of large high resolution flat-panel monitors instead of the projector/screen combination. However, current security technology is insufficient to ensure theft protection. ETS is investigating the situation and working with vendors to develop solutions that meet our needs.

Control and Support

Over the last several years, a significant effort has been made to install the same control interface in all equipped classrooms. This is done to ensure that faculty have little to no learning curve when moving from room to room, as well as allowing ETS-Maintenance to repair and replace equipment on a very short timeframe. In addition, the equipment used allows remote troubleshooting and assistance, enabling a reduction in staff while increasing service levels.

Since all classrooms will have a computer installed, ETS is investigating combining the system web interface with the computer for an enhanced level of in-class management of the teaching technology. One potential result would be touch-screen control.

Media Sources

Currently, each classroom is equipped with a computer, interface for connection of the instructor's laptop, a combination dvd/vhs player, and a composite input for connecting audio or video external devices such as CD players, cassette players, non-standard format video players, and video cameras. In addition most rooms have an overhead projector and a small number have 35mm slide projection capability.

As some technologies become obsolescent and are replaced by newer varieties, ETS must balance being up-to-date with an awareness that many instructors continue to use curriculum components in legacy formats. The transitions are made smoother when there is a replacement technology to replace the older one. For example, as overhead projectors are phased out ETS is installing digital presenters that serve the same function while including multiple advanced features. 35mm slides can be digitized and projected with equal if not superior clarity. VHS tape, which degrades over time, can be transferred to DVD or directly to a digital file.

BruinCast Undergraduate Course Webcasting

BruinCast now has a dedicated Annual Report. Please visit www.oid.ucla.edu to view.

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 - General Assignment Classroom Status, As of 6/30/2009**

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

2008 – 2009 Classroom Report

<u>Cap:</u>	<u>Room:</u>	<u>Cap:</u>	<u>Room:</u>	<u>Cap:</u>	<u>Room:</u>	<u>Cap:</u>	<u>Room:</u>
82	Franz 2258A	40	MS 5127	26	Bunche 3123	13	Rolfe 3131
81	Dodd 146	40	PAB 1749	26	Haines A74	12	Kaufman 136
80	Boelter 2444	39	Boelter 5272	25	Haines A24	11	Rolfe 3106
79	Botany 325	39	Boelter 5280	25	Haines A82	11	Franz 1354
79	BAC 2100A	39	Boelter 5419	25	Moore 1003		RED - FY09/10
78	PPB 2270	39	Boelter 5420	25	Royce 152		BLUE - FY10/11

Appendix 2 – Classroom Equipment Costs

Seminar Rooms, Category S	Current Model/Vendor	2009 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	2009 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	2009 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	2009 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

Appendix 3 - Auditorium Standards

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

Current Projects

Moore 100

Physics and Astronomy 1425

Franz 1178

Court of Sciences 50

Planned Future Installations

Rolfe 1200	Summer 2011
Dodd 147	Summer 2009
Fowler A103B	Summer 2011
Broad 2160	Summer 2009
Humanities 51	Summer 2010
Haines 39	Summer 2010

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..
- 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.