Teaching and Learning in a Great Place: Managing the Classroom Resource

University of California, Berkeley
Leadership Development Program
2006-2007

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Managing the Classroom Resource

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Executive Summary

Teaching and Learning in a Great Place: Managing the Classroom Resource at UC Berkeley

The University of California, Berkeley is the most esteemed public university in the world. In order to retain this position the University must ensure that its instructional facilities are of sufficient quality and quantity to sustain its core mission of teaching excellence. High quality classrooms are necessary for effective instruction and to attract and retain top-notch faculty and students. Current UC Berkeley classroom management practices and organizational structure contribute to an inability to achieve and sustain high quality classrooms, as well as to the inability to consistently assert effective arguments for sufficient state funding for classrooms. In response, a project was initiated to investigate and identify classroom management best practices, both within the University of California system and at other comparable educational institutions.

Comparable institutions were initially identified based on demographics, the existence of recent classroom improvement initiatives and comprehensive management programs. Guidance and recommendations from the sponsors and functional sponsors of the project led to the selection of the following eight comparable institutions: Columbia University; Stanford University; University of California, Davis; University of California, Los Angeles; University of Illinois at Urbana-Champaign; University of Michigan in Ann Arbor; University of Virginia; and University of Wisconsin – Madison. A comprehensive interview tool was developed that examined areas such as organizational structure, budget and finance, generic classroom characteristics, leadership, and future innovations. Interviews were conducted with appropriate high-level contacts at the comparable universities and the information gathered was then transcribed and summarized. This effort culminated in a written case study for each university. (A table and graphs comparing student and classroom statistics at the eight universities have been included in Appendix B of the report.)

The case studies served as a foundation for subsequent classroom management best practice analysis. Five main best practice themes were identified:

1. **Leadership in Classroom Management**
   A clear finding of the research is that successful classroom management efforts begin with the emergence of leadership that recognizes classroom quality as a critical issue, and makes effective classroom management a priority. The impetus for change has stemmed from faculty outrage over classroom conditions, from sharp criticism of campus facilities in an accreditation review, from concern about technology, or from campus efforts to comply with new regulations. In all cases the leadership that emerged has led to improved classrooms because it was met with the involvement of, and visible support from, top campus administration.

2. **Organizational Ownership of Classroom Management**
   The research demonstrates a correlation between clear ownership of the responsibilities for the management of classrooms and successful management of the classroom resource. The administrative unit(s) and the administrators are empowered by a clear sense of authority and responsibility. Though the number and nature of the offices charged with managing classrooms vary across the research cases, universally the campuses have found a way to coordinate the efforts of those involved. In addition, in nearly all instances a person or office has been delegated – or has stepped forward – to take ownership of the coordinator role. (A table presenting classroom management decision-making structures at the eight universities can be found in Appendix B of the report.)

3. **Communication and Collaboration**
   A consistent finding is that good communication and collaboration facilitates successful classroom management. Coordinating units in several of the institutions researched are guided by a strong customer service ethos, not only towards classroom users, but towards each other as well. Faculty members, as major customers, are engaged to participate in planning and advising, and overall communication is enhanced by a "culture of cooperation" on campus.

4. **Good Short- and Long-Term Planning**
   An additional finding is the demonstrated benefit of good short- and long-term planning. Planning entails data collection and analysis that guides decision-making and bolsters arguments for financial support; a good plan also recognizes and addresses the perpetual need for classrooms to be maintained. Having a plan and process in place that outlines priorities can multiply the value of classroom improvement investments by ensuring that the university is able to take advantage of opportunities as they arise. Revisiting priorities and revising the plan on a regular basis ensures that a project can be initiated quickly and decisively when funding becomes available.

5. **Reliable Funding**
   The research revealed classroom renovation to be a lengthy process lasting five to ten years, or more. Funding that is stable and protected for the duration of the process allows long-term planning and sustains the momentum of the effort. (A table summarizing general assignment classroom funding at the eight universities has been included in Appendix B of the report.)

These five themes emerged from the research as the most salient features of successful general assignment classroom management. The themes are clearly interdependent: strong leadership and organizational ownership fosters communication and collaboration, which facilitates planning and garners financial support.

It is recommended that the best practices identified above are implemented by doing the following:

1. Recognize effective classroom management as a high priority issue and commit to improving UC Berkeley's classrooms. Identify and support emergent leadership in the management of the classroom resource.

2. Design and implement a new classroom management organizational structure, designate a functional owner (or owners), and give them the mandate to improve and manage general assignment classrooms. Empower a person or office to coordinate administrative units involved in classroom management and services.

3. Nurture an institutional culture of collaboration and communication: Instill a customer-service ethos among the units involved in classroom management and support. Solicit faculty concerns and opinions about specific classrooms in which they teach, and involve faculty in design processes.

4. Engage in the planning of a comprehensive and long-range classroom improvement initiative. Document current classroom conditions and needs, seek input from stakeholders to designate worthy projects, keep the ranked list of projects current at all times, and regularly review the list to make certain that it stays current and pertinent.

5. Provide sufficient financial resources to effect real change. Allocate a set, long-term, funding level for classroom management and improvement purposes, and guarantee that the funding will be protected.

UC Berkeley can continue on its current path of classroom management, overseen by multiple disparate units, and will most likely be able to maintain the current state of classroom quality. However, for there to be a quantum leap in the quality of classrooms and an associated increase in faculty satisfaction and student learning, the recommendations and best practices summarized in this report should be embraced and implemented.

Project Team and Sponsors

Project Team

Andres Alvarez, Network Manager, City and Regional Planning
Zenebu Bekele, Director of Budget and Financial Services, University Extension
Rick Jaffe, Web/Video Producer, IST-Data Services & Interactive University
Rachel Kadosh, Acting Employment Services Manager, Office of Human Resources
Kathleen Kelly, Analyst, Capital Projects-Project Management
Steve Maranzana, Assistant Manager, EH&S
Pat Mimoto, Analyst, Ethnic Studies
Sherry Reckler, Assistant Property Manager, Property Management

Project Sponsors

Catherine Koshland, Vice Provost, Academic Planning & Facilities
Christina Maslach, Vice Provost, Undergraduate Education & Instructional Technology
Genaro Padilla, Vice Chancellor, Student Affairs

Functional Project Sponsors

Sarah Nathe, Disaster-Resistant University Initiative Project Manager, Office of the Vice Provost-Academic Planning & Facilities
Walter Wong, Acting University Registrar, Office of the Registrar

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Sarah Nathe, Disaster-Resistant University Initiative Project Manager, Office of the Vice Provost-Academic Planning & Facilities
Walter Wong, Acting University Registrar, Office of the Registrar

Project Resources

Amanda Cleaver, Special Events Coordinator, Office of the Registrar
LaVern Lazzereschi, Classroom Manager, Office of the Registrar
Cynthia Schrager, Special Assistant to the Vice Provost-Undergraduate Education Office
Tom Ventresco, Director of Space Management & Capital Programs.

Process Consultant

Liz Marsh, Office of the Chief Information Officer

Leadership Development Program (LDP) Manager

*Inette Dishler***,** Principal Learning Consultant, Human Resources-EDT

Leadership Mentors

Claudia Covello, Executive Director, University Health Services
John Ellis, Associate Vice Chancellor Finance, & Controller
John Kaso, Assistant Dean, Business & Administrative Services, School of Public Health

Supervisors of Project Team Members

Eric Anglim, Assistant Director, Property Management
Ian Crew, IST-Data Services (LDP Alumnus)
Brandon DeFrancisci, EH&S Associate Director – Health and Safety Team
Rob Gayle, Associate Vice Chancellor, Capital Projects
David Greenbaum, Director IST-Data Services & Interactive University
Malla Hadley, Management Services Officer, City and Regional Planning
Greg Haet, EH&S Associate Director – Environmental Protection Team
Dave Johnson, Assistant Director, Capital Projects
Rosa Johnson, Management Services Officer, Ethnic Studies
Beth Luke, Director of OHR Central/Customer Support
Judah Rosenwald, Assistant Dean and Director of Finance and Administration, University Extension

Comparable Universities Researched for Best Practices

A special thank you goes to all the representatives from the universities we researched for their assistance, time, enthusiasm, and enriching participation.

Columbia University

Michelle Brown-Nevers, Assoc. Vice President, Student Administrative Services and University Registrar
John Carter, Registrar
Wilfred Small, Director, Facilities Services

Stanford University

Greg Boardman, Vice Provost for Student Affairs
Jackie Charonis, Associate Registrar, Office of the University Registrar
Roger Printup, Associate Vice Provost for Student Affairs, University Registrar and Director of SIS

University of California, Davis

Jerry Johnson, Senior Analyst, Office of Resource Management and Planning
Maria Miglas, Associate University Registrar
Lynn Rabena, Academic Scheduling Supervisor, Office of the University Registrar
Judy Sakaki, Vice Chancellor, Student Affairs (promoted to UCOP, Vice President, Student Affairs)
Frank Wada, University Registrar

University of California, Los Angeles

Gigi Marr, Project Manager, Facilities Management-Crafts & Alterations
Doug Thomson, Administrative Analyst, Office of the Registrar

University of Illinois at Urbana-Champaign

Peggy Clem, Assistant to the Vice Provost
Deb Forgacs, Associate Registrar, Office of the Registrar
Steve Hesselschwerdt, Associate Director for Space Management
Linda Katehi, Provost and Vice Chancellor for Academic Affairs
Carol Malmgren, Registrar
Cheryl Tate, Office of Admissions and Records
Ruth Watkins, Vice Provost

University of Michigan in Ann Arbor

Monika R. Dressler, Ph.D., Director LSA Instructional Support Services
Lawrence Jones, Administrative Assistant, Office of the Registrar
Lester Monts, Senior Vice Provost for Academic Affairs
Stephanie Riegle, Senior Project Manager, Office of the Provost & Executive Vice President for Academic Affairs

University of Virginia

Mary Hanna, Manager of Labs and Software Support, Information Technology and Communication
Pam Lawson, Sr. Program Manager, Office of University Registrar
Wynne Stuart, Associate Provost, Academic Support & Classroom Management

University of Wisconsin – Madison

Doug Rose, Director of Space Management, Space Management Office
Kim Todd, Classroom Major Projects & Remodeling, Space Management Office
*Tom Wise***,** Classroom Modernization & Support, Space Management Office

Introduction

The University of California, Berkeley is the most esteemed public university in the world. As teaching is a core mission, the University has a responsibility to ensure that its instructional facilities are of the same high quality as its research facilities. It is imperative that UC Berkeley guarantees prospective students an excellent learning experience, which includes the condition of the space in which teaching takes place. Similarly, attracting and retaining the best faculty depends on high-quality teaching facilities. In the campus' 236 general assignment classrooms (two percent of all campus space), thousands of faculty members and students spend a significant amount of time. Very few other spaces are utilized so extensively by such a broad cross-section of the campus community. [1]

Despite the importance of high-quality teaching facilities, a majority of the general assignment classrooms at UC Berkeley are of substandard quality. Though these conditions may, in part, be attributable to inconsistent or insufficient funding (for cleaning, maintenance, repairs, renovation, improvements to infrastructure, new educational technology, and innovations in spatial usage), current classroom management practices and organizational structure contribute to an inability to achieve and sustain high quality classrooms. Existing processes for coordination, planning, and decision-making adversely impact classroom management efforts, and leave the campus unable to consistently assert effective arguments for sufficient state funding. When, in 2006, UC Berkeley did allocate two million dollars in funding for classroom renovations, the expedient implementation of renovation projects was stymied by the lack of an existing process to identify, prioritize, and implement classroom projects.

Faced with this situation, members of the Chancellor's Cabinet at UC Berkeley initiated a project to investigate classroom management best practices, both within the University of California system and at other comparable universities. The researchers were asked to investigate how peer institutions manage their classrooms, and to identify effective systems that could be implemented at UC Berkeley.

Overview of UC Berkeley Classroom Management Organizational Structure

Five separate senior administrators/organizational units (Vice Chancellor, Facilities Services; Vice Chancellor, Student Affairs; Vice Chancellor, Administration; Vice Provost, Academic Planning & Facilities; and Vice Provost, Undergraduate Education & Instructional Technology) and an administrative committee have responsibility for different aspects of the management of general assignment classrooms:[2]

1. **Space Allocation:** The designation of space as general assignment classrooms is implemented by the Vice Provost, Academic Planning & Facilities, who chairs the Space Assignments and Capital Improvements (SACI) committee. The SACI committee is staffed by Space Management and Capital Programs, which reports to the Vice Chancellor, Administration.

2. **Scheduling of General Assignment Classrooms:** The scheduling and overall management of general assignment classrooms for academic courses, for final examinations, for administering "use agreements" with University Extension and Berkeley City College, and for extra-curricular activities is administered by the Office of the Registrar, which reports to the Vice Chancellor, Student Affairs.

[1] This introduction draws heavily upon the project proposal. See Appendix A.
[2] A more comprehensive description of entities involved in classroom management can be found in Appendix C.

3. **Maintenance:** Cleaning, maintenance, repair, and renovation of general assignment classrooms fall under the purview of Physical Plant/Campus Services and the Office of the Registrar, which report to the Vice Chancellor, Facilities Services and Vice Chancellor, Student Affairs, respectively.

4. **Instructional Technology:** Ensuring that classrooms are equipped with state-of-the-art instructional technology, which is updated and replaced on a regular basis, and supporting instructors in the use of classroom technology is done by Educational Technology Services, which reports to the Vice Provost, Undergraduate Education & Instructional Technology.

5. **Renovations and New Construction:** Large renovations and new construction projects are managed by Capital Projects, which reports to the Vice Chancellor, Facilities Services.

Overall campus-wide policy and coordination for general assignment classrooms is handled by the Campus Committee on Classroom Policy and Management (CCCPM), an administrative committee with staff, faculty and student representation, co-chaired by the Vice Provost, Academic Planning & Facilities and the Vice Chancellor, Student Affairs. The Classroom Study Group, a staff working-group with representation from the units listed in #'s 1-4 above, also meets regularly to solve specific problems. Very few other campus resources are managed by so many separate, sometimes disparate, units. In spite of, or perhaps because of, all these responsible units, the general assignment classroom stock on campus has fallen into unsatisfactory condition.

This study focuses on eight public and private institutions that have recently completed or are currently in the process of making major classroom renovations, and/or have an effective classroom management structure in place. Issues examined include organizational structure, budget and finance, generic classroom characteristics, leadership, and future innovations. The research resulted in a case study for each of the individual eight schools (see Appendices F-M). Analysis of the individual case studies identified common themes in classroom management and best practices, which are addressed in the Findings and Analysis section of this report. The analysis culminated in recommendations and conclusions specific to UC Berkeley. These are laid out in the final sections of the report.

Methodology

Each year UC Berkeley selects a group of individuals for the Leadership Development Program (LDP), a 13-month effort that culminates with comprehensive research projects on issues selected by the Chancellor's Cabinet. In the fall of 2006, an LDP team was assigned to examine best practices in classroom management at comparable institutions.

The project team developed an initial knowledge of classroom management by examining the structures and practices in place at UC Berkeley. Information shared by the sponsors and functional sponsors in several meetings facilitated a deeper understanding of the complexity of the issues. In addition, project team representatives attended meetings of the Campus Committee on Classroom Policy and Management (CCCPM) and the Classroom Study Group, and consulted with UC Berkeley's classroom scheduler.[3]

A questionnaire was developed and sent to the project's functional sponsors to solicit suggestions of potentially comparable Universities. Independent research was performed to identify national or regional sources of lists of schools comparable to UC Berkeley in terms of campus demographics, setting, and quality. The project team then developed a tool to facilitate the identification of comparable educational institutions. Factors considered include: awards received, whether the institution is public or private, enrollment levels, fees, budget, average salary of faculty, programs offered, and size and setting of the institution (Appendices D-1, D-2 and D-3).

The tool facilitated the identification of thirteen institutions (Appendix D-4) potentially suitable for comparison. Team members and sponsors agreed that case studies of eight institutions would provide sufficient material for analysis. As the project team faced considerable time constraints, the group decided that having each member of the team take responsibility for one institution would be the best use of available time. Guidance and recommendations from the sponsors and functional sponsors of the project led to the selection of the following eight comparable institutions: Columbia University, Stanford University, UC Davis, UCLA, University of Illinois, University of Michigan, University of Virginia, and University of Wisconsin. (A table and graphs comparing student and classroom statistics at the eight universities have been included in Appendix B.)

The project team developed an understanding of which issues in classroom management were of greatest interest and concern to the sponsors. The project team then drafted a set of questions for representatives from the comparable Universities; the queries were crafted with an eye towards eventually providing classroom management best practices data. A draft of the questions was shared with the sponsors and functional sponsors, their feedback was incorporated, and the questions were finalized (Appendix E-2) under the following headings: 1) General Information 2) Organizational Structure 3) Budget and Finance 4) Leadership in Classroom Management and Improvement, and 5) Looking to the Future.

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[3] Research materials reviewed by the project team to familiarize themselves with all aspects of classroom management include: (a) Classroom Management Plan prepared by the CCCPM; (b) CCCPM Meeting Notes; (c) Student Advisory Council on Undergraduate Education (SACUE) meeting notes relating to improving the quality of classrooms; (d) Student and Faculty Focus Group Points of Convergence and Summaries as provided by Vice Provost Maslach's office; (e) *Learning Spaces, an EDUCAUSE E-Book*, edited by Diana Oblinger, EDUCAUSE, 2006, available for download as a PDF at http://www.educause.edu/elements/cdn.asp?id=learningspaces_e-book, accessed on January 18, 2007 (see http://www.educause.edu/learningspaces/ for more information); and (f) UC Berkeley Faculty Senate Committee on Academic Planning and Resources Allocation (CAPRA) website and 2004-2005 Annual Report (http://academic-senate.berkeley.edu/committees/capra.html, accessed January 18, 2007, report available for download at http://academic-senate.berkeley.edu/committees/pdf_docs_consolidate/CAPRA_2004_05_Annual_Repo_1.pdf). For a complete list of project sponsors and functional sponsors, see page 4.

Each project team member then identified, through online research, executives at their respective universities who would likely be able to respond to the questions or appropriately re-direct the queries. A letter of introduction with a request for assistance (Appendix E-1) was sent from Vice Provost Koshland's office along with a copy of the questions. The executives contacted at the eight institutions, or their surrogates, varied in their modes of response. Some chose to send written responses, others gathered for a group conference call with the project team member, and still other contacts resulted in several one-on-one conversations with the project team member.

The project team agreed to use an interview tool (Appendix E-3) to capture the data shared, and Case Study Guideline (Appendix E-4) for synthesizing the data into cohesive reports for each institution. Rather than engage in any analysis at this juncture, the goal of the case studies was to accurately reflect the raw data gathered.

Once all of the case studies were completed, the project team performed an analysis to identify best practices and themes in classroom management.

Findings and Analysis

"To most – whether taxpayer, academic, alumnus, or parent – the college setting is epitomized by the classroom experience."
– UCLA case study[4]

Every semester, classroom schedulers strive to place each class and section offered into the available room that best suits its requirements. The stakes are high. As suggested in the quote above, the classroom experience contributes greatly to the satisfaction of faculty and students, and to that of other campus stakeholders. The job of scheduling is made easier or more difficult by the condition of classroom stock.

Successful classroom management runs on two parallel, but quite interrelated, tracks. One involves juggling rooms, anticipating needs, resolving scheduling conflicts, and making sure that the lights work, the room is clean and the blackboard has a steady supply of chalk. The other focuses on improving the overall quality of the rooms; on equipping the rooms with the necessary instructional technology, and keeping it up to date; and on providing a setting suited to evolving styles of teaching and learning.

At many of the universities researched classroom conditions had deteriorated to a critical state, which ultimately led to sufficient attention and resources from the campus, the university system, and the State to propel long-term remediation initiatives. Updated rooms resulted in higher satisfaction among classroom users, and eased the job of classroom schedulers. Though these renovation efforts had a dynamic largely distinct from that of day-to-day classroom management, the project team found that the practices that led to successful renovation campaigns are the same as those that shape good, year-in/year-out classroom management. These best practices emerged as five recurring themes throughout our research:

1) Leadership in Classroom Management
2) Organizational Ownership of Classroom Management
3) Communication and Collaboration
4) Good Short- and Long-term Planning
5) Reliable Funding

As will become clear through the examples that follow, these themes are dynamically interrelated and interdependent. Strong leadership leads to ownership; ownership facilitates effective communication; communication begets careful planning; and well-conceived plans are instrumental in demonstrating the financial need that ultimately secures funding sufficient to underwrite a comprehensive improvement and management process.

[4] See Appendix I for the case study of the University of California, Los Angeles.

Theme 1: Leadership in Classroom Management

A clear finding of the research is that successful classroom management efforts begin with the emergence of leadership that recognizes classroom quality as a critical issue, and makes effective classroom management a priority. The impetus for change stems from faculty outrage over classroom conditions, from sharp criticism of campus facilities in an accreditation review, from concern about technology, or from campus efforts to comply with new regulations. In all cases the leadership that emerged led to improved classrooms because it was met with the involvement of, and visible support from, top campus administration.

In 1997, the faculty of Columbia University revolted over the poor condition of the campus' classrooms. Historically, funding for annual classroom maintenance had been haphazard, coming from a "State of Good Repair" fund within the capital maintenance budget. By the mid-1990s, funding had stopped altogether, and the classrooms had fallen into widespread disrepair.[5] The professors expressed their extreme dissatisfaction to Provost Jonathan Cole, who turned to senior management on the university administration's academic side. Executive Vice President for Administration Emily Lloyd initiated the formation of the Morningside Classroom Committee, comprised of faculty and senior administrators. Additionally, Facilities Management and the Registrar hired an outside engineering firm to survey the condition of 120 registrar-controlled seminar rooms, classrooms, and lecture halls. In addition, the campus' Office of Institutional Research solicited faculty and student evaluations of the rooms they had used. By the next year, the Morningside Classroom Committee had issued a report, and a working group had been created to carry out the committee's recommendations.[6]

Columbia University's senior leadership was deeply involved in the efforts of the working group. Mark Burstein, Deputy to the Executive Vice President, served as Chair and drove the process. With the muscle of EVP Lloyd behind him, and the engaged and well-informed participation of the Registrar, Burstein adeptly led the process and soon built a great deal of momentum. In 1999, the working group took the President on a tour of the classrooms and submitted a five-year renovation plan. The project had such high visibility, and was deemed such a high priority, that ten million dollars was granted to execute the plan.

Columbia University's experience illustrates the first theme that emerged from our eight comparator universities – the importance of leadership to a campus' effort to address its classroom needs. In nearly all of the cases examined a few key individuals, often working in concert, sometimes led by a single driving force, have been instrumental in winning support and initiating successful new practices. Equally important, this strong leadership is backed by the prominent involvement of, and the visible expression of support from, senior management.

Columbia University's leadership story has several dimensions, some of which overlap with those of other universities. As was the case at the University of Wisconsin in the early 1990's, faculty – organized and vocal – provided the initial impetus for change. In response, support from top management came swift and strong. The faculty campaign at the University of Wisconsin reached the Chancellor's office before bringing about a response that sparked new funding.[7] At Columbia University, the Provost documented the dissatisfaction expressed by the faculty, and the Executive Vice President for Administration acted quickly to begin a process that would result in improved classrooms. After investigations were made and a plan was drafted, a working group formed to implement the renovations. Mark Burstein's leadership within the working group helped steer the process to a successful resolution.

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[5] See Appendix F for the case study of Columbia University, from which this account has been excerpted.
[6] Morningside Classroom Committee, *Final Report*, Columbia University, 1998.
[7] See Appendix M for the case study of the University of Wisconsin – Madison.

Several years before Columbia University, the University of Illinois faced a critical juncture with respect to its classrooms. Under "Concern 1" of its 1989 accreditation review of the campus, the Commission on Institutions of Higher Education of the North Central Association of Colleges and Schools observed that the "accumulated need for maintenance and renovation of physical facilities … were having a 'functional impact' on instruction."[8] As at Columbia University, the challenge was answered by senior management; and at the University of Illinois, as would happen at Columbia University, a few key individuals took responsibility for seeing that change occurred.

Upon becoming Chancellor of the University of Illinois in 1993, Michael Aiken initiated a strategic planning process that would address the condition of campus facilities as one of seven strategic planning principles.[9] Concurrently, then-Director of Facility Planning and Management Dave Dressel identified classroom renovation as a "keystone" item, and "was instrumental in convincing Chancellor Aiken" of its importance.[10] By 1994, Aiken had created the Chancellor's Classroom Improvement Initiative that set aside two million dollars per year for five years to pay for renovations to the campus' general assignment stock.

Chancellor Aiken left the details of the renovation work to be defined by Steve Hesselschwerdt (the current Associate Director for Space Management) and a team comprised of administrators from classroom management and classroom technology. The three parties would plan in September for renovation work the following summer, contacting faculty to begin the design process. They decided which classrooms to renovate first, prioritizing rooms based on contact hours or importance, as expressed by requests from academic users. The group estimated costs, determined how many rooms could be done per summer, and scheduled renovations (allowing for changes) three years out. The group estimated the task would cost twelve million dollars and be complete in five years.[11] After the first five years of effort, the Chancellor and the campus were pleased. "The work made faculty happy. [Everyone] wanted more."[12] The classroom initiative was subsequently extended by Chancellor Aiken, and eventually renewed by his successor, current Chancellor Richard Herman. Over the ensuing thirteen years, Hesselschwerdt has led a renovation effort that has spent thirty million dollars and updated 165 classrooms on the University of Illinois campus.

At the University of Virginia, a decision made by two senior officials proved to be the catalyst for the renovation and upgrade of all but five of the campus' general assignment classrooms. In 1995, the University of Virginia administration had, in existence, an Associate Provost for Academic Support position, when the Executive Vice President and Chief Operating Officer, together with the Vice President and Provost, made the key decision to focus on classroom utilization and classroom renovation issues. Ultimately, the position that emerged was the Associate Vice Provost for Academic Support and Classroom Management, which has been responsible for the renovation (with technology), of 120 of the campus' approximately 171 general assignment classrooms. Wynne Stuart,

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[8] Cited in *REPORT OF A SPECIAL EMPHASIS VISIT TO UNIVERSITY OF ILLINOIS at URBANA-CHAMPAIGN, Urbana, Illinois, September 27-29, 1999 for the Commission on Institutions of Higher Education of the North Central Association of Colleges and Schools*, Part I, Section 2: "Response to the 1989-90 Visit," http://www.uiuc.edu/admin2/nca_report/, accessed December 27, 2006.

[9] University of Illinois at Urbana-Champaign Strategic Plan, *Framework for the Future*, 1995, cited in the Aviation Department newsletter, Winter 1998, http://www.aviation.uiuc.edu/main/docs/newsletter/w98avinews/framework.htm, accessed December 27, 2006. The 1995 report closed with the observation that, "A sense pervades that we are at a critical juncture, and that much of what has been built here is at serious risk unless we can find ways to compensate for deficit funding patterns of recent years."

[10] As recalled by current Associate Director for Space Management Steve Hesselschwerdt in a research interview completed for this report. See Appendix J for the case study of the University of Illinois at Urbana-Champaign, from which this account has been excerpted.

[11] Later judged to be "grossly inadequate amounts in both dollars and time!" [Ibid.]

[12] Ibid.

who holds the position, expects the remaining classrooms, with the exception of five historic rooms which will not be touched, to be completed between February and July of 2007.[13]

UC Davis has also reaped the benefits of involvement from the top. At UC Davis, the original budget for classroom renovation came from a realization – sparked ten years ago by implementation of provisions of the Americans with Disabilities Act – that their classrooms needed wholesale improvement, and that the campus should standardize classroom spaces, especially media equipment. The Office of the University Registrar initiated a study by asking the Classroom Media Technology Office to document existing equipment, define what was needed, and determine the costs associated with implementing, maintaining, and eventually upgrading the new equipment. The Office of Resource Management and Planning worked with the Chancellor's office to craft a thorough plan. The active participation of senior administration increased the attention and priority given to the issue. The Office of the Provost's interest in space issues also helped in the decision-making efforts. As at Columbia University and other universities, faculty representation and participation furthered the process by voicing faculty needs, complaints, and feedback. The campus approved an annual funding allocation of $700,000, and renovation work began. As a result of the upgraded rooms, classroom satisfaction and utilization have dramatically increased.[14]

At the University of Wisconsin, obtaining initial funding to improve classrooms in response to faculty concerns about their condition proved to be challenging. Today, funding for major classroom remodeling projects comes from a system-wide fund, the Instructional Technology Improvements Program (ITIP), for which University of Wisconsin system campuses compete every two years. The system-wide approach demonstrated to the state legislature the profound need to fund classroom improvement, and attracted increased funding. The efforts of senior campus management were critical to drawing this increased support from the legislature.[15]

At the University of Michigan, campus leadership has committed itself to augmenting the existing stock of classrooms, while simultaneously working to achieve the classroom-of tomorrow. As a key step towards the campus goal of implementing centrally scheduled classrooms and standardized classroom technology (in an extremely decentralized organizational environment), the Provost, with support from the Executive Vice President and Chief Financial Officer, recently decided that newly constructed classrooms in General Fund buildings will become centrally controlled classrooms. Taking a similarly active approach to the future, the campus, in its budget presentation to their Board of Regents for fiscal year 2006-2007, stressed that "[c]utting edge initiatives involve novel modes of teaching or research taking place in new scholarly areas. In many cases, facilities are key to the success of a particular initiative. Consequently, the University continues to invest heavily in the renovation and renewal of its physical plant." Far from *reacting* to a dissatisfied and angry faculty, senior management at the University of Michigan is out in front, providing forward-looking leadership to the campus.[16]

These efforts of the University of Michigan's senior administration support a nationally recognized classroom management organization. In 2006, the University of Michigan won the prestigious Association of Higher Education Facilities Officers (APPA[17]) Award for Excellence in recognition of

[13] See Appendix L for the case study of the University of Virginia, from which this account has been excerpted.
[14] See Appendix H for the case study of the University of California, Davis.
[15] See Appendix M for the case study of the University of Wisconsin – Madison.
[16] See Appendix K for the case study of the University of Michigan.
[17] The Association of Higher Education Facilities Officers was formerly known as the "Association of Physical Plant Administrators of Universities and Colleges", but changed its name in 1991 to reflect the change in members' duties. The Association's acronym remained unchanged. See http://www.appa.org/files/PDFs/APPA_Profile_Final_Jan2004.pdf, accessed January 4, 2007

its facilities operations. According to Jack Colby, APPA president, "U-M's plant operations department exemplifies excellence in all … areas [including] leadership, strategic and operational planning, customer focus, information and analysis … process management, and performance results." Colby observed, "University of Michigan's plant operations department enjoys a significant role planning in concert with upper levels of the university administration. The department's views … are strongly supported by upper management in policy and project decisions, which speaks to the quality of the program and the cohesiveness of the school's strategic approach."[18] At the University of Michigan an active, involved, administration paired with a well-run operations program has set in place policies that secure present-day classroom resources and address the facility needs of the future, too.

The efficacy of strong leadership, then, is the first lesson learned in our research on classroom management and renovation. At crucial points, key individuals make a significant impact. Both the support and the involvement of senior management are essential to successful efforts. Momentum can be a valuable asset to a classroom renovation program, and backing from the top lends weight and visibility to an initiative. Moreover, when funding comes at the system-wide level or from the state legislature, senior management must work to steer the decision-making. Finally, as discussed in sections to come, approval from the top makes it possible for funds to be allocated to classrooms in a steady stream over many years and protects those funds from being redirected elsewhere.

[18] "U-M receives APPA award for excellence," University of Michigan News release, July 18, 2006, http://www.umich.edu/news/index.html?Releases/2006/Jul06/r071806b, accessed December 30, 2006.

Theme 2: Organizational Ownership of Classroom Management

Interviews with university administrators revealed a second set of characteristics common to successful classroom improvement and management that fall under the heading "ownership." The use of this phrase is not in the narrow sense of physical possession, nor central versus departmental control of classrooms, but rather is intended to convey a clear sense of authority and responsibility that propels the management program. The implementer may be a defined working group, as at Columbia, or a lead administrator backed by cooperative colleagues as at the University of Illinois. More often, it is a single office vested with responsibility for many areas of classroom management, or an arrangement between administrative units with complementary responsibilities. The administrative unit(s) and the administrators with ownership are empowered by virtue of their authority and responsibility. Though the number and nature of the offices charged with managing classrooms vary across the research cases, universally the campuses have found a way to coordinate the efforts of those involved. Often, the decision-making and follow-through is fueled by a fierce sense of pride in the organization. (A table presenting classroom management decision-making structures at the eight universities can be found in Appendix B.)

As part of the Facilities Planning and Management division of the University of Wisconsin, the Space Management Office (SMO) oversees all aspects of general assignment classroom management, except maintenance and custodial operations. It works effectively with the Registrar's office, which handles classroom scheduling.[19] SMO deals with technology, design, renovation, and budget. It makes decisions on how funds are spent, and is in a position to prioritize and administer the management of work orders and ensure no duplications of effort. It can effectively analyze the instructional impacts of planned projects and propose classroom needs. SMO has become recognized as the campus classroom expert.

This organizational structure promotes efficiency. It allows SMO to be the gatekeeper of when and how classroom issues are handled. SMO's "one-stop shopping" nature obviates the need for committees. In their stead, SMO works hard to solicit input from stakeholders. It holds annual inspections of every general assignment classroom, and employs online and exit surveys of faculty and students to obtain feedback on newly renovated spaces. As concerns arise, SMO airs them at an annual Deans and Directors meeting focused on general assignment classrooms. The same office that receives classroom improvement requests also manages the budget and prioritizes and implements those requests. This has led to most of their classrooms achieving a high level of instructional technology and an innovative approach to the repair and maintenance of that technology.[20] The unified classroom management office allows for a clear connection between need and available resources.

At UCLA, the Facilities Management group, which is part of the General Services division reporting to the Vice Chancellor for Business and Administrative Services, manages classroom operations. As at the University of Wisconsin, the Registrar's office, under the authority of the Vice Chancellor of Student Affairs, handles classroom scheduling. Although these two groups rely on one another, for the most part they work independently. The Facilities Management group has taken responsibility for assuring that classrooms and their users are well served. Operations include janitorial and audio/visual services, plant maintenance and repair, and a regular cycle of refurbishment for general assignment classrooms. Functionally, it is the responsibility of the Facilities Management group to marshal resources and to coordinate these services. Within the group, there is a single point of contact for classroom issues. With the exception of portable audio/visual equipment, this person is able to order

[19] Until a few years ago, SMO handled classroom scheduling as well; its familiarity with faculty needs meant it could assign an instructor a room knowing that the facility would work for the class.
[20] See Appendix M for the case study of the University of Wisconsin – Madison

whatever service a classroom, its systems, or equipment may need, in terms of repair or replacement, to expediently return the room to full function. The ambitious space improvement program covers paint, general repairs, and furniture; and ensures that every classroom gets refurbished at least once during a ten-year period.

There are no standing committees at UCLA like UC Berkeley's Campus Committee on Classroom Policy and Management. Instead, that guidance function is internal to Facilities Management. The group facilitates, via monthly standing meetings, communication among representatives from the offices of Building Maintenance, Special Events, Communications (information technology), the Registrar, Audio/Visual Services, Capital Programs (custodians of large projects), and University Extension (the largest single user of general assignment classrooms at UCLA). The group has achieved superior levels of cooperation among these service organizations. The campus' classrooms function well because these units work well together. User satisfaction is high. The Facilities Management group's efforts are driven by pride of ownership, firm commitment to customer service, and significant institutional memory. The tremendous level of pride in the state of classrooms starts right at the top: Jack Powazek, the Assistant Vice Chancellor for the General Services Division, is a UCLA alumnus and this affiliation has had a direct and beneficial effect on classroom management operations.

The University of Virginia and UC Davis each have classroom management governance structures that include four major campus administrative units. Though vastly different from the University of Wisconsin's "one-stop" approach, each campus succeeds in providing classrooms that support its educational mission. At the University of Virginia, the Office of Space and Real Estate Management is responsible for planning and determining future space needs, and is accountable to the state for the University's entire institutional inventory. The Registrar's office handles scheduling, Facilities takes care of the maintenance and cleaning of classrooms; and Information, Technology and Communications (ITC) is responsible for instructional technology. In general, the Registrar's office, ITC, and Facilities act as the implementers to initiate and complete classroom renovations. Wynne Stuart, Associate Provost for Academic Support and Classroom Management is tasked with fostering collaboration amongst these disparate units under separate Vice Presidents. Associate Provost Stuart's role cuts across the chains-of-command of the various units with their consent, and produces results. A classroom coordination group meets monthly and includes representatives from the Associate Provost for Academic Support and Classroom Management, ITC, Facilities, and the Registrar's office – all of which have the ability to propose classroom policy, ideas, or concerns. The Associate Provost for Academic Support and Classroom Management is in the position to take coordinated policy recommendations from the group to the Provost.

Since the Associate Provost for Academic Support and Classroom Management, ITC, and Facilities began working together as a team in 1998, renovation decisions and implementation of the renovations have been rolling forward smoothly. According to Associate Provost Stuart, the key to the University of Virginia's seamless progress has been the authority she has been given to make decisions and to lead the classroom management and renovation processes. She has been empowered to make decisions herself, but takes requests and input from other Vice Provosts and Deans. This arrangement allows the team to move forward cooperatively, and in a non-traditional manner. The team communicates effectively with one another because there is goodwill as well as buy-in by the participants.

At UC Davis, management of the general assignment classrooms is distributed across the Office of the University Registrar, (scheduling); the campus' Instruction and Educational Technology Division, through its Classroom Technology Services unit (lab space and instructional technology support); Operations and Maintenance (cleaning and maintenance); and the Office of Resource Management

and Planning (space allocation). Although it was not always the case, there is now coordination and collaboration between these various parts of the organization regarding general assignment classrooms. The skill and experience of Associate Registrar Maria Miglas is credited with the smooth integration of these disparate groups. The arrangement is enhanced further by the participation of the Provost's office, which actively oversees the various organizations. Although the University of Virginia and UC Davis have a number of units involved in classroom management, each has found a way to effectively coordinate them. The University of Virginia has created a super-administrative position; at UC Davis, success is fostered by the performance of a key staff person and the active involvement of the campus' top administration.

Classroom renovation and ongoing classroom management succeed when the process has an owner – a program leader with clear authority and ownership. The number of administrative offices engaged in classroom management can range from a streamlined one or two, to a complex relationship between four or more, but in order to succeed it is essential that a mechanism – an empowered individual or office – be established to coordinate the various units involved.

Theme 3: Communication and Collaboration

Good communication and collaboration facilitates successful classroom management. Coordinating units in several of the institutions researched are guided by a strong customer service ethos, not only towards classroom users, but towards each other as well. Faculty members, as major customers, are engaged to participate in planning and advising, and overall communication is enhanced by a "culture of cooperation" on campus. Open communication and collaboration of all the involved parties – schedulers, facilities staff, technologists, academic administrators, space planners, capital projects engineers, faculty, students, budget decision-makers, and senior campus management – significantly contributes to higher user satisfaction, the more efficient use of space, and an overall higher quality of instructional space.

At Stanford University, due in large part to open communication between the Registrar's office and Facilities Operations, classroom maintenance issues are effectively addressed. The Associate Vice Provost (Registrar) and the Associate Vice Provost (Facilities Operations) frequently confer throughout the year. Their units have formed a committee whose members talk regularly as well. In the spring, the committee meets twice to plan the following year. The group discusses and agrees on priorities, and pools its monies for the purpose of classroom maintenance. Efficiencies are realized because the units work in concert. The Registrar's Office works well with Capital Planning, too. It has been involved in the planning for the construction of the new Engineering Quad, as well as the planning and negotiation of other classroom issues. The Registrar's rapport with the head of Capital Planning is instrumental in getting classroom needs met. Finally, the Registrar maintains good communication with classroom users through a monthly meeting that brings together all academic departments and schools, student services staff, and financial aid personnel. The purpose of these meetings is to inform, consult, and solicit feedback for classroom operations and decisions. Upon this base of productive communication, the Registrar's office fashions a very successful program of classroom management.

Our research has shown that the universities reporting high levels of user satisfaction with the operation and care of classrooms have often designated a single point of contact for service issues. At UCLA, the phone number for the Facilities Management department is posted inside each general assignment classroom, and when a faculty member calls to advise of a problem within a classroom their call is fielded by a person with the authority to arrange whatever service is needed from any agency on campus.[21] Facilities Management then shepherds the work order through to its completion by conferring with the various trades on the status of the ticket, and concludes by contacting the original complainant to ensure that their request has been adequately resolved.

Another important pathway of communication is between faculty (or departments) and the scheduler's office. In addition to the standard considerations for matching a class to a room (such as enrollment number, class type, and room capabilities), faculty are also concerned with the time of day a course is held and the exact location of the room (typically with respect to proximity to their office). Accommodating these needs is often the most difficult aspect of a scheduler's job, in light of what the rest of the body of faculty is asking for. At Columbia University, the scheduler has made a concerted effort to build goodwill with departments and has been known to engage in extensive rearrangements of room assignments to meet everyone's needs.[22]

The combination of single-point-of-contact service to report trouble with the integration of coordinated support from providers is an unquestionable best practice, and is borne out of effective

[21] See Appendix I for the case study of the University of California, Los Angeles.
[22] See Appendix F for the case study of Columbia University.

communication. Also important is seeking input from faculty members regarding all aspects of classrooms. Thus, in order to facilitate classroom management that is of the highest quality, communication is vital – both between customers and campus, and between campus agencies themselves. This is achieved by responding in a timely manner with little hassle, managing expectations, and meeting commitments with coordinated efficiency and high quality service.

An important discovery about effective classroom management related to communication, though not necessarily a best practice *per se*, is the prevalence of a culture of collaboration and cooperation at universities that report high functioning organizational schema and high user satisfaction levels. The genesis for such a culture may be varied – whether via top-down edict, or through training initiatives, or through adopting new operating approaches – but the results are virtually certain, and can include any or all of the following:

- A better understanding of complex problems or concepts,
- faster or more efficient completion of work,
- greater opportunities for cross-training or skill development for support personnel, leveraging the skills of highly specialized professionals by honing their talents and making them accessible to a wider client base, improved morale and team-building, and increased organizational transparency and the facilitation of effective communication.

Any one of the aforementioned benefits is achievable without fostering an institutional culture of collaboration and cooperation. Yet only once such a culture is enthusiastically embraced can the whole suite of advantages be realized.

Successful communication stems from good leadership and confident authority, and results in a clear understanding of all parties' roles. While the intrinsic value of effective communication cannot be overstated, its greatest impact may be on the area of planning. Only once communication has opened pathways to allow the free exchange of ideas, can comprehensive planning take place. Thus planning, critical though it may be in its own right, is ultimately dependent on communication to allow it to occur.

Theme 4: Good Short- and Long-Term Planning

"A goal without a plan is just a wish."
-- Antoine de Saint-Exupery[23]

There is a strong correlation between good short- and long-term planning and effective classroom management. Money can be saved, faculty appeased, physical conditions improved, flexibility maintained, and opportunity taken – all through planning. Planning entails data collection and analysis that guides decision-making and bolsters arguments for financial support; a good plan also recognizes and addresses the perpetual need for classrooms to be maintained. Having a plan and process in place that outlines priorities can multiply the value of classroom improvement investments by ensuring that the university is able to take advantage of opportunities as they arise. Revisiting priorities and revising the plan on a regular basis ensures that a project can be initiated quickly and decisively when funding becomes available. While the eight comparator universities each plan aspects of classroom management in different ways, several planning related best practices emerged:

- Always have a ranked list of projects, so that when funding comes available the project at the top of the list can proceed (University of Wisconsin).
- Partner with other capital projects underway to stretch budgets (Columbia University).
- Allow special space considerations to guide the planning process (University of Virginia).
- Use data and objective analysis to drive planning (Stanford University).
- Set achievable goals with sufficient budgetary commitments and overall timeframe (UCLA).
- Seek input from faculty to inform design considerations (University of Illinois).
- Do not be constrained by the conventional paradigm when choosing the scope of projects (Columbia University).
- Open up the planning process to seek collaborative input (University of Michigan).

Each of these planning best practices is scalable and adoptable for use elsewhere, and worthy of further consideration.

Among the more elementary, yet high-impact, classroom management planning approaches is in practice at both Columbia University and the University of Wisconsin. Both universities keep a prioritized list at all times so that when funding becomes available for classroom improvements, the next project to undertake has already been identified. Specifically, at the University of Wisconsin, the Deans and Directors on campus meet annually to discuss classroom needs, and collectively agree on how to rank the list. The Space Management Office takes the counsel of the Deans and Directors into account, and issues the final list. Their decision is respected because they are considered to be the classroom management experts at the University of Wisconsin. There is no need to vet stakeholder requests and no need to pound the pavement looking for a worthy cause. The top priority has already been selected, and the project can commence without delay.[24]

Columbia University was able to perform thirty-four million dollars worth of classroom renovation work for a mere ten million dollars through careful planning. By piggybacking onto capital-type projects, and taking advantage of the necessary preparatory work undertaken by others (such as opening up walls and ceilings, rewiring, re-plumbing, etc.), they were able to greatly leverage their money and receive more than three dollars' benefit for every classroom renovation dollar spent – all

[23] Antoine de Saint-Exupery (1900-1944), French writer and author of "Le Petit Prince", http://www.quotationspage.com/quote/34212.html, accessed December 31, 2006.
[24] See Appendix M for the case study of the University of Wisconsin – Madison.

because they carefully coordinated efforts and planned their steps with great precision. Also at Columbia University, when the campus committed to overhauling its classrooms in the face of intense pressure from faculty in the 1990's, it faced the dilemma of choosing the scope of work in scores of classrooms. Loosely gauged, classrooms fell into one of three categories: Terrible, bad, and fair. Planners at Columbia University decided to improve *all* classrooms at least some, making terrible classrooms merely bad, making bad ones fair, and making fair classrooms good. Some of the classrooms would need subsequent additional remediation, and invariably, some steps would be repeated. However, the upside of this approach was that every classroom would receive attention, and therefore every instructor and student would benefit. By not focusing on one classroom at a time, in sequence from worst to best, spending the entire budget on a relatively small number of classrooms, Columbia University's classroom management planners were able to achieve universal improvements. By spending some of the budget on all of the classrooms, Columbia University effectively shifted the entire curve upward.[25]

While many American universities feature buildings they consider to be old, or special, or even protected in some way, few campuses have buildings of the truly historic nature as does the University of Virginia. A classroom management decision was made at Virginia that has guided the utilization of space: No new classrooms will be built in old buildings. Classrooms require periodic renovation of a nature that is not conducive to tenancy in a centuries-old building. In order to preserve the architecture, and potentially ensure the use of State funding for future renovation of other buildings, The University of Virginia restricts its classroom renovation planning for historic buildings.[26]

Classroom management planning at Stanford University is unique among the institutions evaluated in that it uses outside consultants' analysis and recommendations on an ongoing basis to advise the process. Stanford University also maintains extensive sets of classroom utilization data that have been instrumental in the planning of space allocation, renovation timetables, instructional technology improvements, and course scheduling. The Registrar at Stanford University utilized data and a report from their consultants to secure funding from the Provost for extensive and costly instructional technology upgrades in 107 classrooms (to date).[27]

UCLA seems to have taken an approach of prudence and steady determination to classroom management planning, particularly in the area of upgrades and renovations. In 1997 UCLA decided to undertake a comprehensive classroom rehabilitation process, and committed itself to addressing a modest twenty classrooms each year, with an average budget of only eight thousand dollars per classroom. None of the other seven universities researched had set timeframes longer than UCLA's ten years, just as none have committed such a low per-classroom funding amount. Yet UCLA reports that their efforts have been effective and well received, lending credence to the notion that "slow and steady wins the race."[28]

At the University of Illinois, the planning process for classroom improvements is guided in a special way. The Associate Director of Space Management holds a design and planning charrette[29] attended by professors who have used in the past, or are using, a specific classroom slated for renovation, and seeks their affirmative input for planning how the space will be ameliorated as it is rebuilt. The

[25] See Appendix F for the case study of Columbia University.
[26] See Appendix L for the case study of the University of Virginia.
[27] See Appendix G for the case study of Stanford University.
[28] See Appendix I for the case study of the University of California, Los Angeles.
[29] A fitting definition of *charrette* can be found on the website of the Massachusetts Executive Office of Environmental Affairs: "An intensive design process that involves the collaboration of all project stakeholders at the beginning of a project to develop a comprehensive plan or design." See: http://commpres.env.state.ma.us/content/glossary.asp, accessed January 18, 2007.

advantages to this approach are obvious: The people who are most concerned with a space's ability to foster teaching and learning (the faculty who use a given classroom) are the ones who guide the planning process; by seeking input from faculty, campus achieves buy-in on the results; and often, more faculty input leads to better outcomes.[30]

The University of Michigan took a related approach to strategic planning when considering the new Stephen M. Ross School of Business. Students, alumni, faculty and staff were asked to define the school's infrastructural needs well into the 21st century. With this planning approach they are able to incorporate the needs of their stakeholders, and their mandate is clear up front.[31]

Through careful classroom management planning, universities are able to do more with less, to do it better, and to do it faster. The best practices listed above contribute to each school's classroom management schema, and are complementary. Through the adoption of any or several of these methods, any university would be well served and could only benefit from a classroom management standpoint. Planning demonstrates the necessity, the process, the feasibility, and the cost of successfully undertaking a given project; each of these four elements is critical to both the development and ultimately the success of the project. If solid planning provides the framework, or roadmap, for any well conceived process to follow, then funding provides the vehicle to make that plan a reality. For projects in need of funds to reach fruition, a well designed plan alone may suffice as justification for the receipt of funds.

[30] See Appendix J for the case study of the University of Illinois at Urbana-Champaign.
[31] See Appendix K for the case study of the University of Michigan.

Theme 5: Reliable Funding

> "The classroom renovation funds were developed to recognize that classroom upgrades should have a dedicated stream of resources rather than having to compete with other University priorities annually."
> – University of Michigan[32]

Universities reporting high levels of user satisfaction[33] share a financial best practice: Funding for classroom improvement has been stable and protected for an extended length of time. A fuller stock of modernized rooms, in turn, leads to greater success with the ongoing care and feeding of classrooms. The senior management of the University of Michigan understood this dynamic when it set aside dedicated funding for classroom renovation. The benefits realized from providing stable and continuous funds for classroom management include:

- Momentum for change can be maintained.
- Long-range planning can be undertaken with a sense of achievability.
- User concerns can be addressed in a timely and scheduled fashion, thus improving overall stakeholder satisfaction and confidence.

At universities that reported the smoothest administrative operation of classrooms, a substantial portion of the financial burden for the day-to-day operation of classrooms was spread among different units whose own budgets may not have necessarily earmarked funds for classroom purposes. Additionally, several universities were able to attach classroom improvement initiatives onto other, larger projects within a given building – whether seismic retrofitting (Stanford University, UCLA), cultural preservation (University of Virginia), new construction (Stanford University, Columbia University), technology enhancements (University of Illinois, UC Davis), and Americans with Disabilities Act compliance (University of Michigan), thus greatly leveraging their dollars and stretching their budgets. (A table summarizing general assignment classroom funding at the eight universities has been included in Appendix B.)

Most of the schools contacted reported that they began their present iteration of classroom maintenance and oversight concurrent with their current cycle of classroom improvement, generally in the early-to-mid 1990's. In order to adequately fund those initiatives, all of the comparator institutions reported that they had secured funding at a senior executive level, and a solid commitment that the funding would be both perpetual and protected. In fat years, more money might be allocated to classrooms, but in lean years, their budget would be guarded from looting. At the University of Illinois, the Provost has earmarked two million dollars per year specifically for classroom renovations since 1994. The reason given for such constancy, according to University of Illinois' Associate Director of Space Management: "Instructional education is where the rubber hits the road." Two Chancellors in that span of time have upheld the commitment, supporting the Provost's insistence that the initiative is crucial to the University's ongoing success.[34]

While each of the eight institutions surveyed reported annual budgetary figures for classrooms (typically line item sums related directly to the maintenance, operations, and/or improvement of classrooms), a closer inspection of those figures quickly reveals that at many schools those discrete

[32] E-mail communication with University of Michigan Office of the Registrar, December 2006.
[33] Few of the comparator universities have conducted research in recent years specifically assessing faculty and student satisfaction with the full range of classroom experience; much of the reported user satisfaction derives from surveys about classroom technology and word-of-mouth or anecdotal compliments about renovated classrooms.
[34] See Appendix J for the case study of the University of Illinois at Urbana-Champaign.

budgets do not cover all classroom management expenses. At those schools, some of the typical operating costs of classrooms are passed on to other units, in ways that appear to fall outside the specific budget for classroom management. For example, at UCLA there is a budgeted amount to cover standard maintenance for general assignment classrooms, amounting to approximately forty thousand dollars per year. However in the event that unplanned repairs are needed, that fund is not recharged, nor is any other fund related to classroom maintenance or operations. Instead, the Building Maintenance department within the Facilities Management division covers those costs out of its own standard operating budget. In practice, what has happened at universities like UCLA is that a culture of collegiality and cooperation has been fostered among separately budgeted agencies, who then pitch in for the greater good; overall budgeting is sufficient to accommodate such an arrangement. At Stanford University, their $150,000 annual budget for the repair and maintenance of classrooms goes entirely towards materials (or subcontractors), and the labor costs of university staff engaged in classroom maintenance and cleaning services are paid from another pot of money altogether.[35] Additionally, at the University of Wisconsin, the General Building Maintenance Fund is applied by their Physical Plant division for repairs, core services, upkeep and other maintenance needs in classrooms – exclusive of the $770,000 allocated specifically to the Minor Remodeling and Class Modernization initiatives.[36]

Again, universities have been able to stretch their budgets by attaching their classroom improvement initiatives onto other types of projects such as overall building rehabilitation, seismic retrofitting, new-building construction, or other types of major undertakings. At Columbia University, a capital improvement plan was executed so that a ten million dollar budget was able to accomplish an impressive thirty-four million dollars worth of work; this was accomplished through taking advantage of opportunities created by other, separate initiatives.[37] It is easy to see the upsides of such an approach, some of which include: Taking advantage of prior planned facility downtime, gaining no- or low-cost access to certain confined spaces (such as cabling inside walls and ceilings) while other work is underway (like plumbing, electrical upgrades, or HVAC ducting), and renovating classrooms in buildings that have already been improved in other ways.

The research revealed classroom renovation to be a lengthy process lasting five to ten years, or more. Funding that is stable and protected for the duration of the process allows long-term planning and sustains the momentum of the effort. An additional fiscal best practice is to rely upon careful planning that enables taking advantage of opportunities that present themselves to allow classroom improvements to piggyback onto other, large projects.

[35] See Appendix G for the case study of Stanford University.
[36] See Appendix M for the case study of the University of Wisconsin – Madison.
[37] See Appendix F for the case study of Columbia University.

Recommendations

The following recommended steps, if taken by UC Berkeley, would incorporate multiple elements of classroom management best practices:

1. Recognize effective classroom management as a high priority issue and commit to improving UC Berkeley's classrooms. Identify and support emergent leadership in the management of the classroom resource.

2. Design and implement a new classroom management organizational structure, designate a functional owner (or owners), and give them the mandate to improve and manage general assignment classrooms. Empower a person or office to coordinate administrative units involved in classroom management and services.

3. Nurture an institutional culture of collaboration and communication: Instill a customer-service ethos among the units involved in classroom management and support. Solicit faculty concerns and opinions about specific classrooms in which they teach, and involve faculty in design processes.

4. Engage in the planning of a comprehensive and long-range classroom improvement initiative. Document current classroom conditions and needs, seek input from stakeholders to designate worthy projects, keep the ranked list of projects current at all times, and regularly review the list to make certain that it stays current and pertinent.

5. Provide sufficient financial resources to effect real change. Allocate a set, long-term, funding level for classroom management and improvement purposes, and guarantee that the funding will be protected.

Conclusion

In this report, best practices in classroom management, arising from the collective experience of eight universities comparable to UC Berkeley, have been outlined and illustrated. The research revealed an overarching series of interconnected relationships pertaining to classroom management. Strong leadership leads to ownership; ownership facilitates effective communication; communication begets careful planning; and well-conceived plans are instrumental in demonstrating the financial need that ultimately secures funding sufficient to underwrite a comprehensive improvement and management process.

Although there will be resource challenges to instituting the outlined recommendations, the advantages far out-weigh the challenges. Some of these recommendations require large amounts of funding, while others are more behavioral and attitudinal in nature. To allow progress to be made while support is marshaled for a longer-term effort, each can be approached incrementally. The key is to begin. The most important ingredient to achieve successful classroom management is to establish an owner or set of owners with the responsibility and the authority to lead. With clear ownership, roles will become defined and an organizational structure will emerge. Once these elements are in place, clear and open communication can flourish and effective planning can commence.

Planning is integral to achieve the full potential of each dollar funded. Prioritizing classrooms by need and importance to faculty would allow for the expedient and appropriate use of funds as they are received. Designing and timing the renovation work to coincide with other improvement projects funded from other sources of revenue – seismic retrofitting or accessibility compliance, for example – would multiply the return on classroom improvement investment. Good planning also serves as a means to secure additional funding. As work proceeds, plans develop, and the dedicated fund grows, the campus can crystallize its understanding of what its classroom spaces need, defining the school's infrastructure requirements well into the 21st century.

UC Berkeley is renowned as the most esteemed public university in the world, and we must ensure that its instructional facilities are of sufficient quality and quantity to sustain its core mission of teaching excellence. High quality classrooms are necessary for effective instruction and to attract and retain top-notch faculty and students. Effective and sustainable classroom management is critical. The process of improving classroom management at Berkeley must be initiated. The decisions made today pave the path to the future.

Appendix A

2006-07 LDP Project Proposal from Sponsors

Teaching and Learning in a Great Place: Managing the Classroom Resource

Sponsors: Vice Provost Catherine Koshland, Academic Planning & Facilities;
Vice Provost Christina Maslach, Undergraduate Education & Instructional Technology; Vice Chancellor Genaro Padilla, Student Affairs

Project Facilitation: Sarah Nathe, Office of the Vice Provost-Academic Planning & Facilities;
Walter Wong, Acting Registrar and Chair, Classroom Study Group

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Background

Because teaching is a core mission of UC Berkeley, the university has a responsibility to ensure that its instructional facilities are of the same high quality as its research facilities. It is very important to guarantee prospective students an excellent instructional experience, which includes the condition of the space in which instruction takes place. Similarly, attracting and retaining the best faculty depends on high-quality teaching facilities. In the campus's 236 general assignment classrooms (2% of all campus space), thousands of faculty members and students spend a significant amount of time. Very few other spaces are utilized so extensively by such a broad cross-section of the campus community, and very few other campus resources are managed by so many separate, sometimes disparate, units.

Five separate senior administrators/organizational units (Vice Chancellor-Facilities Services, Vice Chancellor--Student Affairs, Vice Chancellor-Administration, Vice Provost-Academic Planning & Facilities, Vice Provost-Undergraduate Education & Instructional Technology) and an administrative committee have responsibility for different aspects of the management of general assignment classrooms:

1. *Space Allocation*. The designation of space as general assignment classrooms is done by the Vice Provost-Academic Planning & Facilities, who chairs the Space Assignments and Capital Improvements (SACI) committee, which is staffed by the Space Management and Capital Programs, which reports to the Vice Chancellor-Administration.

2. *Scheduling of General Assignment Classrooms*. The scheduling and overall management of general assignment classrooms for academic courses, for final examinations, for administering use agreements with University Extension and Berkeley City College, and for extra-curricular activities is done by the Office of the Registrar, who reports to the Vice Chancellor-Student Affairs.

3. *Maintenance*. Cleaning, maintaining, repairing, and renovating general assignment classrooms fall under the jurisdiction of Physical Plant/Campus Services and the Office of the Registrar, which report to the Vice Chancellor-Facilities Services and Vice Chancellor-Student Affairs, respectively.

4. *Instructional Technology*. Ensuring that classrooms are equipped with state-of-the-art instructional technology, which is updated and replaced on a regular basis, and supporting instructors in the use of classroom technology is done by Educational Technology Services, which report to the Vice Provost--Undergraduate Education & Instructional Technology.

Overall campus-wide policy and coordination for general assignment classrooms is handled by the Campus Committee on Classroom Policy and Management (CCCPM), an administrative committee with staff, faculty and student representation, co-chaired by the Vice Provost- Academic Planning & Facilities

Appendix A

2006-07 LDP Project Proposal from Sponsors

and the Vice Chancellor-Student Affairs. The Classroom Study Group, a staff working group with representation from the units listed in #1-4 above, also meets regularly to solve specific problems.

In spite of, or perhaps because of, all these responsible units, the quality of a majority of classrooms at UC Berkeley is substandard, by any measure. In large part, this is attributable to inconsistent or insufficient funding for cleaning, maintenance, repairs, renovations, improvements to classroom infrastructure (furniture, power, ventilation), new educational technology, and innovations in spatial usage. This project will investigate the relationship of classroom quality to management systems at peer institutions, and recommend ways in which aspects of effective systems could be implemented at UC Berkeley.

Scope

This project is designed to document best practices in classroom management and corresponding quality at other educational institutions similar to UC Berkeley—both within the UC System and at comparably sized universities outside it. The project will consist of the following:

[Per Inette Dishler's 11.09.06 email to Sponsors, scope narrowed to focus on external best practice research only. Eight schools were identified for extensive comparative research. Report will include information already available from campus focus groups and other sources as internal background and framing.]

A. Research and Analysis

The LDP team will:

1) Meet with the Classroom Study Group initially and periodically throughout the project.
2) Interview campus stakeholders in all the units noted above to determine the desired qualities in classrooms and efficiencies in classroom management.
3) Identify other similar institutions in which classroom quality is acknowledged to be high, as determined by national standards or criteria indicated in #2 above.
4) Analyze the classroom management systems employed in three to five of those institutions in order to ascertain the relationship between management and classroom quality.

B. Recommendations (based on research and analysis)

The LDP team will recommend:

1) Standards of classroom quality (in all areas from cleaning to innovations in spatial usage, as noted in the paragraph directly above **Scope**) that UC Berkeley can and should attempt to reach.
2) Management approaches that conduce to meeting those standards.

C. Report

The LDP team will:

1. Report on the methods used by the group, the findings from the above research, and their recommendations for classroom management at UC Berkeley.
2. Share the report with the co-sponsors, with the other stakeholders mentioned above, with the CCCPM and the Classroom Study Group, and with SACI.
3. Make a presentation to the entire LDP program, including sponsors and guests.

Appendix B

Selected Characteristics of Comparable Universities

B-1 Comparator University Student and Classroom Statistics

B-2 Comparator University Student and Classroom Graphs

B-3 Classroom Management Decision-Making Structure at Comparator Universities

B-4 Funding for General Assignment Classrooms at Comparator Universities

Appendix B-1: Comparator University Student and Classroom Statistics

University Name	Student Population		Classroom Statistics		
	Total*	Under-graduate	General Assignment	Dept. Controlled	Sections taught that require general assignment classroom:
Columbia University	22,000 [1]	N/R	125	125 [§]	5,700 per semester[§2]
Stanford University	14,900	6,700	208 [3]	N/R	3,000 per quarter[4]
University of California, Davis	30,475	23,329	119	40 [§]	3,000 per quarter[§5]
University of California, Los Angeles	35,625	24,774	196	312	10,000 annually [6]
University of Illinois at Urbana - Champaign	40,000	30,000	405	100 [§]	9,800 per semester[§7]
University of Michigan	40,025	25,555	213	595	10,000 per semester[8]
University of Virginia	18,700	13,900	171	73 [§ 9]	4,000 per semester[§10]
University of Wisconsin - Madison	41,480	28,462	370	164	5,381 per semester[11]

Source: 2006-2007 LDP ClassACT research

Notes

* Includes undergraduate, graduate, and professional students

§ Approximate numbers

N/R = Not reported

[1] At Morningside campus and in professional schools

[2] Courses, not total sections

[3] Includes 25 departmentally-controlled classrooms that are scheduled centrally

[4] 1,200 without discussion sections

[5] Courses, not total sections; number ranged from 2,750-3,000 per quarter in 2006

[6] The 10,000 figure for UCLA combined both GA and departmentally scheduled classrooms

[7] The number ranged from 9,300 to 9,800 per semester in 2007, for 4,000 courses offered

[8] For Fall and Winter terms; Spring, Summer, and Spring-Summer terms have many fewer students

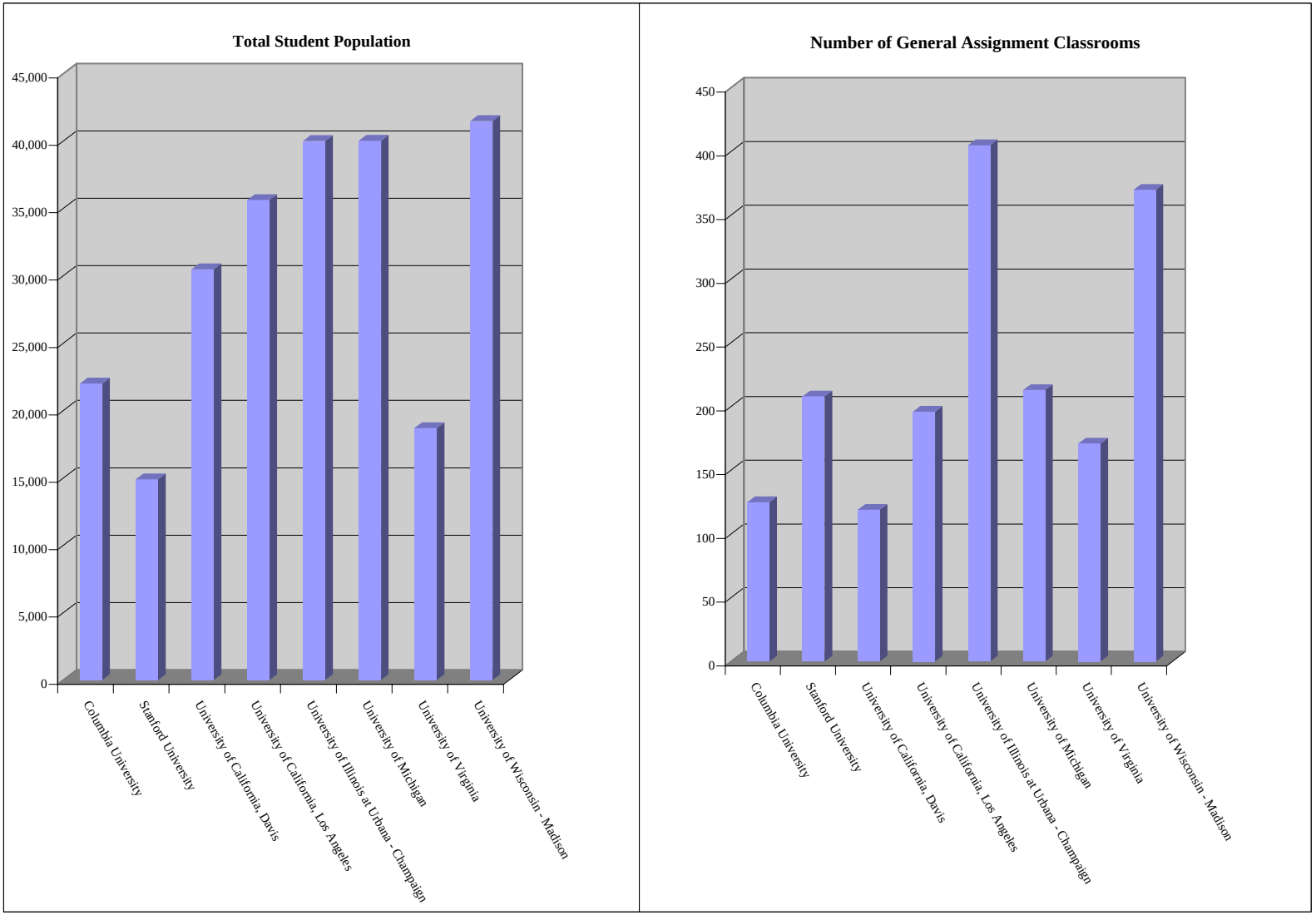
[9] Includes wet labs, class labs, studios, workshops, which are akin to department classrooms at other universities

[10] Plus 500 lab sections

[11] Approximately 9,000 including departmental classrooms

Appendix B-2

Comparator University Student and Classroom Graphs



Appendix B-3
Classroom Management Decision-Making Structure at Comparator Universities

University	Chief University Officer	Senior University Administrator	Next Reporting Level of University Classroom Management Units	Units Involved in Classroom Management	Units Involved in Classroom Management
Columbia University	President	- Provost & Vice Provost for Arts & Sciences	- Executive Vice President, Administrative and Student Services - Executive Vice President, Columbia University Facilities Executive Vice President – Columbia University Facilities	- Registrar - CUIT (Classroom Instruction Technology & Maintenance of Multi-media Services) - Facilities Operations - Facility Design & Construction	
Stanford University	President	- Provost	- Vice Provost Student Affairs - Vice President for Land, Buildings & Real Estate (Reports jointly to President and Provost)	-University Registrar and Associate Vice Provost - Associate Vice President, Academic Projects & Operations - Associate Vice President, Finance & Administration	- Associate Registrar Scheduling & Classroom Admin. - Associate Director Student Information Services -Associate Vice Provost Facilities Operations - Senior Director Capital Planning & Space Management
University of California, Davis	Chancellor	- Provost & Executive Vice Chancellor	- Vice Provost for Academic Personnel - Vice Provost for Information & Educational Technology, Chief Information Officer - Vice Chancellor for Resource Management & Planning - Vice Chancellor for Student Affairs - Vice Chancellor for Administration	- Budget & Resource Management - Office of the University Registrar	- Architects & Engineers - Facilities Mgmt
University of California, Los Angeles	Acting Chancellor	- Executive Vice Chancellor & Provost	- Vice Chancellor Business & Administrative Services - Vice Chancellor Student Affairs	- Assistant Vice Chancellor General Services - Assistant Vice Chancellor Student Academic Services	- Facilities Management - Registrar

University	Chief University Officer	Senior University Administrator	Next Reporting Level of University Classroom Management Units	Units Involved in Classroom Management	Units Involved in Classroom Management
University of Illinois at Urbana-Champaign	Chancellor	- Provost & Vice Chancellor for Academic Affairs _____ - Executive Director, Facilities Services	- Associate Provost Enrollment Management Services _____ - CIO _____	- Registrar _____ - CITES _____ - Planning - Maintenance	- Associate Registrar _____ - Classroom Technology (Class Tech) _____ - Space Management – Associate Dir. Space Management - Building Maintenance - Building Services
University of Michigan	President	- Provost & Executive Vice President for Academic Affairs _____ - Executive Vice President and Chief Financial Officer	- Senior Vice Provost for Academic Affairs _____ - Vice Provost for Academic Information _____ - Associate Vice President for Facilities and Operations	- Office of the Registrar - CAEN (Computer Aided Engineering Network) _____ - Information Technology Central Services (ITCS) _____ - Plant Operations	
University of Virginia	President	- Vice President & Provost _____ - Executive Vice President & COO	- Associate Provost Academic Support and Classroom Management _____	- Office of Real Estate & Management - Registrar - Facilities _____ - Information Technology & Communications	
University of Wisconsin - Madison	Chancellor	- Vice Chancellor for Administration	- Facility Planning & Management	- Space Management - Capital Planning & Development - Campus Planning & Landscape Architecture -Physical Plant	

Appendix B-4
Funding for General Assignment Classrooms at Comparator Universities (approximate figures)

University	Classroom Renovation; Building Renovation and Construction	Classroom Maintenance and Furniture/Furnishings	Instructional Technology	Other Funding
Columbia University	Budgeted $10M for five years. $7.5M for major building renovations and priority projects. The remainder spent for "summer refresh" (see next column). By aligning with other project budgets, the $10M was augmented by an additional $24M from infrastructure projects including revamping ventilation systems.	$500K per year for "summer refresh" of classrooms for 5 years. Additional budget for maintaining rooms (whiteboards, etc) throughout the year as needed.		
Stanford University	Not specified. Major rebuilding and renovation after Loma Prieta earthquake. Considerable investment in new buildings through private funding.	$150K per year for classroom furniture & furnishings. $150K per year for repair & maintenance, remodeling, moving walls around, etc. $200K per year for facilities cleaning contract.	$500K per year.	Maintenance budget does not include classroom & maintenance staff salaries and benefits.
University of California, Davis	Not specified.	$700K budgeted annually for GA classrooms – usage is need-driven.	Need driven, drawn out of the $700K budget under "Maintenance Furniture/Furnishings" column.	Special needs budget can be presented and considered separately as needed.
University of California, Los Angeles	$160K per year for general improvements.	$70K to $80K per year for preventative and deferred maintenance. $30K to $50K per year for repair and replacement of classroom furniture and fixtures (excluding portable audio/visual equipment).		Other budget available as needed for facilities maintenance.
University of Illinois at Urbana-Champaign	$2M per year for classroom renovation and technology (Chancellor's Classroom Improvement Initiative) since 1994. With supplemental funds, $30M spent in total. Effort to restore core academic facilities tied to debt service plan for deferred maintenance. (See Other Funding").	$150-200K per year.	Not specified. The cost of Integrated Teaching Systems technology included in the classroom renovation initiative ($85K or more per unit installed in many of the 165 renovated classrooms).	New system-wide and campus initiatives seek to fund deferred maintenance and rectify annual buildings & grounds budget shortfall. Strategic Plan calls for recurring debt service fund to support as much as $200M of borrowing. Funds to come through internal reallocation and special fees.

University	Classroom Renovation: Building Renovation, Construction	Classroom Maintenance and Furniture & Furnishings	Instructional Technology	Other Funding
University of Michigan	$1.5M per year for minor renovations, upgrades and maintenance for GA classrooms through the Classroom Renovation Fund. $500K per year for ADA upgrades.	Building services costs assigned based on space type and finish by building type. Overall, about $3.71 per sq. ft. received for maintenance – including custodial and grounds. Maintenance dollars assigned based on overall equipment content.		
University of Virginia	Additional incremental renovation of $400K per year through revenue raised from student fee for GA lab upkeep. Funding for new buildings for every undergraduate school with classrooms by 2012 will come from the State and private funds to include General Obligation Bonds wherein VA taxpayers pay back UVA's lender while continuing to raise remaining necessary funds through private donations. One of the new buildings will require 100% private funds.	$350K per year from the State for maintenance of GA classrooms; out of the $350K, $100K-$110K goes to furniture for GA classrooms; this money may not be used for technology, repair of roofs, or wiring. UVA, in its annual budget request to the State, via separate line items, asks for additional funding for gutting and renovation of classrooms and for classroom equipment.	UVA asks for funding annually for equipment via a specific line item in the budget; the equipment under this line item may be used for direct instruction only.	
University of Wisconsin - Madison	$1.4M in 05/06 received from the Instructional Technology Improvement Program for major classroom remodeling projects.	$100K per year for most basic needs such as carpet, ceiling, and tiles.	$670K per year for new instructional technology installations and upgrades.	Physical Plant department general maintenance fund as needed.

Appendix C

Campus Units/Committees Involved with Classroom Management at the University of California, Berkeley

C-1 Campus Units/Committees Involved with Classroom Management at the University of California, Berkeley

Appendix C-1

Campus Units/Committees Involved with Classroom Management at the University of California, Berkeley

CCCPM - Campus Committee on Classroom Policy and Management is closely affiliated with the campus Registration and Enrollment Policy Committee and works with that group regarding policy issues related to classroom use, scheduling, and management. On topics related specifically to classroom space, the committee also works closely with the Space Assignments and Capital Improvements Committee (SACI). Similarly, on topics related to instructional technology in classrooms, it works closely with the Educational Technology Committee (ETC), a subcommittee of the Campus Computing and Communications Policy Board that was created to plan and coordinate the development of instructional technology for the campus. The Committee or its subcommittees will be asked periodically to draft reports on topics related to classroom matters. Topics may include, but are not limited to, the long-range plan for classrooms; recovery of classroom facilities following major disasters; summer use; construction and design standards for classrooms; renovation plans; and instructional technology in classrooms. Committee meets three times a year for 2 hours each meeting.

SACI - Space Assignment and Capital Improvements Committee advises the campus administration on plans and policies for use of existing space and for capital improvements needed for the Berkeley campus. The committee reviews and evaluates the use of space and requests for space, determines or recommends space reassignments, advises the administration on individual proposals for major and minor capital improvement projects, and recommends priorities for the campus' five-year State-funded Capital Improvement Program. SACI makes final decisions on most space matters and presents recommendations to the Chancellor for final approval if the resources involved are large. SACI has two permanent standing subcommittees (Naming of Buildings and Outdoor Art) and a number of other standing and ad hoc subcommittees. Several building space subcommittees have been established to review space issues in multi-unit buildings and recommend internal building space reassignments. For major capital project proposals, SACI appoints Academic Effect Study subcommittees from faculty nominated by the Senate to examine and advise on such proposals at an early stage in their development. SACI also administers the campus' Temporary Building Policy, receives presentations on project designs, and provides advice on a variety of issues related to space.

CTC - Campus Technology Council chaired by UC Berkeley's CIO, consists of 10 Associate CIO's representing different campus constituencies. The CTC is being developed by CIO Shel Waggener as the new, consolidated, campus Information Technology (IT) governance structure. The CTC identifies and prioritizes campus wide information technology needs and opportunities, in support of UC Berkeley's mission. For the first year, the Associate CIOs will work as a group to review and prioritize IT proposals submitted during the FY 2007-2008 campus budget process. The CTC's recommendations will be considered for funding by the CIO and the Chancellor's Cabinet.

SMCP - SPACE Management and Capital Programs is responsible for management, utilization, planning, and analysis of space; development of the major and minor capital improvement programs; maintenance and distribution of space information; and naming of facilities. SMCP is the campus liaison with the Office of the President in these areas and supports campus decision-making by providing analysis to the administration, advice to campus units, and staffing for the campus' Space Assignments and Capital Improvements Committee (SACI). SMCP analyzes requests for space for new and continuing programs, provides recommendations to SACI, and conducts space surveys. It manages the campus review process for capital improvement proposals and the development of priorities for the capital improvement program, establishes campus space and project committees, and carries out planning for particular projects. SMCP works with the Office of the President to achieve approvals from the Regents and funding from the State. It manages the Academic Effect Study

process, a mechanism agreed upon by the Academic Senate and administration for early review of the academic impacts of planned projects. SMCP also manages the facilities naming and outdoor art approval processes and works with appropriate campus agencies on aspects of physical planning such as deferred maintenance, leased space, temporary buildings, and landscape matters. SMCP maintains the official campus facilities database, the campus historic map, and small-scale building floor plans; prepares external reports on space and space utilization for the State and other agencies; and develops room numbering schemes for the campus.

Facilities Services - Capital Projects provides the Berkeley campus with a physical environment of the highest quality that supports the teaching, research and public service mission of the University of California. Buildings, infrastructure and landscapes of the campus should reflect the excellence and diversity that are the hallmark of the academic enterprise at UC Berkeley. This vision is reflected within Facilities Services as a commitment to people, their customers and to the campus legacy.

> Capital Projects (CP) manages the planning, design, construction, retrofitting, and restoration of campus buildings and their surroundings. More than 140 skilled professionals work in CP as architects, landscape architects, planners, engineers, inspectors, construction specialists, contract administrators, accountants, and administrative personnel to serve the campus community.
> http://www.cp.berkeley.edu/CP.html
>
> Physical Plant-Campus Services (PP-CS) seeks to continuously improve facilities for the campus community. To maintain a campus that is conducive to excellence in learning and research, PP-CS provides a full range of services including: custodial and grounds support, building maintenance, pest management, recycling and refuse collection, and management of the utility infrastructure. PP-CS also manages the purchase and operation of energy resources and provides specialized engineering and technical services.
> http://physicalplant.berkeley.edu/home.asp
>
> The Real Estate Services Office (RESO) is responsible for commercial real estate leasing and property management, on- and off-campus. RESO offers a full range of services to campus departments needing off-campus space or leasing out campus space: from articulating space requirements to negotiating and executing leases. RESO serves as the University's liaison with landlords for any landlord/tenant-related issues. RESO also reviews Facility Use Permits allowing campus groups to use facilities away from the campus, manages the Campus Filming Program and provides market information on commercial real estate in the Berkeley area for campus use.
> http://www.cp.berkeley.edu/reso/

ECPC – Executive Campus Planning Committee is establishing a new, clear approval process for capital projects. The ECPC under the policies and guidelines articulated in the 2020 LRDP shall be integrated into the campus approval process, to ensure investment decisions that both optimize the use of resources and conform to the vision and policies in the 2020 LRDP. The 2020 LRDP (Long Range Development Plan) is a master plan designed to shape renewal of the campus in a way that supports key academic goals and preserves the university's historic architecture, natural beauty and unique character. Because UC Berkeley is a dynamic organization, the names of organizational units and the details of each task sequence in the process may evolve over time, but the overriding concept of a comprehensive, deliberative evaluation of each project at each stage of program and design would continue for the duration of the 2020 LRDP.

Appendix D

Best Practices Preliminary Research and Comparable Universities

D-1 Comparable Educational Institutions, Initial List

D-2 Best Practice and Resource Preliminary Research

D-3 Comparable Universities – Classroom Attributes, Pre-Research

D-4 Best Practice Universities, Short List

Appendix D-1: Comparable Educational Institutions, Initial List

Primary Source >>>>>	***The Carnegie Foundation for the Advancement of Teaching, based on data from 2003 & 2004, carnegiefoundation.org/classifications/sub.asp,***	***The Cost of Undergraduate Education at a Research Univ II, Charles Schwartz, Prof Emeritus, UCB, Dec 18, 2005, ist-socrates.berkeley.edu***	***AAUDE/spring04/analysis/mapscode, Univ of Colorado at Boulder, Board of Regents Str Planning Study, Peer Fin. Comp. Data, 4/10/2006***	***Walter Wong's Recommendations***	***Lavern Lazzereschi's Recommendations***	***SUMMARY (universities that appear in more than one of these sources)***	***(additional source) NRC, 1995***
Secondary Source>>>>>>	***NACUBO***		***Notes, UCB Council of Deans Mtg, Feb 21, 2006; AAU data source mentioned for Salary Survey***				
Measures >>	***Public, 4-yr or above, Research Univ (or very high research activity), Enrollment Profile majority undergraduate), Size & Setting (large, 4-yr, primarily residential)***	***Research, Public (comparison is at the system level not by campus)***	***Enrollment levels, Fees Rate, Budgets, Prof avg salary, Level of degrees pursued, Sponsored research, Revenues avail to support acad programs,***	***Comparable Universities for Class ACT Project (see list of questions sent to Walter & Lavern)***	***Comparable Universities for Class ACT Project (see list of questions sent to Walter & Lavern)***		
	SUNY at Buffalo **UC Berkeley** **UC LA** **Univ of Illinois at Urbana-Champaign** **Univ of Michigan - Ann Arbor** Univ of N Carolina at Chapel Hill Univ of Pittsburgh- Main Campus Univ of S Carolina, Columbia Univ of Tennessee, The **Univ of Virginia - Main Campus**	**UC** **U Illinois** **U Michigan** **SUNY - Buffalo** **U Virginia**	**UC Berkeley** **UC LA** UC Davis UC Irvine UC SD UCSB **Virginia** Wisconsin **Illinois** **SUNY - Buffalo** SUNY-SB Colorado **Michigan** **Texas** Texas A&M more……	**Michigan** **Illinois** **Virginia** **Texas** Columbia U Penn U Toronto MIT **UC Berkeley**	**Virginia** **UCLA** Davis Wisconsin **Michigan** **Texas** **UC Berkeley**	**Virginia** **UCLA** **Michigan** **Texas** **Illinois** **SUNY - Buffalo** **Wisconsin** **Davis**	see Student Union prev LDP Report

Appendix D-2: Best Practice and Resource Preliminary Research

Best Practices

	Name of Educational Entity	*Best Practice*	*Subject*	*Key Findings*	*Conclusions*	
1	APPA's Center for Facilities Research and GDA Education Research (APPA is an association of facilities professionals)	Best Practice: The Impact of Facilities on Recruitment and Retention of Students	online, 16,153 students from 46 institutions in USA & Canada	50% respondents did classroom buildings extremely or very important when selecting a college	26% of students said inadequate facility was a reason to look elsewhere; 24% described classrooms in defining facilities	there is a distinct, important relationship between student satisfaction, choice of institution, and the condition of facilities
2	GenevaLogic; Andrew Zucker, The Concord Consortium, Evaluative Research funded by the NSF, Nov 2005	One on One Computing Models, Lessons Learned	Assess model's impact on classroom management and teaching in general in the future	Lessons learned: careful attention to planning, training, professional development, hardware and software, managing change, program monitoring and evaluation		
3	Univ of Dayton, 2003	Best Practices in e-Classrooms	Use of notebook in classroom; pre-charging batteries; upgrading furniture and/or the classroom architecture to enable e-classroom; e.g. of a model classroom that exist at UD, the John O. Geiger Studio in the LTC.			

Awards

	Name of Educational Entity	*Award*	*Criteria*	*Comment*	
4	Univ of Michigan, Anne Arbor	APPA's Award of Excellence, July 2006	for its commitment to excellence in the field of educational facilities	"The campus is impressive in both its exterior and interior spaces, and their communication and training programs are unique and top quality."	
5	Univ of Alabama, Birmingham	APPA's Award of Excellence, July 2006	for its commitment to excellence in the filed of educational facilities	"The Univ….very much succeeds in its mission to provide a quality environment conducive to the well being of students, …faculty, staff and to provide an environment which will enhance instruction, … and research."	

Classroom Design Studies

	Name of Educational Institution or Entity	*Source/Type*	*Topic*	*Emphasis*	*Outcomes*	
6	University of Georgia, School Design and Planning Laboratory, Feb. 2005	NCEF (National Clearinghouse for Educational Facilities) Resource List	Efficient and Effective Classroom Designs that Accommodate Technology for Promoting Learning	increased emphasis on the design of classrooms; first priority on needs of students	educational technologies enhance the learning environment	
7	Univ of North Carolina, Institute for Academic Technology, Aug 1998	NCEF (National Clearinghouse for Educational Facilities) Resource List	Guide, Computer Classroom and Laboratory Design	Incorporating computer technology into the education process involves redesigning the physical space where instruction takes place	Examples and advice on modifying existing classrooms to accommodate new technologies and on designing and building new teaching environments	
8	School Planning and Management, Feb 2006	Building Blueprints: Classrooms and Teaching Spaces	Innovative school facilities in Hammond, Indiana	Optimal learning technologies, flexible spaces with operable walls, thoughtful casework and furnishings, and sound reinforcement technology		
9	American School and University, Aug 2005	Classrooms	8 classroom facilities selected for interior showcase	Projects selected for functionality, sustainability, craftsmanship, cost-effectiveness, and community connection		
10	Clearing House, Aug-Sep 2004	Required Changes in the Classroom Environment: It's a Matter of Design	The New York City Dept of Education has set forth new mandates for the redesign of classrooms.	On importance of harmonizing student learning style preferences. On adaptations for sound preferences, lighting needs, and temperature controls.		

Classroom Models or Standards

	Name of Educational Institution or Entity	*Model or Standard*	*Description*	*Criteria*		
11	Virginia Comm College System	Classroom model	Defines a minimum set of expectations and configurations for shared classrooms. Model reviewed to reflect changes in technology and customer requirements	Standardization of equipment, configurations, and support of classrooms	Establish standardized scheduling priorities	Other configurations include electronic lecture hall with electronic white boards, computer projection equipment, network access, other electronic peripherals
12	Georgia , Liberty County, 2002	Georgia Performance Standards Model Classroom	Teacher training, standards based curriculum, assessment that positively impact student achievement	Establish model technology classrooms. To impact student achievement through the creation of learning environments with technology use	An assessment component included	
13	Georgia Tech	A Scaleable Workload Model of Media-Enhanced Class	Such classrooms include equipment for presenting multimedia streams and for capturing streams of information (audio, video and notes) during a lecture.	The model characterizes the workload of a centralized or distributed server that supports multiple classrooms.		
14	Educational Tech Support Center, Vancouver, Washington, May 2005	The Sustainable Classroom Model	A Classroom technology model that utilizes a broad number of highly visual, interactive technologies with a single computer in order to support the nine instructional strategies that are identified in Robert Marzano's book Classroom Instruction that works	Engage students in their learning experiences through interactive whiteboards, panels, document cameras, projectors, wireless response systems and classroom audio systems.	More info about 3-tier technology resources in classrooms	
15	Univ of Dayton, 2003	Best Practices in e-Classrooms	Use of notebook in classroom; pre-charging batteries; upgrading furniture and/or the classroom architecture to enable e-classroom; e.g. of a model classroom that exist at UD, the John O. Geiger Studio in the LTC.			

Policy and Research Links provided by the American Council on Education

	Name of Educational Institution or Entity	*Descriptions*				
16	Association of American Universities	Association of public and private research universities. Assists with federal and institutional policy development.	Assists with federal and institutional policy development.	Extensive listing of policy documents and reports, including teacher education, distance learning, and accreditation.		
17	EDUCAUSE	Formed in 1998 with the merger of EDUCOM & CAUSE	Helps to shape and enable transformational change in higher education through the introduction, use, and management of information resources and technologies in teaching, learning, scholarship, research and institutional management.			
18	University Council for Educational Admin	Consortium of major research universities with doctoral programs in educational leadership and policy	Committed to improving the preparation of educational leaders and promoting the development of professional knowledge in school improvement and admin.			
19	Western Interstate Commission for Higher Education	Facilitates resource sharing and cost-effectiveness services among 15 western states and their public and private colleges and universities.				
20	SUNY at Buffalo	Learning Productivity Network	Research and policy center dedicated to improving student learning productivity in higher education			
21	Center for Technology in Learning	Dedicated to improving learning and teaching through innovation and inquiry in computing and communications.	Conducts research in the areas of assessment, evaluation, learning environments, and technology development.			

Policy and Research Links provided by the American Council on Education

	Name of Educational Institution or Entity	*Descriptions*				
22	Carnegie Classification of Institutions of Higher Education	Classification of institutions of higher learning in the US				
23	Chronicle of Higher Education Free Resources	institutions publications, and programs in all segments of education.	Available to subscribers and non-subscribers			
24	College and University Rankings	Comprehensive site on university rankings and controversies				
25	National Center for Education Statistics	Collects, analyzes, and makes available data related to education in the US and other nations				
26	National Institute on Educational Governance, Finance, Policy-Making, and Management	leadership and support to develop and disseminate information that helps guide the design and implementation of	effective governance strategies, coherent policy formation, reasonable management decisions, and equitable finance allocations that will support high levels of learning by all students.			

Appendix D-3

Comparable Universities - Classroom Attributes, Pre-Research

School	Positive Attributes
Columbia	Experimental Digital Classrooms AV Equipment Dell Ptiplex GX Computer Hardware & Software Video conferencing capability Facilities for students: wireless & ethernet connections power outlets throughout the classrooms Classroom improvements, renovations CUIT Electronic classrooms
Michigan	Multi-year space initiative APPA's 2006 award for excellence for commitment in in the field of educational facilities
Illinois	Chancellor's Classroom Improvement Initiative Future GA classroom requirements Fully equipped technology-enhanced classrooms Classroom sub-committee membership Funding recommendations Smart classroom initiative Special emphasis visit, NCA report on facilities & org environment Equipment in classrooms Flexible classroom spaces
Univ of Texas, Austin	Campus renovation project for science and tech, 2005 Create and sustain physical environments that enhance and complement educational goals, including appropriate classrooms,…… . (Adopted as strategic objective in 2004.)
SUNY, Buffalo	News reports: Classroom complaints continue at FSEC, 2004 Loss of classrooms impacts scheduling, causes overcrowding, 2004 Survey of instructional facilities done to assess faculty concerns (survey and results available online) results forwarded to the Faculty Senate Research Link: Learning Productivity Network; research and policy center dedicated to improving learning productivity in higher education

Appendix D-4

Best Practice Universities, Short List

	Name of University	*Referral or Source*	*Criteria/Attributes*
1	Stanford University	Lavern Lazzereschi, UCB Registrar's Office	Research, Size
2	Penn State	Lavern Lassereschi, UCB Registrar's Office	Planning classroom renovations, setting design standards, having a good plan for routine maintenance
3	U Penn	Walter Wong, UCB Registrar's Office	Introduced classroom initiative in the past 5 years
4	U Toronto	Walter Wong, UCB Registrar's Office	
5	MIT	Walter Wong, UCB Registrar's Office	
6	The Sir John Cass Business School	EDUCAUSE	Learning Spaces case study
7	Eckerd College, The Learning Studios Project	EDUCAUSE	Learning Spaces case study
8	MIT The Student Learning Center	EDUCAUSE	Learning Spaces case study
9	The University of Georgia	EDUCAUSE	Learning Spaces case study
10	Univ of Dayton	Best Practice pre-research	Best Practices in e-Classrooms
11	Univ of Alabaman, Birmingham	Best Practice pre-research	APPA's award for excellence in the field of educational facilities
12	Univ of Georgia, School Design and Planning Lab	NECF, Best Practice pre-research	Efficient and Effective Classroom Designs that Accommodate Technology for Promoting Learning
13	Univ N Carolina, Institute of Academic Tech	NECF, Best Practice pre-research	Guide, Computer Classroom and Lab Design

Appendix E

Comparable University Research Tools

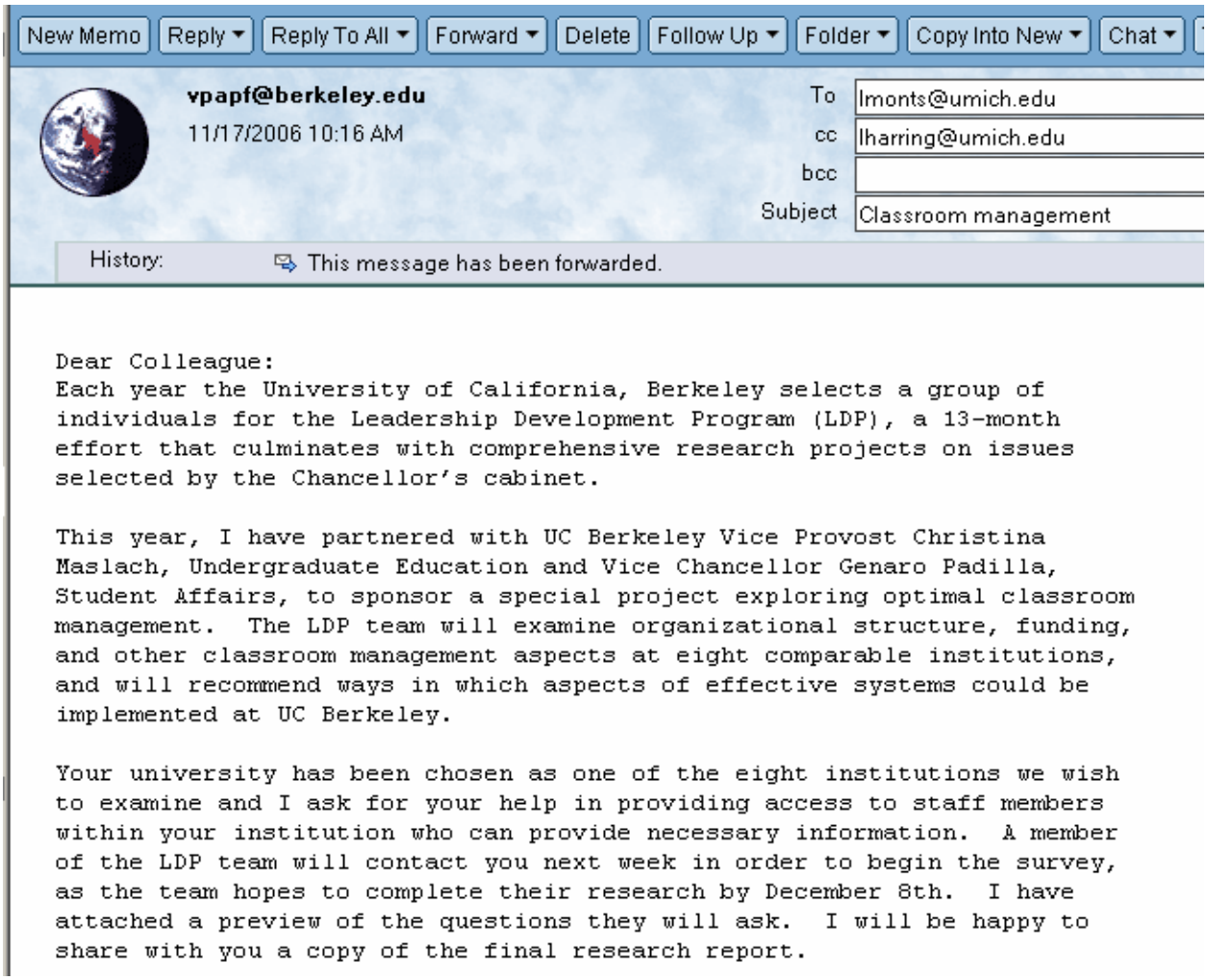
E-1 Introductory Letter

E-2 Interview Questionnaire

E-3 Interview Tool

E-4 Case Study Format

Appendix E-1
Introductory Letter



New Memo | Reply | Reply To All | Forward | Delete | Follow Up | Folder | Copy Into New | Chat

vpapf@berkeley.edu
11/17/2006 10:16 AM

To: lmonts@umich.edu
cc: lharring@umich.edu
bcc:
Subject: Classroom management

History: This message has been forwarded.

Dear Colleague:
Each year the University of California, Berkeley selects a group of individuals for the Leadership Development Program (LDP), a 13-month effort that culminates with comprehensive research projects on issues selected by the Chancellor's cabinet.

This year, I have partnered with UC Berkeley Vice Provost Christina Maslach, Undergraduate Education and Vice Chancellor Genaro Padilla, Student Affairs, to sponsor a special project exploring optimal classroom management. The LDP team will examine organizational structure, funding, and other classroom management aspects at eight comparable institutions, and will recommend ways in which aspects of effective systems could be implemented at UC Berkeley.

Your university has been chosen as one of the eight institutions we wish to examine and I ask for your help in providing access to staff members within your institution who can provide necessary information. A member of the LDP team will contact you next week in order to begin the survey, as the team hopes to complete their research by December 8th. I have attached a preview of the questions they will ask. I will be happy to share with you a copy of the final research report.

Thank you in advance for you support. Please feel free to contact me or Sarah Nathe in my office (sknathe@berkeley.edu or 510-642-6414), with any questions or concerns.

Sincerely,

Catherine P. Koshland
Vice Provost, Academic Planning & Facilities
UC Berkeley
223 California Hall #1500
Berkeley, CA 94720
(510) 643-4193

UCB Interview Tool.doc

Appendix E-2
Interview Questionnaire

UC Berkeley Classroom Management Interview

November 15, 2006

General Information

We will open with some basic factual questions in order to get a sense of the overall environment at your particular university.

- As of the fall of 2006, how large is your student body (both undergraduate and graduate)?
- How many classrooms does your institution have? How many of those are general assignment or in a common pool? If you have no GA classrooms as such, what system do you use?
- How many classes are taught in any given semester or quarter?
- Please describe your typical (vanilla) general assignment classroom. (If no GA classrooms, this question will be skipped)
- What type of technology is in the typical classroom?
- How would you rate the overall satisfaction of the faculty and students with your classrooms?
- How much nighttime classroom utilization is there? Would you say that you offer nighttime classes: a) frequently b) seldom or c) never
- What scheduling software is used on your campus?

Organizational Structure

The management of classrooms includes space allocation, scheduling; maintenance and cleaning of classrooms; and instructional technology.

- What unit at your campus is responsible for each of the above areas?
- What is the budget for maintenance?
- How do these responsible units relate to each other in your organizational structure?
- What are the pros and cons (germane to classroom management) of your organizational structure?
- How do these units communicate with each other around issues of classroom management?
- Are you able to provide an org. chart?
- At UC Berkeley we have a campus committee on classroom policy and management that is co-chaired by Vice Chancellor Genaro Padilla, Student Affairs and Vice Provost Catherine Koshland, Academic Planning and Facilities. Do you have a similar committee? If so, can you send us a list of participants?

- Please think of an important decision about classrooms. Please tell us who made that decision and how the decision was made.

Budget and Finance
We are interested in learning about how your institution receives and allocates funding for its classrooms.

- Please provide any insight into the analysis that drives the criteria for funding-stream/budgeting process for classrooms at your institution. Specifically, is there a calculation that drives the allocation of funds? If so, how are the criteria that drive the calculation determined, and what are they? How does this compare with your campus' primary budget mechanism?

- What is the primary funding mechanism for your general assignment classrooms? (If no GA classrooms, this question will be skipped)

- Please describe how the classroom needs determination and the budget decision making process intersect.

We recognize that the following sets of questions related to funding may or may not be applicable to your particular institution:

- If your university is satisfied with the level of funding for your classrooms, please share any strategies you may have used to obtain the funding. Specifically, how was the classroom issue elevated to importance sufficient to warrant funding?

- If your university receives state funding, how do you leverage block grants? Is state money specifically allocated for classrooms, and if so, does it come with any restrictions?

Leadership in Classroom Management and Improvement
The responsibility for the different aspects of classroom management at UC Berkeley is diffuse, with no one entity providing leadership. We would like to explore leadership in classroom management and improvement at your institution.

- How are classroom needs determined?

- What is your philosophy regarding classroom only buildings vs. classrooms peppered throughout multi-use buildings?

- If your university is investing in any/all of the following: classroom technology, classroom furnishings, new classrooms, new buildings, how are those items prioritized?

If upgrades of existing classrooms or new capital projects for classrooms have-been undertaken in the past ten years, please answer the following questions:

- What leadership emerged to initiate/guide the classroom improvement process? Please describe the process in which arguments were made, and to whom, to impact the process.

- What roadblocks were faced during the improvement campaign and implementation process? What strategies worked and did not work to overcome those roadblocks?

Looking to the Future

As learning is increasingly taking place outside traditional classrooms, UC Berkeley is exploring innovations in teaching environments.

- What innovations would you like to see in the design and management of classrooms?

- In your opinion, what contributes most to creating an exciting and engaging learning environment?

Appendix E-3
Interview Question Tool

Interview Details

1	**Name of University**	
2	LDP Interviewer Name	
3	Date of Interview	
4	University Contact Name	
5	University Contact Title	
6	University Contact Phone	
7	University Contact Email	

General Information

We will open with some basic factual questions in order to get a sense of the overall environment at your particular University.

1	As of the Fall of 2006, how large is your student body (both undergraduate and graduate)?	
2	How many classrooms does your institution have? How many of those are general assignment or in a common pool? If you have no GA classrooms as such, what system do you use?	
3	How many classes are taught in any given semester or quarter?	
4	Please describe your typical (vanilla) general assignment classroom. (If no GA classrooms, this question will be skipped)	
5	What type of technology is in the typical classroom?	
6	How would you rate the overall satisfaction of the faculty and students with your classrooms?	
7	How much nighttime classroom utilization is there? Would you say that you offer nighttime classes: a) frequently b) seldom or c) never	
8	What scheduling software is used on your campus?	

Organizational Structure

The management of classrooms includes space allocation, scheduling; maintenance and cleaning of classrooms; and instructional technology.

1	What unit at your campus is responsible for each of the above areas?	
2	What is the budget for maintenance?	
3	How do these responsible units relate to each other in your organizational structure?	
4	What are the pros and cons (germane to classroom management) of your organizational structure?	
5	How do these units communicate with each other around issues of classroom management?	
6	Are you able to provide an org. chart?	
7	At Berkeley we have a campus committee on classroom policy and management that is co-chaired by Vice Chancellor Genaro Padilla, Student Affairs and Vice Provost Catherine Koshland, Academic Planning and Facilities. Do you have a similar Committee? If so, can you send us a list of participants?	
8	Please think of an important decision about classrooms. Please tell us who made that decision and the decision was made.	

Budget and Finance

We are interested in learning about how your institution both receives and allocates funding for its classrooms.

1	Please provide any insight into the analysis that drives the criteria for funding-stream/budgeting process for classrooms at your institution. Specifically, is there a calculation that drives the allocation of funds? If so, how are the criteria that drive the calculation determined, and what are they? How does this compare with your campus' primary budget mechanism?	
2	What is the primary funding mechanism for your general assignment classrooms? (If no GA classrooms, then this question will be skipped)	
3	Please describe how the classroom needs determination and the budget decision making process intersect.	

We recognize that the following sets of questions related to funding may or may not be applicable to your particular institution:

1	If your University is satisfied with the level of funding for your classrooms, then please share any strategies you may have used to obtain the funding. Specifically, how was the classroom issue elevated to importance sufficient to warrant funding?	
2	If your University receives state funding, how do you leverage block grants? Is state money specifically allocated for classrooms, and if so, does it come with any restrictions?	

Leadership in Classroom Management and Improvement

The responsibility for the different aspects of classroom management at the University of California, Berkeley is diffuse, with no one entity providing leadership. We would like to explore leadership in classroom management and improvement at your institution.

1	How are classroom needs determined?	
2	What is your philosophy regarding classroom only buildings vs. classrooms peppered throughout multi-use buildings?	
3	If your university is investing in any/all of the following: classroom technology, classroom furnishings, new classrooms, new buildings, how are those items prioritized?	

If upgrades of existing classrooms or new capital projects for classrooms have-been undertaken in the past 10 years, please answer the following questions:

1	What leadership emerged to initiate/guide the classroom improvement process? Please describe the process in which arguments were made, and to whom, to impact the process.	
2	What roadblocks were faced during the improvement campaign and implementation process? What strategies worked and did not work to overcome those roadblocks?	

Looking to the Future

As learning is increasingly taking place outside traditional classrooms, the University of California, Berkeley is exploring innovations in teaching environments.

1	What innovations would you like to see in the design and management of classrooms?	
2	In your opinion, what contributes most to creating an exciting and engaging learning environment?	

Appendix E-4
Case Study Format

Guide 'Case Study' Write-Ups

1) Overall Description of Current Classroom Management Practices *(Note: this section is for facts. You will combine your answers to the questions in **each section** of the tool and insert it under the appropriate headings below. The information should be cohesive, readable, and flow (rather than being unrelated 'responses' to the questions that were asked).*

   GENERAL INFORMATION
   Information obtained from the GENERAL INFORMATION questions in the tool **except information that falls under categories 2, 3 or 4 below; if relevant information is more appropriately placed in 2, 3, or 4, then mention it here, and refer to where more details can be found.**

   ORGANIZATIONAL STRUCTURE
   Information obtained from the ORGANIZATIONAL STRUCTURE questions in the tool **except information that falls under categories 2, 3 or 4 below; if relevant information is more appropriately placed in 2, 3, or 4, then mention it here, and refer to where more details can be found.**

   BUDGET AND FINANCE
   Information obtained from the BUDGET AND FINANCE questions in the tool **except information that falls under categories 2, 3 or 4 below; if relevant information is more appropriately placed in 2, 3, or 4, then mention it here, and refer to where more details can be found.**

   LEADERSHIP IN CLASSROOM MANAGEMENT AND IMPROVEMENT
   Information obtained from the LEADERSHIP IN CLASSROOM MANAGEMENT AND IMPROVEMENT questions in the tool **except information that falls under categories 2, 3 or 4 below; if relevant information is more appropriately placed in 2, 3, or 4, then mention it here, and refer to where more details can be found.**

2) Advantages of (insert the name of your University) Approach *(Note: this section is for reporting what representatives from your school indicated works well, has been successful, and why.)*

3) Disadvantages of (insert the name of your University) Approach *(Note: this section is for reporting what representatives from your school indicated isn't working well, what would they like to change, and why.)*

4) Future Directions *(Note: this section is for reporting any current or planned undertaking around classroom management. Do they plan any new initiatives or innovations around classrooms? If so, then what was the impetus or leadership for this initiative? What are the challenges? What are the accomplishments?)*

   Information obtained from the LOOKING TO THE FUTURE questions in the tool **except information that falls under categories 1, 2 or 3; if relevant information is more appropriately placed in 1, 2 or 3 then mention it here, and refer to where more details can be found.**

APPENDIX F

Columbia University
Classroom Management Case Study

Appendix F - Table of Contents

Prepared by Rachel Kadosh
Leadership Development Program
University of California, Berkeley

December 2006

Appendix F-1 Case Study

1. OVERALL DESCRIPTION OF CURRENT CLASSROOM MANAGEMENT PRACTICES:

General Information

Columbia University, a private institution, had approximately twenty-two thousand students registered for the fall term of 2006 and a total of approximately 250 classrooms. Roughly half are registrar rooms (general assignment) and the rest are departmental rooms. It is difficult to gauge the exact count of departmental instructional spaces as some departmental classrooms masquerade as meeting rooms. Although the count of twenty-two thousand students includes graduate, undergraduate, and professional students on two campuses, the count of 250 classrooms does not include the Medical Center, some Professional Schools or the School of Public Health, as those schools almost exclusively utilize departmental instructional facilities.

There are approximately six thousand sections offered each semester, only fifty-seven hundred of which might require a room, as rooms are not assigned to independent study sections or any class with enrollment less than five. Classes and the rooms that house them vary in size dramatically:

- There are two large classrooms with fixed, amphitheater seating for 250-400.
- There is a scattering of classrooms with seating for roughly 150.
- There are some mid-sized rooms seating forty to fifty, with seating arrangements varying by the pedagogy of who uses the room most frequently (ie: language courses require moveable seats).
- There are a series of seminar rooms, for twenty to twenty-two people, with movable seats or seats around a large table.

Over the course of the past twelve years, Columbia University has upgraded or refreshed virtually all classrooms. Standard upgrades included wainscoting, new furniture, flooring, paint, and electrical and internet connections for the instructor (and sometimes for the students as well). Rooms include projectors and whiteboards and some have been soundproofed; others located by the street still need soundproofing. All classroom buildings are multi-use, with the main classroom building housing thirty-seven rooms.

The scheduling of classes is currently performed by hand, by one employee, with simple home-grown software tools. The Scheduler uses business rules to make decisions regarding the allocation of rooms. The goal of the summer 2007 implementation of Resource 25 Optimizer (commercial scheduling software) will be to replicate what is currently in the scheduler's mind. Although there is awareness regarding security issues, it does not seem to be a concern for the Campus and night-time utilization is frequent.

Organizational Structure

Responsibility for classrooms is decentralized: The Registrar's office is responsible for space allocation and scheduling. The Facilities Department is responsible for maintenance and cleaning. Columbia University Information Technology (CUIT) is responsible for instructional technology and the maintenance of the multimedia aspects of classrooms.

Space allocation and scheduling requests are prioritized by the Registrar's office as follows:

1) Language classes are scheduled first and foremost as they meet four or five days a week and are difficult to place.

2) As they are of limited size (less than twenty-two per class) core courses are scheduled next, near the college building if possible.

3) Priority is then given to rooms that were previously "owned" by specific departments, but are currently part of the general assignment pool. As Columbia has renovated and created new rooms, deals have been struck with departments whereby the departments agree to give up space for enhanced services. The Registrar has taken over the maintenance and ownership of these rooms, with the understanding, enforced by an actual contract, that the old departmental "owner" has first priority. When a department is interested in turning a classroom over to the general assignment pool, the Registrar inquires as to which hours would continue to be indispensable to the department; the Registrar then performs a calculation to determine whether or not the remaining hours would be of use to the general pool. If the calculation indicates that enough desirable hours would remain after the departmental priority, then a contract is drawn up. The department has a deadline each semester for reserving their priority hours. Once the deadline has passed, the scheduler has free reign to assign the room.

4) Finally, many faculty members prefer to teach in rooms 'down the hall' and a conventional priority is given depending upon the proximity of the department; departments with less clout get lower priority.

The scheduler has strong analytical skills and thinks several moves ahead, like a chess player. She also has strong interpersonal and communication skills, and has built a great deal of goodwill over time. She is conscientious, customer service-oriented and persistent, finding solutions through the juggling and shifting of multiple requests to make accommodations. In addition, the scheduler maintains good relations with administrators at Barnard and Teachers College so that if she is unable to find a room at Columbia University, she can typically get help from them.

The Facilities Department is responsible for the maintenance and cleaning of classrooms. Every summer, facilities staff paint, repair furniture, and install and fix damaged equipment (lighting, furniture, etc.) as needed. Faculty members send concerns or requests via e-mail; these e-mails were initially sent directly to the Manager of Public Space and Programs (in Facilities) who demonstrated a high level of customer service and a fast response time. This led to greater credibility (amongst faculty) for the facilities team and the new renovation efforts; the faculty took the new initiatives seriously, in part, due to the great customer service. When staff in the facilities office is unable to be as responsive as they would like to a request, because of competing requests from other faculty members, professors tend to take it in stride as a result of feeling listened to and understood. Once a request from a faculty member has been received, facilities staff either puts it on a list for the summer refresh or, if the need is more pressing, resolves the issue right away. In addition, there is an end of semester web survey regarding classrooms which informs facilities staff of issues.

Columbia University Information Technology (CUIT) is responsible for instructional technology and the maintenance of the multimedia aspects of classrooms. CUIT was once on the academic side of the organization, but is now combined with the Administrative Information Technology (IT) unit and is a central IT group. Instructors can make a request on-line for the use of electronic

classrooms with audio/visual and internet capabilities. The e-mail request is automatically sent to both CUIT and the Registrar's office thereby alerting the Registrar's office to assign a multimedia classroom, and alerting CUIT crews of the need to maintain the room. CUIT maintenance responsibilities include ensuring that equipment is present and in working order, as well as the opening and closing of the rooms. Refer to Appendix F-4 for more information regarding the Multimedia Classrooms Project.

Classroom needs are determined by academic administrators in partnership with Facilities, with consultation from the Registrar. Despite the decentralization, the various units are not silos, and there is good communication between Facilities, CUIT and the Registrars Office. At one point, there was a unique Assistant Registrar whose position was funded 50% by Facilities—this person was uniquely qualified and very successfully straddled disparate roles within the Registrar's office and facilities management. The VP of Arts and Sciences and the Provost ultimately hold the purse strings and strongly influence the actual budget for classrooms. The overall administration of Columbia University includes the Board of Trustees, the President, and a Senior Executive Vice President with three Executive Vice Presidents reporting to him. Facilities Operations as well as Facilities Design and Construction report into Executive Vice President Ienuso. The Registrar's office and CUIT report into Executive Vice President Hogarty. Executive Vice President Horvath is responsible for Finance.

Also organizationally relevant are the compositions of the Morningside Classroom Committee and of the working group (details regarding the work of these committees can be found in the 'Leadership' section, below). The Morningside Classroom Committee was comprised of faculty and senior administrators, and was chaired by a professor. Administrative members of the Morningside Classroom Committee included executives from Student Services, Office of the Registrar, Office of the Provost-Barnard, Office of the VP for Arts & Sciences, Office of Planning & Institutional Research and Information Services. The Morningside Classroom Committee was a customer of the working group, which was formed to implement its recommendations and is comprised of representatives from facilities management, the faculty, the Registrar's office and Arts and Sciences.

Budget and Finance

Prior to 1997, funding for annual classroom maintenance had historically been haphazard, and had come from a State of Good Repair (SOGR) fund from capital maintenance. Funding stopped altogether in the mid 1990s, and the classrooms subsequently fell into disrepair. In 1997 the Faculty revolted, expressing their extreme dissatisfaction to Provost Cole. The Provost brought the faculty's concern to the attention of Executive Vice President Lloyd who initiated the formation of the Morningside Classroom Committee. The Committee produced a report (Appendix F-3) and a working group was formed to implement the recommendations of the Committee.

A five-year capital plan to renovate general assignment classrooms was created by the working group and was funded for ten million dollars from the Provost, through the Central Budget Office. The total dollars spent over the course of five years ballooned to thirty-four million because the classroom renovations were able to piggy-back on some other slated projects and initiatives, such as a revamp of a building's ventilation system. Overall, 69% of the thirty-four million dollars spent was cash, 18% was debt money, and 13% was in the form of gifts. Of the ten million dollar original budget, five hundred thousand dollars per year was allocated towards a summer refresh of the rooms, and the remaining $7.5 million was earmarked for priority projects.

In addition to a summer refresh budget, Facilities had a budget for maintaining (ie: replacing whiteboards as needed) the rooms throughout the year.

As previously stated, the VP of Arts and Sciences and the Provost ultimately hold the purse strings and strongly influence the actual budget for classrooms. The majority of money for classrooms originates from the Central General Capital Renewal Fund (which is funded by the Central Budget of the main undergraduate College, Arts and Sciences Administration). Other funds are received on a project by project basis, and occasionally through state grants. Although Columbia University receives state funds, no dollars received from the state are specifically earmarked for classrooms. Debt money may be used, depending upon amortization; if ten or more years of life is expected out of the expense (ie: a renovation), then the use of debt money is considered. Finally, Columbia University, especially the largest college which engenders strong affinity amongst alumnae, has done well at raising funds for rooms and has received many generous donations specifically for classrooms where the core courses are taught.

Leadership in Classroom Management and Improvement

The dissatisfaction of Faculty with the classrooms was documented by the Provost's office and delegated to the administration as a serious issue needing immediate attention. Thus the Provost was the impetus for the origination of the Morningside Classroom Committee championed by Executive Vice President Lloyd. Executive Vice President Lloyd reached out to faculty and deans, heard their concerns, and laid out a sensible approach to management and improvement. As previously mentioned in the Organizational Structure section, the working group was formed to implement the recommendations of the Morningside Classroom Committee.

While a five-year plan was being developed by the working group, an initial classroom refresh budget was funded and utilized. After a quick survey of all the classrooms, it was determined that over the first summer *every single classroom* would receive basic upgrades such as paint, flooring, new furniture, etc., as needed. The 'disgusting' classrooms became habitable, the 'bad' classrooms became 'mediocre', and the 'mediocre' classrooms became 'OK'. By utilizing the initial refresh dollars to transform all classrooms, thus impacting all users of the general assignment rooms, the working group was able to garner credibility and make faculty feel seen and heard, which translated into ongoing faculty support.

In order to devise a five-year plan, and to determine how to spend and structure the ongoing upkeep funds, the working group literally locked themselves into a room. Based on what they knew as facilities managers and faculty members, and what knowledgeable external consultants shared with them, they came up with a plan. The working group identified a priority ranking for the worst classrooms, identified the orders of magnitude for costs of projects, and produced lists with a general idea of costs. Ultimately a list of priority ranked potential projects emerged; once funds were allocated, there would be a list of projects ready to go.

In 1999, the working group took the President of the University on a tour of the classrooms and submitted the five-year plan. There was so much momentum and support from senior management, such high visibility for the project, and such a high priority placed on improving the classrooms, that ten million dollars of funding was granted over five years. A portion of the money was set aside for the annual refresh, and the rest was spent on the highest priority projects (as identified by the working group), as well as those projects that synergistically were opportune partnerships (ie: the building ventilation project). As mentioned earlier, the total money spent over the course of five years ballooned to thirty-four million dollars because the classroom renovations were able to piggy-back on some other slated projects, and funds spent on overall

infrastructure benefited classrooms. By touting to the faculty and the world that thirty-four million dollars was actually being spent, the working group signaled, both to faculty and donors, the University's commitment to classrooms.

Mark Burstein, an extremely talented and intelligent executive, played a key leadership role in the working group as Executive Vice President Lloyd's deputy. A key senior player, with the muscle of Executive Vice President Lloyd behind him, Burstein was adept at chairing the working group. Burstein drove the process and his great leadership made it easy to work together and achieve results without wasting effort. The Registrar at the time was also very engaged and well informed, with a very good understanding of data collection and scheduling. A great deal of momentum was built. The members of the working group had the knowledge to make decisions regarding classroom renovations and maintenance, and the authority to execute on those decisions. On particular projects the members of academic departments got involved, faculty were surveyed, and the deans were consulted. The senior leadership of Columbia University was very engaged, as classrooms were a high priority.

The initial five years has passed and the initial funding has been spent. Additional funds were allocated to keep the program going for another few years, and a request for more money will be submitted soon. The Morningside Classroom Committee is now defunct. Various members of the working group view other members as 'clients' and have become fairly sophisticated about the bread and butter issues of classroom management. As the years went by, there were fewer 'disgusting' classrooms, and the money is now spent to keep classrooms from ever falling into such disrepair. The summer refresh fund has been increased and is often utilized for 'little projects' such as small scale renovations, acoustics and lighting. The list of priorities is revised each year in light of new needs (ie: curricular or political) that arise, especially technological. Burgeoning disciplines, where now more classroom space is needed than in the past because of increased students in the major, have created new needs that impact prioritization and decision-making. Prioritization of the list continues to be strongly influenced by the expressed desires of the Arts & Sciences administration.

2. ADVANTAGES OF COLUMBIA UNIVERSITY'S APPROACH:

The most salient advantage of Columbia University's approach is their huge success. The classrooms are now all, "decent," there are fewer complaints, and some of the new classrooms, "are really nice." Satisfaction is growing and people are, "not moaning about the basic stuff anymore." Columbia University administrators attribute their accomplishments to the following key factors:

- There were no roadblocks to the success of the working group; the working group was comprised of decision makers committed to ameliorating the classrooms.
- The support and interest of senior management and the high visibility of the issue of classroom management; institutional enthusiasm and great momentum.
- The universal understanding that the learning environment matters, impacts the ability of faculty to instruct, and impacts the ability to recruit new faculty.
- The strong leadership that emerged.

- The sustained attention and interest of the faculty; faculty members organizing in protest against the condition of the classrooms, and then remaining engaged with the administration throughout the resolution of the problem served to first elevate the issue in the eyes of the administration and then to ensure that it remained elevated.

- The high-level of customer service delivered by the facilities team that contributed to the faculty taking the new initiatives seriously.

- Cooperation, commitment, and communication between groups; as clients of each other, the Registrar, faculty members, Facilities, and Arts & Sciences administration all share a revolving door of information and communication; silos were bridged by communication, and they all, "played nice in the same sandbox."

3. DISADVANTAGES OF COLUMBIA UNIVERSITY'S APPROACH:

Columbia University administrators did not identify any disadvantages specific to their approach to classroom management. However, the general challenge of functioning in a highly decentralized environment was acknowledged. There is recognition that Columbia University's decentralized nature gives the place its vitality, if not its efficiency. Decentralization allows ideas to percolate and, as one senior administrator shared, "I have come to accept the difficulties this creates in the administrative sphere. Individual schools and departments are meeting their needs pedagogically, we have to know their minds and address it."

4. FUTURE DIRECTIONS:

Looking to the future, the administration of Columbia University sees the imminent move from relying upon one staff member's knowledge of scheduling to the implementation of Resource 25 Optimizer as huge. There is a whole new campus, just a few blocks away, expected to be completed in the next thirty-five years, and the administration looks forward to the challenges and joys this major change will bring. The administration is committed to staying in close communication with faculty, and keeping abreast of the varying classroom needs of different disciplines and the changing needs of faculty based on average age. The well-received Center for New Media and Teaching on campus will continue to guide faculty in the use of technology and ensure that, if they desire, faculty will be savvy in new technologies as they become available.

Appendix F-2: Interview Details

Interview Details

1	**Name of University**	Columbia University
2	LDP Interviewer Name	Rachel Kadosh
3	Date of Interview	29 November 2006 / 14 December 2006
4	University Contact Name	John Carter / Wilfred Small
5	University Contact Title	Registrar / Director Facilities Services
6	University Contact Phone	212 854 1458 / 212 854 6758
7	University Contact Email	jpc11@columbia.edu / whs5@columbia.edu

MORNINGSIDE CLASSROOM COMMITTEE

Summary of Findings and Recommendations

This section summarizes the major findings and recommendations of the Morningside Classroom Committee. Supportive material, along with additional findings and recommendations, are contained in the body of the report. Items in this summary are linked to the section of the report where that topic is discussed.

INTRODUCTION

There is widespread agreement that we are not able to assign all classes to classrooms that are comfortable, conveniently located, adequately maintained and appropriately sized, configured and equipped. Our inability to do so is a product of a large number of interconnected factors that involve several segments of the University community. We propose a number of changes designed to remedy this situation.

THE CLASSROOM STOCK

Utilization

Although we do a reasonably good job of utilizing the rooms we have, some inefficiencies exist that are largely intrinsic to the rooms themselves and to the process by which we assign classes to them.

Physical Condition of Classrooms

The overall physical condition of Morningside classrooms constitutes an impediment to effective teaching and learning. We recommend the University embark upon a systematic program of classroom restoration and renovation. Inadequate classroom maintenance has contributed to the problem. We recommend that improving the quality of classroom maintenance be made a priority.

"Ownership" of Classrooms

The available evidence suggests (but does not conclusively establish) that Department-controlled classrooms are underutilized. We recommend that Departments be asked to detail the instructional or other programmatic uses they make of the classrooms they control, and

that grossly underutilized rooms be made available for instructional use by other departments.

THE SCHEDULING OF CLASSES

The current Schedule of Classes, combined with a large number of "off-schedule classes," increases scheduling conflicts for students, and contributes to the underutilization of classrooms. We recommend that a new Schedule of Classes, better suited to Columbia's instructional pattern, be adopted. We also recommend the adoption of a set of scheduling principles that will allow students to construct more coherent course schedules, and promote more effective utilization of the classroom stock. Perhaps the most consequential of these schedule principles is that off-schedule courses not be permitted during the prime-time period, and that at other times, priority be given to courses scheduled at standard times. We also recommend that the scheduling process be begun earlier so that complete and accurate information about course offerings is available to students at preregistration. Finally, we describe for consideration (but do not recommend for adoption at this time) a procedure by which departments will assume the responsibility for assigning classes to rooms.

THE DROP PERIOD

Columbia's policy on dropping courses, one of the least restrictive of the more than two dozen peer institutions whose policies we examined, has a detrimental effect on both instruction and room utilization. We recommend that it be changed in a way that will both reduce the number of courses students drop, and motivate them to drop courses earlier,

MORNINGSIDE CLASSROOM COMMITTEE

FINAL REPORT

INTRODUCTION

We start from the premise that it is a University's responsibility to schedule courses at reasonable times in comfortable, conveniently located, adequately maintained and

appropriately sized, configured and equipped classrooms. People may differ on what constitutes a reasonable time, a convenient location, or adequate maintenance, but there is widespread agreement that we are not meeting this responsibility as well as we should. For convenience, we will refer to this as the "Classroom Problem," The Morningside Classroom [1]

Committee, consisting of faculty and officers of administration, was organized in the Spring of 1998 to examine the sources the Classroom Problem, and to recommend measures that could be taken to remedy it.

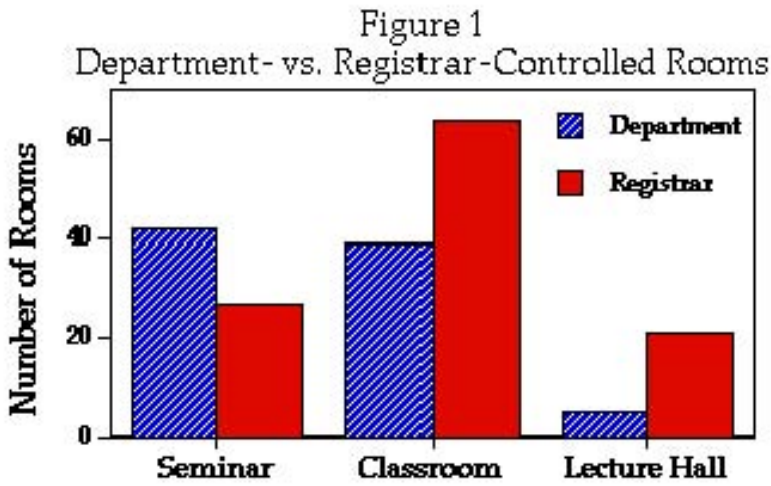
The Classroom Problem is both complicated and tractable. It is complicated because it is a product of a large number of interconnected factors that involve decisions by many different elements within the University--students, faculty, departments, schools, the Registrar, Facilities Management, and so on. Proposed solutions have ramifications for all of these elements. It is tractable because, we believe, it can be remedied by making a relatively large number of relatively small changes in the way we do things at Columbia. These changes will require contributions from many segments of the University community, but it should not involve radical change for any.

In this report, we focus on two areas that are central to the Classroom Problem--the classroom stock, and how classes are scheduled in those classrooms. We will also consider how the rules that govern students' withdrawal from courses ("dropping") contribute to the problem.

THE CLASSROOM STOCK

A total of 69 seminar rooms, 103 classrooms (rooms accommodating fewer than 75 students), and 26 lecture halls (rooms accommodating 75 or more students) are currently used for scheduled instruction in Arts & Sciences and Engineering. About 57% of these [2]

are controlled by the Registrar and 43% are controlled by individual departments. The distribution of Department- and Registrar-controlled rooms for the three room types is shown in Figure 1. We will consider three aspects of these rooms: (1) their utilization; (2) their physical condition; and (3) their "ownership."



Classroom Utilization

For a given classroom, utilization has at least two aspects: the number of hours per week during which classes are scheduled (time utilization), and the proportion of the classroom's capacity those scheduled classes use (capacity utilization). Both are useful indicators of how well a room is used. The Schedule of Classes permits about 43 hours of classes to be scheduled in a room each week. If efficiency of utilization were the sole consideration, classes ideally would be scheduled for most of those 43 hours, and every class would use most of each room's capacity. Judged on that basis, we are far from the ideal.

A study of the utilization of instructional space on the Morningside campus prepared by the Office of Planning & Institutional Research found that on average classrooms house classes 44% of the available time, and on average those classes utilize about 50% of the capacity of the rooms they occupy. Buildings vary enormously in how heavily their classrooms are used; even within the same building, some rooms are in nearly constant use, while others are used infrequently. These numbers cannot be interpreted straightforwardly. Often there are good reasons for a room's being underutilized or underscheduled--e.g., it is undesirable, it is unusable when more than half of its seats are filled, the Schedule of Classes does not permit classes to be scheduled at certain times, etc. And although rooms may be available 43 hours a week, it would be unreasonable to expect as many classes to be scheduled at 8 pm as there are at 11 am.

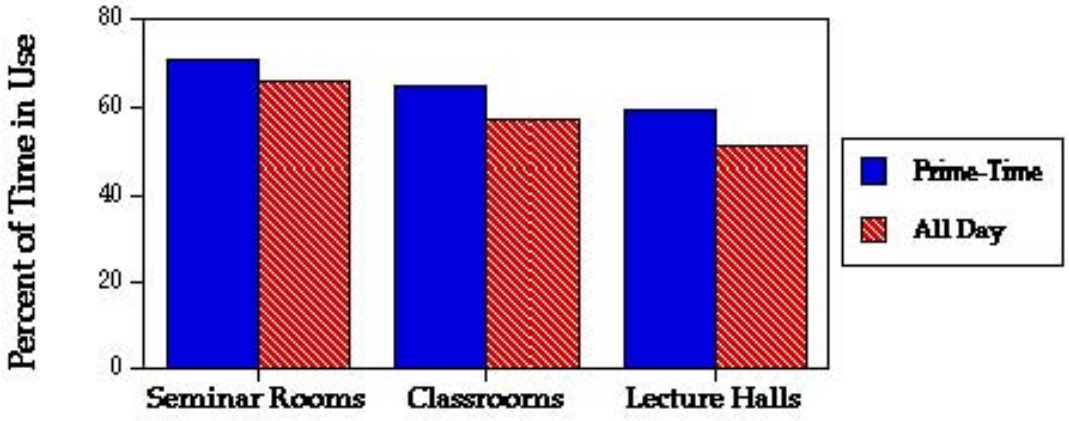
A balanced assessment of the current situation is that we are utilizing Registrar-controlled rooms at a reasonably high rate (the utilization of Department-controlled rooms is discussed below). Our time- and space-utilization rates can be improved somewhat, and we will suggest some non-Draconian measures to accomplish that, but there is no reason to think that better utilization in and of itself, without changing any of the factors that affect the use

of classrooms, can solve the Classroom Problem. To a substantial extent, the inefficiencies we see in the utilization of classrooms are intrinsic to the rooms themselves and to the process by which we assign classes to them. We will revisit the issue of utilization in our discussion of the scheduling of classes.

A consideration of utilization leads one to ask whether the classroom stock is sufficient to accommodate our needs, or whether we need to build more rooms of one or another type. Even if our needs were to remain unchanged, which certainly will not be the case, it would not be an easy question to answer. New construction is costly and disruptive, and conveniently-located space is at a premium. If the current classroom stock, suitably improved and more effectively utilized, would meet our needs equally well, it would be preferable to new construction.

Some faculty feel that a shortage of appropriate rooms (particularly large lecture halls) seriously limits the kinds of courses they can offer. The data we have examined, although far from definitive, do not support this claim. If large rooms were in particularly short supply, we would expect them to be used more heavily than other rooms. Utilization data for Registrar-controlled classrooms (Figure 2) indicate that lecture halls have lower time utilization rates than smaller classrooms or seminar rooms during the 10 am-3 pm prime-time period and throughout the day. Although they may not always be available at an instructor's preferred time and location, relative to their number lecture halls are no less available than seminar rooms or classrooms.

Figure 2
Time Utilization of Registrar-Controlled Rooms



Still, the evidence is not conclusive. Utilization rates can be affected by other factors (e.g., the Schedule of Classes), and with increases in the size of the student body and changes in the courses students elect to take, it may turn out that more large classrooms will be needed.

What we do lack is very large lecture halls seating more than 250. Although we do not offer many courses that large, there are a few, and it has been necessary to rent space at Teachers College and elsewhere to accommodate them. This has not always proved satisfactory. The renovation of the Altschul Auditorium scheduled for this summer should help to alleviate this problem. Although we are not recommending the construction of more lecture halls at this time, we do caution that it may be necessary to do so in the near future. We recommend that the need for them be reassessed after the remedial measures we recommend have been instituted.

The Physical Condition of Classrooms

Assessing Condition

In the spring of 1998, under the auspices of Facilities Management and the Registrar, an outside engineering firm--Wank, Adam, Slavin Associates (WASA)--surveyed the condition of 120 Registrar-controlled seminar rooms, classrooms and lecture halls. WASA evaluated each room on a list of features that collectively define a standard for classrooms. WASA also gave each room a global rating of good, fair or poor, although these ratings were incidental to the main purposes of the study and probably shouldn't be taken too seriously. Of the 120 rooms, 69 were rated "good," 50 were deemed "fair," and 1 "poor." Virtually all classrooms failed to meet the classroom standard in one or another respect, some major some minor. WASA calculated the cost of bringing all rooms up to the classroom standard at nearly $4 million, and ancillary costs will increase that figure by 55%. It should be remembered that the WASA report dealt only with Registrar-controlled classrooms.

Also last spring, the Office of Institutional Research solicited faculty and student evaluations of the cleanliness, heating-ventilation-cooling, lighting, internal acoustics, suppression of outside noise, sightlines, furnishings and equipment of the classrooms they had used. A total of 720 (416 faculty and 304 students) responded, providing 1087 ratings of Registrar-controlled classrooms and 483 ratings of Department-controlled classrooms. For technical reasons, the data do not permit firm conclusions to be drawn about specific classrooms, but the picture that emerges will not surprise anyone familiar with the situation. The users of Columbia's classrooms judge them to be substandard. The modal rating was "fair," and 56 (27%) were rated "poor." Faculty and students found many of the classrooms they use to be uncomfortable, shabby, unkempt, noisy, inadequately lit, and poorly ventilated. Clearly some rooms are worse than others--some are fairly good, some barely acceptable and some genuinely appalling--but users of the Morningside classrooms find them on the whole unacceptable.

The WASA report examined the condition of the classroom stock from a structural-engineering perspective, and the faculty-student survey reflects the functional concerns of the rooms' users. Both perspectives are needed. The WASA report provides data from which the costs of renovations can be estimated. However, the rooms were empty when the WASA engineers surveyed them, and under such circumstances it can be difficult to appreciate how internal acoustics affects intelligibility, how the seating configuration affects sightlines to chalkboards or projection screens, and other conditions that affect a room's usability. We believe that faculty and students who used the room were sensitive to these considerations. Regardless, the mere fact that upwards of $4 million will be required to elevate the condition of these 120 rooms to a quite Spartan standard suggests that the classroom stock is badly in need of restoration and renovation.

Upgrading Classrooms

We believe that the physical condition of the Morningside classrooms constitutes a serious impediment to effective teaching and learning. In part, this is a consequence of the way these rooms are maintained (an issue we will address below), but even the most meticulous maintenance could not bring the Morningside classroom stock up to the classroom standard specified in the WASA report. A systematic program of upgrading classrooms is badly needed. We strongly recommend that the University undertake a long-term program of classroom restoration and renovation. Recent public statements by administration officials, including President Rupp, have referred to the high priority they place on improving the quality of the classroom stock. It is important that the administration make clear by both word and deed its commitment to such an upgrade program. A convincing way of demonstrating this commitment would be to include a substantial line for classroom renovation in the recurring capital budget.

At the same time, even with such a commitment, faculty and students should be realistic about how soon they can expect to see appreciable changes in the classrooms they use. Cosmetic improvements of the sort accomplished as part of the Summer Refresh Program (see below) can be effected reasonably quickly, but some classrooms have major structural problems that will be both expensive and time consuming to correct. Some of the problems involving acoustics and HVAC that most affect a room's functionality may be best dealt with as part of a general renovation of the building.

An effective program of upgrading classrooms will require careful planning and monitoring. It is important that renovations be designed with the needs of the users of the room in mind, and we believe that faculty and students should be closely involved at all stages of the planning. Implementation of such a program will take an extended period of time--perhaps 10 or so years. The fact that implementation will be spread out over several

years presents an opportunity to apply lessons learned from early experience as the program progresses. Toward this end, we recommend that an item evaluating the classrooms be added to the regular teaching evaluations, and that the same item be included on course grade sheets to obtain the instructor's assessment. This will allow for the accumulation of data on each classroom that will be helpful both in planning future renovation and assessing the effectiveness of past efforts.

Maintaining Classrooms

Once classrooms are upgraded, they will require systematic maintenance to prevent them from regressing to their pre-upgrade condition, and there is general agreement that in the past classroom maintenance has been seriously deficient. Indeed, it is one of the reasons classrooms are in such poor shape. Part of the problem has been administrative. The position of Classroom Coordinator, the person responsible for coordinating maintenance and repair of Registrar-controlled classrooms, went vacant for nearly two years, and as a result reports about problems in classrooms were left to fend for themselves in the system, where they fared badly. Early last summer the Classroom Coordinator position was filled, and there is reason to hope that, in the future, reports of classroom problems will be responded to expeditiously. It should be noted that the Classroom Coordinator's responsibilities extend only to Registrar-controlled classrooms; responsibility for maintaining Department-controlled classrooms falls to the controlling departments. Although this may make sense from a budgetary perspective (the cost of work done in Department-controlled classrooms is charged to the department's budget), for its users a classroom is a classroom, regardless of who "owns" it. A plan is needed for dealing with the maintenance needs of Department-controlled classrooms.

The Classroom Coordinator's job is to arrange for the work necessary to remedy problems reported by users of the classrooms. The work itself must be done by Facilities Management, and therein lies a problem. To put matters bluntly, there is a widespread consensus on the Morningside campus that Facilities Management's performance in this area has been unsatisfactory. Too often its personnel have seemed underskilled, poorly motivated, and inadequately supervised Too often jobs have taken too long to do, were done improperly, or were not done at all. This semester Facilities Management, with special funding from the Executive Vice President for Administration, undertook a pilot program of enhanced maintenance for Registrar-controlled classrooms. The Program uses a crew of three workers who visit each classroom every four weeks on a rotating basis to perform tasks (e.g., stripping and waxing floors, cleaning carpets, etc.) not regularly done by custodial services. The Program will run until the end of the semester, when its effectiveness will be evaluated. If the method is determined to be an effective means of

providing these neglected services, we would urge that it be made permanent. In general, we encourage consideration of innovative programs to improve classroom maintenance.

We cannot overemphasize the importance of improving Facilities Management's performance in this area. There is little point investing substantial resources to upgrade classrooms if they cannot be maintained adequately, and our record in this regard is unimpressive. We believe that correcting Facilities Management's shortcomings in this area must be made a priority.

The "Summer Refresh" Program

Rough distinctions can be made among three levels of work done to improve the physical condition of classrooms. The most complicated is the kind of work that would be required to upgrade most classrooms to an acceptable level. The least complicated is the kind involved in custodial services and day-to-day maintenance (e.g., cleaning, emptying wastebaskets, replenishing chalk). An intermediate level involves such tasks as painting, recarpeting, replacing broken tablet arms, etc. that fall short of major renovation, but are more complicated, expensive and/or time consuming than standard maintenance. Last summer, Facilities Management initiated a "Summer Refresh" program for Registrar-controlled classrooms under the supervision of the Classroom Coordinator at a cost of about $225,000. Although much of the work done under the Program is cosmetic and only indirectly related to a room's functionality, it can do much to relieve the dispiriting seediness that characterizes many classrooms. The Program also corrects some trivial but frustrating problems regular maintenance seems unable to cope with that do affect functionality (e.g., replacing missing window shades and broken pull-strings on projection screens). Although the Summer Refresh Program is not a substitute for a systematic upgrade, it has value in its own right and we believe it should be continued.

The "Ownership" of Classrooms

Thus far our main concern has been the rooms under the Registrar's jurisdiction. An additional 103 rooms (about 43% of the classroom stock) are controlled by individual departments. The sizes and functions of Department-controlled rooms are quite various. Some contain specialized equipment, or house special collections or materials that need to be closely controlled. Others are tiny or inaccessible, and not suitable for general use. Others are generic seminar rooms or classrooms that, for one reason or another, have come under a department's control. In addition to Registrar- and Department-controlled

classrooms, there is an amorphous category of rooms that we will refer to as "Encumbered." Encumbered rooms are controlled by the Registrar, but with the understanding that a specific department's use has priority. Theoretically, other departments' courses may be scheduled in these rooms at times not used by the department with priority, but in practice this sometimes has been difficult to accomplish. As many as a quarter of the Registrar-controlled classrooms will be classified as Encumbered, although they are not all encumbered to the same degree. Some of the Encumbered classrooms were formerly Department-controlled classrooms, and were given over to Registrar control in exchange for renovating the room and/or installing specialized equipment. Our impression is that this strategy, which was intended to make these rooms more generally available, has not been wholly successful, and that some departments continue to treat Encumbered classrooms as though they were still under departmental control. Because the degree of encumbrance of these classrooms varies so, we have not examined their utilization separately.

Condition of Department-controlled Classrooms

Last summer the WASA engineers surveyed 84 of the Department-controlled classrooms, and found their physical condition roughly comparable to that of the rooms controlled by the Registrar. The condition of two rooms was judged to be "poor;" a third of the remainder were judged "good" and the rest "fair." In the student and faculty surveys, Department-controlled rooms received somewhat better ratings than Registrar-controlled rooms in the same building, but the differences were small and may be the result of sampling error. Proportionally more Department- than Registrar-controlled rooms were to be judged "good." Because these data are not a representative sample of faculty and student evaluations, any differences should be interpreted cautiously.

The WASA engineers estimate the cost of upgrading these rooms to the classroom standard at about $1.7 million. Ancillary costs will increase this by about 55%. The per room cost of upgrading Department-controlled rooms is only two-thirds of that for Registrar-controlled classrooms, but it should be remembered that more of the Department-controlled rooms are small, so the cost differential may not indicate a real difference in physical condition. The WASA estimate reflects only an upgrade to the classroom standard. Improvements beyond that would add to the costs.

Utilization of Department-controlled Classrooms

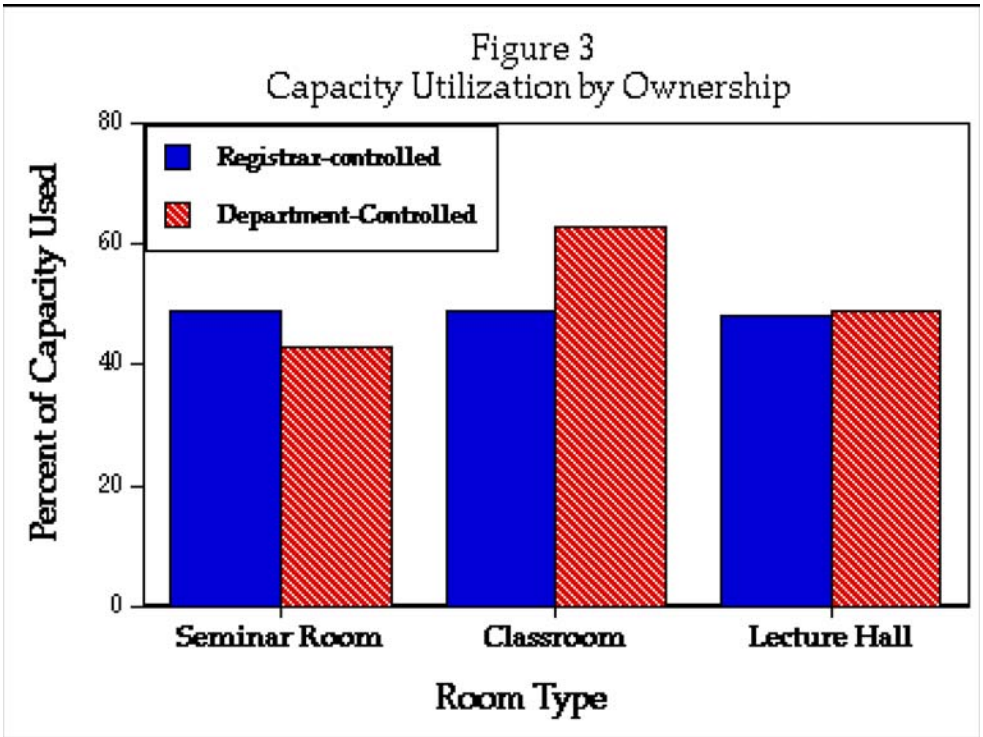
It is difficult to assess how well Department-controlled classrooms are utilized, in part because some are used for activities other than regularly scheduled classes (e,g,, department and committee meetings, dissertation defenses, visiting speakers, etc.). These are legitimate and necessary uses; establishing priorities for them relative to regular instruction can be a

complicated matter. All would agree, we think, with the general principle that every classroom should be well utilized regardless of under whose jurisdiction it falls. However, some would regard a large classroom with a two-hour time slot reserved for a semester for six lectures by outside speakers as well utilized, despite the fact that it would preclude the room's being scheduled for a class that met 28 times. To others, this would constitute underutilization.

Our analysis of the utilization of Department-controlled classrooms considers only their use for regular instructional purposes; data on their use for other purposes were not available. Again, we can consider two aspects of classroom utilization: Time utilization (the number of hours per week during which classes are scheduled in a classroom) and capacity utilization (the proportion of the classroom's capacity those scheduled classes use). Capacity utilization in Department- and Registrar-controlled rooms (shown in Figure 3) varies with room type.

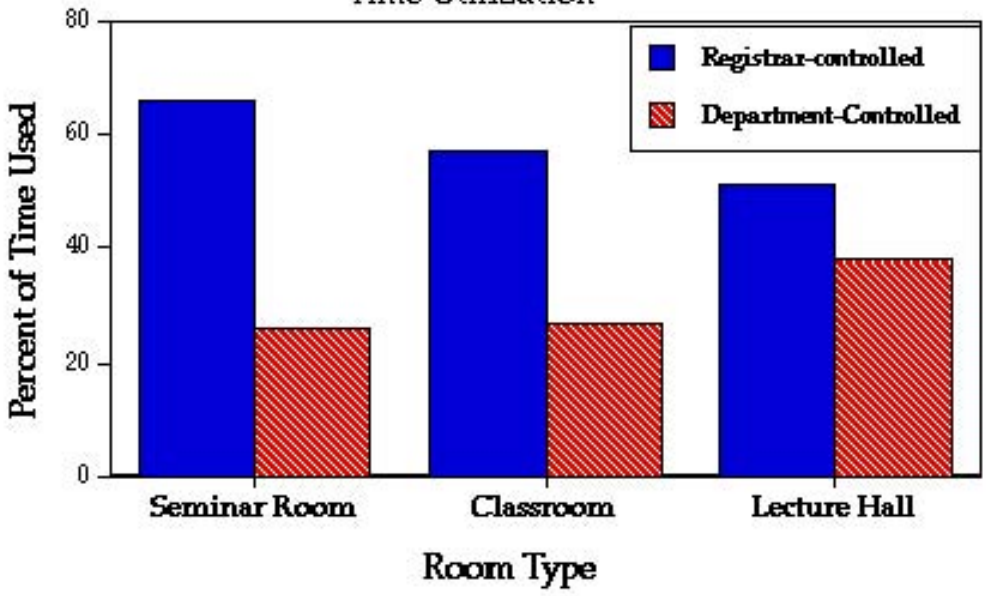
Somewhat more of the capacity of Registrar-controlled seminar rooms is utilized, compared to their Department-controlled counterparts, but in classrooms, the picture is reversed: Department-controlled classrooms have higher rates of utilization. The rates for lecture halls do not differ; only a few lecture halls are under department control. Overall, we see no striking disparities in the way the capacities of Registrar- and Department-controlled room are utilized.

Figure 3
Capacity Utilization by Ownership



Examination of time utilization of these rooms presents a rather different picture. For all three room types, rooms controlled by departments are less likely to have classes scheduled in them, relative to Registrar-controlled rooms. The time utilization data are shown in Figure 3. The difference is particularly striking for seminar rooms, but it also is substantial for classrooms. One cannot conclude that a room is not being used for a valid academic purpose from the mere fact that a class isn't scheduled in it. However, insofar as their use for regular instructional purposes is concerned, Department-controlled rooms tend to be used less often than rooms controlled by the Registrar.

Figure 4
Time Utilization



Finally, classes in Department-controlled rooms are more likely than those in Registrar-controlled rooms to be off-schedule (51% vs. 43%). The difference is more dramatic for the 10 am-3 pm "prime-time" period, during which 51% of the classes in Department-controlled rooms, and 37% in Registrar-controlled are off-schedule. Off-schedule classes limit students' course choices by creating the sorts of time conflicts the Schedule of Classes was designed to prevent. They also exacerbate the Classroom Problem, because they leave rooms open for odd chunks of time in which other courses can't be scheduled. This is a particular problem during the "prime-time" period, when the concentration of classes (hence the demand for rooms) is greatest.

It may be the case that underutilization reflected in the data we have reviewed is more apparent than real, and that Registrar- and Department-controlled classrooms are equally well utilized, albeit perhaps in somewhat different ways. However, we believe the data justify a more systematic examination of how this resource is being used. More

specifically, we recommend that controlling departments be asked to explain their use of these rooms for instructional or other programmatic purposes. Rooms found to be grossly underutilized should be made available for instructional use by other departments.

Let us be clear about what we are recommending. We believe that departments should have at their disposal an adequate number of rooms to support such common but unpredictable events of academic life as meetings, thesis defenses, talks by visitors, student presentations, and the like. We also regard it as both appropriate and sensible that rooms housing specialized equipment or valuable collections of materials where access needs to be controlled be under departmental jurisdiction. What we do not believe can be justified is the underutilization of rooms needed for instruction. Departments that control or encumber classrooms should regard themselves as stewards of a scarce communal resource to which they have privileged access. We believe that it is possible to honor the spirit of the arrangements and understandings that brought these rooms under department control, and at the same time utilize them more widely.

SCHEDULING CLASSES

The process by which classes are assigned to rooms is governed by a Schedule of Classes, which designates the times at which classes may be scheduled, and a set of Scheduling Principles, which specify the priorities used in assigning classes to rooms, Below we examine our current Schedule of Classes and propose options to replace it. We also propose a set of scheduling principles to be used in implementing the Schedule of Classes. Finally, we will consider briefly some practical aspects of the process by which classes are scheduled, and how classes are distributed across the Schedule of Classes.

The Schedule of Classes

At an institution in which all classes have the same duration, and all students attend classes during the same hours (e.g., an elementary school), constructing a Schedule of Classes is a fairly simple matter. In a university, where classes differ in duration and frequency of weekly meetings, and where students do not attend classes during a fixed period, it is considerably more complicated. Maximizing classroom utilization and minimizing students' scheduling conflicts are two primary goals of a Schedule of Classes. To accomplish this, the schedule must be fashioned to accommodate an institution's particular distribution of class durations and meeting frequencies.

The Current Schedule of Classes

Columbia's current Schedule of Classes (see Appendix I) is a reasonably complicated one, and there is some evidence that it does not serve us well. For example, surprisingly few classes have start times during the 12-1 and 3-4 pm time periods. Although some have attributed these periods of low activity to the priority faculty place on lunch and afternoon naps, they turn out to be byproducts of the current Schedule of Classes.

Such aberrations may be one of the reasons that the Schedule is so frequently ignored. About 45% of all classes are "off-schedule." Even during the 10 am-3 pm prime-time period, when the demand for classrooms is highest, 41% are off-schedule. Off-schedule classes increase the frequency of scheduling conflicts for students and decrease classroom utilization by leaving rooms vacant for periods of time that are too short to accommodate another class.

Revising the Schedule of Classes

The current Schedule of Classes is in need of revision, However, devising a new schedule that takes into account our diverse instructional needs is far from a simple task. In Appendix II we present a schedule that we believe will serve our needs better than the present one. Our purpose in posting it is to solicit comments from faculty, students and, especially, Departmental Administrators and Departmental Representatives, who often are responsible for course scheduling at the department or program level. Based on these comments, adjustments can be made that will allow us to devise a Schedule of Classes that is best suited to our instructional needs. We recommend that the final Schedule be determined by a committee that includes the Registrar, Department Administrators, and faculty who serve as Departmental Representatives.

Scheduling Principles

The priorities used in assigning classes to rooms at times specified by the Schedule of Classes constitute a set of scheduling principles. Frequently decisions must be made between competing claims on a given room, and an explicit statement of these priorities aids in making consistent and just decisions. The scheduling principles listed below are intended to optimize our utilization of the classroom stock, and to minimize the time conflicts students encounter when they construct their course schedules. We recommend their adoption.

1 Between 9 am and 3 pm, all classes must start at the times specified by the University's

Schedule of Classes. At other hours, some flexibility in starting time may be permitted, but priority will be given to courses scheduled at standard times. 2 Classes will be assigned to rooms based on their anticipated enrollment relative to room capacity. Consideration also will be given to the course's need for fixed or moveable seating, special equipment, etc. 3 Departments must distribute their offerings across times of the day and days of the week. More than 10% of a department's offerings may not be scheduled in any time/day slot. 4 Classes will take priority over nonacademic events in scheduling, and nonacademic events will be scheduled after classes have been scheduled. 5 Departments are expected to schedule their courses so that "matching" time periods are not left unused. (For example, a course that meets only on Monday should be matched with a course that uses the room on Wednesday.) Departments unable to schedule matching time slots with their own offerings may do so in cooperation with other departments.

Classrooms can be reassigned when it is necessary to do so to accommodate persons with disabilities.

Of all these principles, the easiest one to implement is the first. It also may be the most important. Indeed, it is conceivable (albeit unlikely) that simply requiring all courses to be on schedule would correct the problems attributable to scheduling, with no (or minor) changes to the current Schedule of Classes. There may be unusual circumstances in which it makes sense for a course to be scheduled at a nonstandard time, but the rate at which off schedule classes occur is difficult to justify. We recommend that all classes, both in Registrar- and Department-controlled classrooms, be scheduled at standard times during the prime time period.

The Scheduling Process

In this section we will consider some specifics of the process by which classes are assigned to rooms. The Schedule of Classes and scheduling principles provide a framework for assigning classes. Here we focus on the mechanics of their implementation. In addition to assigning classes to rooms in an expeditious and equitable way, the scheduling process also should make course information available to students in time for preregistration, allow departments to allocate such resources as TAs in accordance with room capacities, and resolve conflicts about room assignments in a timely manner.

The Time Course of Scheduling

For the last few years, departments have been asked to submit to the Registrar in February a listing of their offerings for the coming academic year, along with times and (sometimes) requested rooms. The due dates for applications to reserve Electronic Classrooms has been

much later (May 1 for the Fall semester; November 1 for the Spring semester). In practice, more than a few departments have failed to meet the February deadline. Often these were departments with Encumbered classrooms, whose priority guaranteed them their choice of room regardless of when it was submitted.

The late date for reserving Electronic Classrooms can create problems in scheduling. The May 1 deadline comes after preregistration for the Fall semester; the November 1 deadline for the Spring semester precedes preregistration only by a week or two. Although it affects only 19 rooms, electronic classrooms tend to be large, so the number of students affected is not inconsequential, and a course designed to take advantage of the facilities of the electronic classroom may be impossible to present effectively elsewhere. We believe that all courses (perhaps especially those in Electronic Classrooms) should be scheduled far enough in advance to allow preregistration information that is complete and accurate.

Delays in scheduling courses in Encumbered Classrooms can prevent other departments from using them. It seems to us that such encumbrances should entail only a priority in the use of the room, not a right to determine when and by whom it is used. We recommend that departments be required to exercise their priorities for Encumbered classrooms early, and that if they fail to do so the room become available for use by other departments for that scheduling period.

Overall, we feel it would be of benefit to all if the scheduling process were begun earlier. No doubt last-minute adjustments will always have to be made as faculty elect to go on leave or take positions elsewhere, new faculty are hired, curricular changes are introduced, etc. Still, a substantial part of the curriculum is stable from year to year-the same ensemble of courses are offered every year, albeit not always by the same instructor- and many courses are planned to be offered well in advance. Getting these courses assigned to rooms early on would help students plan their schedules, and could reduce the frequency of students overregistering and subsequently dropping courses. It would also help departments plan their schedules more efficiently if the Registrar provided them with feedback in the form of comparative data on their prior year's scheduling.

The Mechanics of Scheduling

Once lists of departmental offerings have been compiled, classes must be assigned to specific rooms. Assignments take into account anticipated enrollments, location, required seating configuration, equipment needs, and sometimes a number of less tangible considerations. This is a complicated process that can involve extended negotiation between the Registrar's Office and departments or individual faculty. Often departments or faculty

must make choices (e.g., between offering a course at a less preferred time in a preferred room or offering it at the preferred time in a less preferred room). The fact that the process has worked as well as it has is remarkable, but it sometimes results in local inequities. Departments and individuals who adopt an intransigent stance have a better chance of getting their preferred times and rooms than those who are more compliant; misrepresentations, or at least exaggerations of the true state of affairs, can occur. Conflicts in room assignment are inevitable, and the individuals who have been responsible for dealing with such conflicts have done an admirable job of resolving them. Nevertheless, we believe that another approach to assigning classes to rooms would reduce the frequency of such conflicts, and carry with it several additional benefits.

The current room assignment method has two chief weaknesses. First, it does not communicate to departments or to faculty members the true costs of their decisions about when to teach their classes, and it gives them only minimal (and probably inaccurate) information about the costs of their decisions about where to teach. Second, it does not provide the administration with accurate information about the types of classroom faculty and departments really need, because data bearing on classes that are not taught are not collected, and because there is no good way of determining the value faculty place on particular types of facilities.

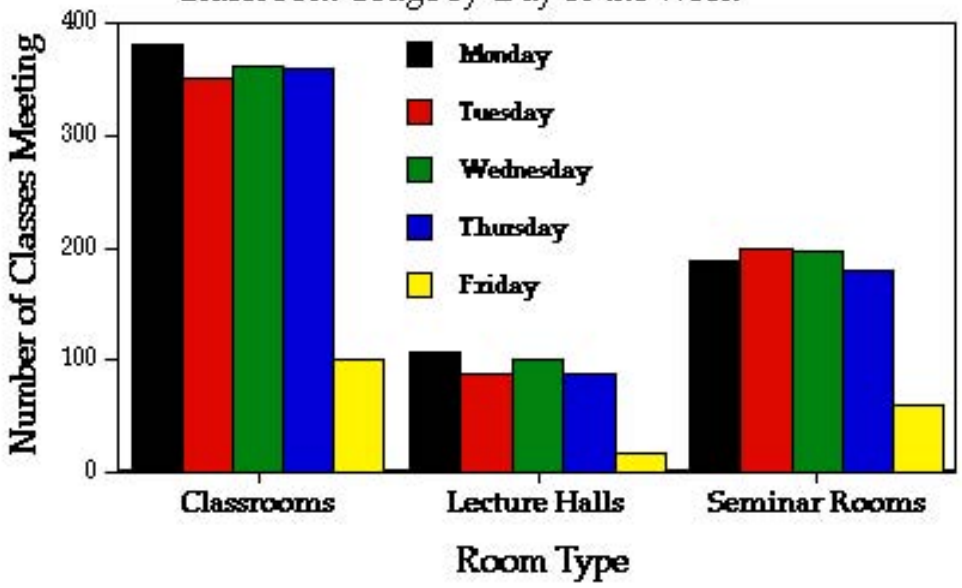
Mechanisms are available that can provide better information and, at the same time, allocate classrooms more efficiently. Such a plan is outlined in Appendix III. These mechanisms require the Registrar's office to develop some sophisticated software, and give departments primary responsibility for scheduling their course offerings. We are not recommending that the University pursue such a course at this time. Before so radical a change in the way we do things is introduced, it would be prudent to see whether the simple, relatively inexpensive steps we have recommended are sufficient to alleviate the Classroom Problem. However, if it is determined that these steps are insufficient, we believe the University community should begin exploring mechanisms like the ones we describe in Appendix III.

Distributing Courses across the Schedule of Classes

The time utilization of classrooms would be maximized if classes were distributed evenly across the Schedule of Classes. Of course, efficiency of utilization is not the only consideration, and it is hardly surprising that all day/time slots are not equally popular. Although the current Schedule of Classes permits classes to be scheduled from Monday through Friday, about 94% of all courses are scheduled on Monday through Thursday. The distribution across days of the week is shown in Figure 5. Similarly, although the Schedule

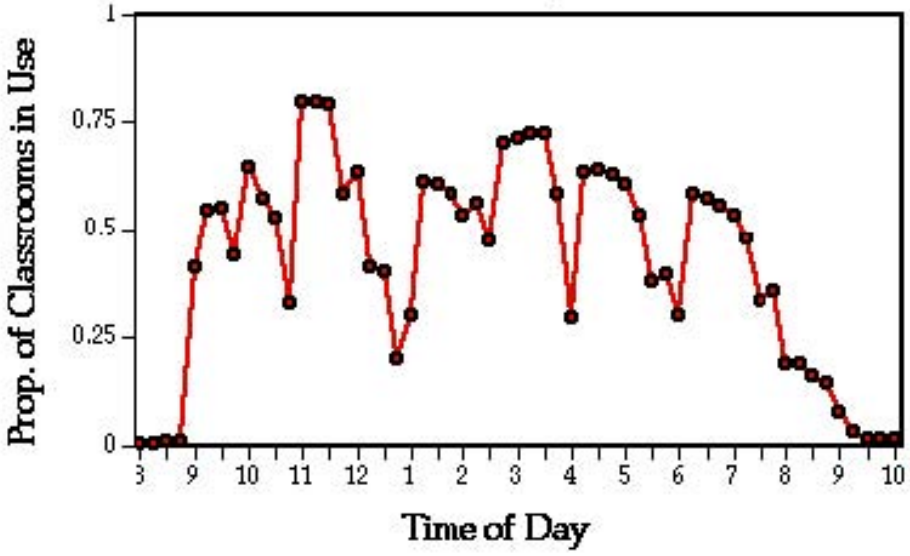
of Classes permits classes to be scheduled between 8 am and 10 pm, 70 percent of all classes start between 9 am and 3:00 pm. The data for time of day are shown in Figure 6.

Figure 5
Classroom Usage by Day of the Week

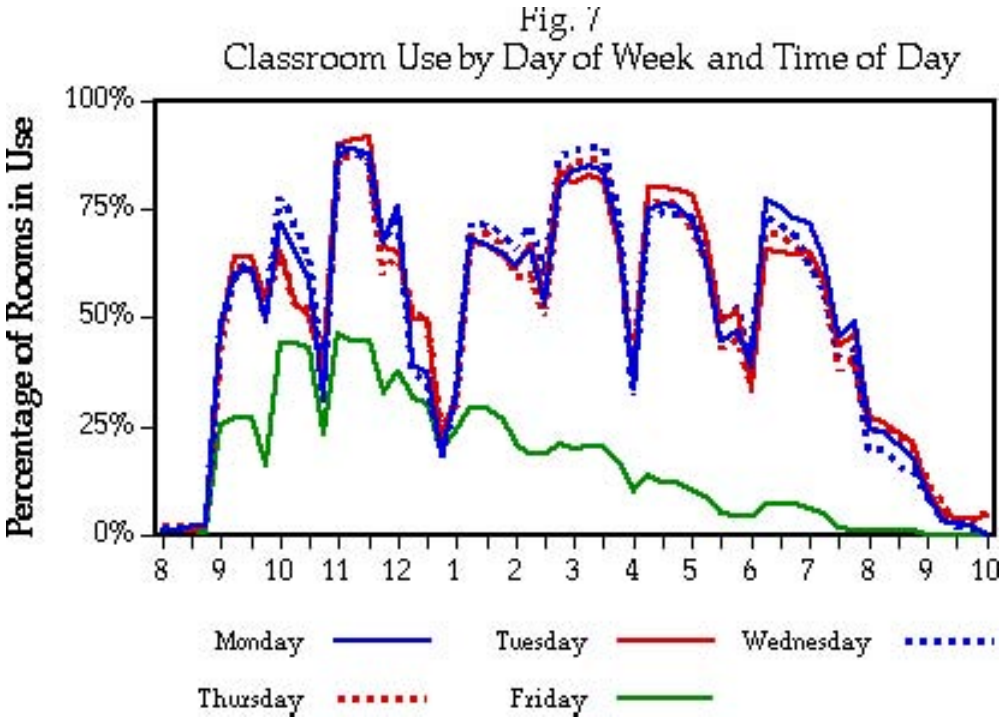


The distribution of courses across day/time slots is constrained by several factors. One is the Schedule of Classes itself, which allows courses to be offered at some times but not others. Student and faculty day/time preferences are another constraint, although what we know about them is for the most part anecdotal. Some departments have found that a course will have higher enrollments when offered during the prime-time period than in the evening. Other departments report that their majors simply will not enroll in 9 am classes. Faculty, too, have time of day preferences for teaching; although roughly equal numbers may opt for morning versus afternoon classes, relatively few choose to teach after 6 pm.

Figure 6
Classroom Use by Time



Broadening the distribution of courses across the Schedule of Classes would reduce some of the pressure on the most-sought-after classrooms. It also would reduce the number of time conflicts that confront students trying to put together a semester schedule, and increase the number of courses available to students unable to attend classes during the prime-time period. However, it is not clear from the data we have examined that classrooms are seriously underutilized between 9 am and 6 pm. Figure 6 shows the proportion of Registrar-controlled classrooms in use at 15 minute intervals between 8 am and 10 pm. Rooms are heavily used between 9 am and 7 pm, but there are a few anomalous periods of low activity that probably are attributable to vagaries of the Schedule of Classes. Revising the Schedule should help us better utilize these periods. However, time utilization rates seem uniformly high during the day and early evening. There is considerable underutilized capacity after 7:30 pm, but many faculty and students regard that as an undesirable time.



The complex pattern of usage is remarkably consistent across the first four days of the week, but on Friday the level of activity is generally low and after noon it diminishes sharply (Figure 7). Friday seems to be an underutilized day insofar as scheduled classes is concerned. Making better use of it could improve matters somewhat, but perhaps less than is widely believed. Our modal course offering is a three-credit course that meets twice a week for 75 minutes on a Monday-Wednesday or a Tuesday-Thursday basis. Moving some of these classes to Friday would have little impact on utilization because every class assigned to a room on Friday would also have to meet on another day, leaving an odd day in which the room was unoccupied. It might be worthwhile to consider offering a small number of three credit courses that meet once a week for 150 minutes, or three credit courses that meet for 75 minutes once a week over two semesters. COIs have discouraged 150 minute classes on pedagogical grounds, although they are common in the Summer Session. One can imagine circumstances in which 150 minute classes or distributing a course over two semesters would make sense pedagogically. Both types of classes could advantageously be scheduled on Fridays.

It's worth pointing out that having a day with a light class schedule is not entirely a bad thing. Because relatively few classes meet on Friday, it is a good day to schedule laboratory meetings, internships and other activities that are intrinsic parts of students' academic lives. If these activities didn't take place on Friday, they would have to be scheduled at other times. Certainly it would be incorrect to conclude from the paucity of Friday course offerings that the day has become incorporated into a de facto three

day weekend.

We believe that departments should continue to be encouraged to broaden the range of times at which their courses are offered, and certainly this should be a consideration in scheduling multiple sections of the same course. Innovative measures designed to increase Friday course offerings should be considered. However, we do not believe that any radical change in the way courses are distributed across the schedule should be contemplated before the effects of a revised Schedule of Classes can be assessed.

THE DROP PERIOD

Columbia's policy on drops allows students to withdraw from courses without penalty through the 11th week (44th day) of a 14 week (70 day) semester; no notation of the dropped course appears on the students' transcript (indeed, no record of the drop is kept). Of the 29 peer institutions whose drop policies we reviewed, only Brown allows students to withdraw from courses later in the semester. All of the others end the period during which courses may be dropped without penalty earlier (the majority very much earlier), and many note the drop on the student's transcript (some also indicating whether the student was doing passing work at the time the course was dropped). Unlike Columbia, some schools also impose a fee for dropping courses.

As might be expected with so liberal a policy, Columbia's undergraduates drop courses at an impressive rate. On average, about 10% of the students who register for a seminar or lecture course will drop it, and this number does not include changes made during the "program adjustment period" (the first two weeks of the semester). There is no incentive to file drops early, and students tend to do so late in the semester. About 65% of all drops are filed after the midterm exam period; half of all drops are filed during weeks 10 and 11, Although the total number of dropped courses is large, it seems to be attributable to a relatively small number of students. For example, in the fall semesters of 1996 and 1997, most sophomores and seniors (53.5%) didn't drop any courses. Of those who did, more than a quarter dropped two or more courses and about 7 percent dropped three or more,

The drop policy (along with the Pass/Fail Option) allows students to explore subjects that lie outside their immediate areas of specialization, and to make adjustments to programs that may have been unrealistic or overly ambitious. It also helps compensate for the fact that a complete and accurate listing of the next semester's course offerings is not available at preregistration, and for inadequacies in the way students are advised. However, there also is a widespread impression among faculty that at least some students

use drops as part of a strategy to maximize their GPAs. These students register for more courses than they expect to complete, with the intention of dropping those in which they are doing poorly. It probably is no coincidence that the preponderance of drops occur after the midterm.

The current drop policy complicates room assignment, with some classes being assigned to rooms that are larger than needed. It also results in resources (e.g., TAs) being allocated inefficiently. We would be inclined to consider these costs acceptable if it were clear that the policy served a useful pedagogical purpose, but it is difficult to make the case that it does. What is clear is that the high rate of drops adversely affects instruction, classroom utilization, and students' ability to enroll in the more popular (hence, oversubscribed) courses. In seminars and small classes, drops after the semester is underway are particularly disruptive. In larger, oversubscribed courses, the drop policy results in students being denied admission to classes whose final enrollments will be well below their enrollment caps. And it would be surprising if "over-registering" didn't result in students giving less than their best efforts in certain courses, knowing that they can be dropped if the midterm grade is unsatisfactory.

At a time when overcrowding in courses was less common, the extended drop period may have been less of a problem, but in courses that are at their maximum enrollments each drop represents a potential student denied admission. Students have quite legitimate complaints about the overcrowding that results in their being excluded from courses they want to take. In part, the overcrowding is due to a skewing of student interests and, perhaps, a scarcity of rooms that can accommodate larger classes, but the problem is exacerbated by the overregistration that our extended drop policy encourages,

We recommend that the relevant Committees on Instruction reexamine the drop policy, and consider reducing the period during which students can drop courses without penalty. We believe this can be accomplished without seriously impairing students' ability to explore courses out of their areas of specialization. Certainly students should be able to determine in fewer than 11 weeks if a course is not what they thought it would be, or requires background they do not have, or is just spectacularly boring. In considering alternatives to the present policy, we encourage the COIs to bear in mind the desirability of students dropping early enough to allow the slots they vacate to be filled by others, when this is feasible. This might be accomplished by ending the drop period well before the midterm, and by noting drops after the second week of classes on the student's transcript, as is done by several of our peer institutions. The College, GS and Barnard COIs should work collaboratively so that policy changes are implemented in a uniform way. Finally, we note that if changes in the drop policy are to have the desired effects, they must be accompanied

by improvements in the way we advise students, and in the quality of the information made available to them at preregistration.

IMPLEMENTING SOLUTIONS TO THE CLASSROOM PROBLEM

The Classroom Problem is the product of a large number of causal factors that interact in complicated ways. We have recommended several measures aimed at alleviating the problem. For any measure we might contemplate, we can say whether or not it is likely to improve matters, but it is more difficult to estimate how much improvement a particular measure is likely to produce. There are several reasons for this. One is that we really can't determine the relative magnitude of each causal factor's contribution to the overall problem. A second is that the true "demand" for classrooms is unknown. The way we do things now (i.e., how we distribute course offerings, how we fix class sizes, how we select class times, etc.) is in part an adaptation to an existing set of circumstances. We have no sure way of knowing how it might change if circumstances were different. For example, we know what the current distribution of class sizes is, but we can't gauge the extent to which it is determined by the availability of rooms of different sizes. Would faculty increase the size of their classes if more large classrooms were available? What would be the effects of changes in the way people teach (e.g., more extensive use of multi-media presentations)? Considerations such as these suggest that our utilization of classrooms should be monitored on a continuing basis so that changes can be instituted before the situation becomes seriously problematic.

Under the best of circumstances, our recommendations could not be implemented instantaneously--upgrading classrooms will take several years, a new Schedule of Classes cannot be installed immediately, Committees on Instruction must act on certain recommendations, etc. That probably is a good thing. An incremental strategy of implementation provides an opportunity to assess the impact of the changes that have been instituted, and to make mid-course corrections on the basis of these assessments. To do this we need to be able to gauge the progress we are making--to determine which measures have been successful and which have not--and this requires reliable data. In studying the Classroom Problem, we have been impressed by how often choices between alternative courses of action have been based on intuition, anecdote, conjecture, or the loudness with which a particular wheel squeaks. We need to increase our capacity to accumulate the data relevant to the decisions we must make, and develop the habit of basing decisions on them.

In part, the Classroom Problem results from the failure of individuals and groups to appreciate some of the unintended consequences of the decisions they make. Delay in performing a needed repair in a classroom, a faculty member's insistence on teaching at a

particular time, a department's delay in finalizing its course schedule, a student's registering for more courses than he or she expects to complete--all can have destabilizing effects on the system. Any given instance may be justifiable and its overall effect negligible, but multiplied many times over these decisions make it difficult to achieve the goal of providing appropriate classrooms for all courses.

A durable solution to the Classroom Problem cannot be achieved without contributions from many different segments of the University community. The administration must initiate a systematic program of classroom renovation, and take decisive steps to improve the quality of classroom maintenance. Departments will need to take into account the impact of their use of the classroom stock on room utilization and students' course schedules, and departments with privileged access to certain rooms will be asked to be more generous about sharing them with other departments. Individual faculty can contribute by offering their courses at the times specified by the Schedule of Classes and by being somewhat more flexible about where they teach. Students will be asked to plan their schedules more thoughtfully, and to make decisions about dropping courses more expeditiously. None of these changes in the way we do things will impose serious hardships on any segment of the University community. Taken together, they will contribute greatly to the creation of an improved environment for teaching and learning.

[1]

Faculty members included: Alan Brinkley (History), David Damrosch (English & Comparative Literature), Stephen Feiner (Computer Sciences), Robert Krauss (Psychology), Brendan O'Flaherty (Economics) and Nicholas Turro (Chemistry). Pierre Force (French) replaced Prof. Brinkley in Fall '98. Officers of Administration included: Mark Burstein (VP for Student Services), Robert Bromfield, John Carter and Joseph Ienuso (Office of the Registrar), Flora Davidson (Office of the Provost-Barnard), Victoria Prince and Roxie Smith (Office of the VP for Arts & Sciences), Ivan Gonzalez and Marian Pagano (Office of Planning & Institutional Research), and Elaine Sloan (VP for Information Services). Prof. Krauss chaired the Committee.

[2]

Our analysis does not include laboratories, off-campus rooms, and certain special categories of rooms that occur with very low frequency. The analyses of room utilization are based on data from the Fall semester of 1997. Figures for other years may differ slightly.

Appendix F-4

Academic Information Systems

Multimedia Classrooms Serve 150 Classes per Week

Students attend class in a multimedia facility.

Academic Information Systems (AcIS), the Office of the Registrar, and Facilities Management have collaborated to construct a number of multimedia classrooms under the auspices of the Multimedia Classroom Committee. These classrooms may be reserved as the regular class meeting place or for individual class sessions. An on-line reservation form is available, or a paper form can be picked up from the AcIS Computing Support Center in 102 Philosophy Hall or the Registrar's Information Center in 205 Kent Hall.

- The classrooms are designed to accommodate a variety of technological needs. The equipment in the classrooms usually includes computer and projection systems, CD-ROM players, VCRs, and audio systems. Most of the installed computers are PowerMacs capable of emulating DOS/Windows systems or X-terminals. The software found on the PowerMacs includes a standard set of network clients and presentation programs. Instructors may arrange for installation of additional, properly licensed software on classroom computers.
- All multimedia classrooms have connections to the campus ethernet network. The connection allows fast access to data on the campus network and the Internet. For example, instructors may access information on a Columbia University server, a computer in their office, or from a computer at another university or research center. Instructors may also transfer and execute their own files or programs across the network.
- The support available to instructors using the classrooms has been key to the success of the project. AcIS provides training to all new users of the equipment. Emergency call numbers are clearly posted on all electronic podiums, and documentation on using the equipment is available within the podiums. In addition, technicians routinely check equipment as a preventive measure.
- Besides the classrooms that fall under the Multimedia Classroom Project, a number of other classrooms have been renovated by various schools and departments. These rooms are an additional resource available to instructors looking to use instructional technologies on campus. Note that these classrooms may have limited or different access policies.
- View the Overview of Project slideshow at: http://www.columbia.edu/acis/presentations/classrooms.pdf

APPENDIX G

Stanford University
Classroom Management Case Study

Appendix G - Table of Contents

Prepared by Zenebu Bekele
Leadership Development Program
University of California, Berkeley

December 2006

Appendix G-1 Case Study

1. OVERALL DESCRIPTION OF CURRENT CLASSROOM MANAGEMENT PRACTICES:

General Information

Stanford offers 1,200 courses per quarter. Total number of courses and discussion sections is 3,000 per quarter. Enrollment at Stanford during the fall 2006 quarter is 6,700 undergraduate and 8,200 graduate students.

The Registrar's Office schedules a total of 208 classrooms. Out of these, 183 are general assignment classrooms managed and scheduled by the Registrar's Office. An additional 20 classrooms, controlled by other departments including the Library and Engineering, are also scheduled by the Registrar's Office. Five very high-tech classrooms used for educational technology experimental purposes and controlled by other departments are also scheduled by the Registrar's Office. The number of 208 classrooms scheduled by the Registrar's Office does not include classrooms controlled and managed by other departments such as the Schools of Law, Medicine, Business, the Art and Music studios, Labs, and Physical Education rooms.

There are three types of classrooms at Stanford: basic general assignment, technology enhanced and very high-end technology classrooms. The basic general assignment classrooms have tables, chairs, screens and ceiling mounted projectors. The technology-enhanced classrooms also referred to as Smart Panel Classrooms have additional features including flat screen TV, DVD or VCR that function with a push of buttons. The Smart Panels also have wireless capability, hookups for laptops, and access to Stanford's television and audio systems. These classes accommodate 20 students and they are designed to require no special training to use the technology. About half of Stanford's general assignment classrooms are Smart Panel classes.

The very high-end technology classrooms such as Wallenberg Hall have features including networked laptops, flexible furniture, collaboration stations, video conference capability, and huddle boards, in addition to the Smart Panel features described in the previous paragraph. These very high-end technology classrooms require a support person on site to help each faculty member utilize the technology.

Fourteen years ago, Stanford contracted with an outside consultant to conduct focus groups with faculty on the subject of classrooms. Management decided to do focus groups rather than general surveys because they could get more information through focus groups. The outside consultant's study pointed management to a need for technology in the classrooms by recommending a "right-sizing" approach to get technology in the classrooms. Right-sizing was implemented by providing better technology in a seminar type classroom based on an increase in request for seminar type classrooms. The tablet form armchair seat is not adequate any longer; it has a narrow accommodation range. While a typical traditional classroom would hold 40 students, the same classroom would hold 20 students in a seminar type class with people sitting around the table. The seminar type classroom with better technology facilitates better student interaction.

Based on day to day room scheduling interaction with faculty members, satisfaction is considered to be high with faculty members. Stanford has not done surveys to measure student satisfaction and the Registrar's Office has not received complaints about classrooms from students. If there

are complaints, it would probably be about classroom capacity and the availability of adequate chairs in seminar classrooms.

There is no data on nighttime classroom utilization. Nighttime use of classrooms is on the increase for the purpose of adding discussion sections for larger class size courses or lower level courses. Multiple meeting times for these courses are scheduled during the evening hours. Sophomore writing classes meet during the evenings. Arts and music studios are used nighttime.

Stanford has used Resource 25 by College Net since 1994 and they are satisfied with its performance. See below under the future directions part of this case study report for recommendations in system enhancements.

Organizational Structure

Stanford's classroom management functions are under the purview of two Vice Provosts. Instructional technology, classroom scheduling and academic aspects of classroom maintenance report to the University Registrar & Associate Vice Provost who in turn reports to the Vice Provost for Student Affairs. The classroom repair and maintenance (physical, 4-wall aspects) function reports to the Associate Vice Provost for Facilities Operations. Capital Planning & Space Allocation and Facilities Operations report to the Vice Provost for Land, Buildings & Real Estate. Copies of organizational charts of the organizational units handling the different aspects of classroom management are attached to this report as appendices G-3, G-4, G-5 and G-6.

There are two aspects to classroom maintenance. The programming aspect is under the Registrar's Office. The Office has responsibility to buy and repair classroom furniture, blackboards, and tables. Classroom maintenance relating to fix and replace ceiling, walls, floors, pipe and lighting is the responsibility of Facilities Operations.

Major decisions such as construction of a new building and significant renovations undertaken by Capital Planning, reassignment of space for a different purpose or a different department, and any decision that will have a ripple effect across department are made by the Provost. A recent example of such a higher level decision made by the Provost involves the reassignment of seven classrooms to an office space located in a building with eleven classrooms. An outside consultant conducted an impact study prior to the decision making, the consultant's analysis showed that Stanford is able to accommodate the reassignment of seven classrooms for office use because the University has lots of space.

Budget and Finance

The budget for classroom management totals $1M annually with $150K for furniture/furnishings, $500K for instructional technology, $150K for repair and maintenance, remodeling, moving walls around, etc. from Facility Operations used as needed. A budget of over $200K gets allotted for facilities cleaning contracts. These budgets do not include salaries and benefits.

There is no classroom utilization formula tied to classroom funding at Stanford. Unless there is an across the board budget increase, the funding for classrooms generally remains at the same level. There is no separate budgeting mechanism for securing funding for classrooms. New and different projects to add space and technology for classrooms merit more funding. The goal is to increase funding for classroom technology and maintenance on an ongoing basis.

There has been significant funding for classrooms and technology at different points in time over the past 14 years. The Loma Prieta earthquake had big impact on Stanford classrooms. Many buildings/classrooms were damaged; some of them were not usable. Buildings needed to be seismically fixed and classroom needs were piggybacked on the seismic renovation effort.

Funding comes from private sources. New buildings or new campuses that require major gifts get built when an interested donor offers to pay for it. Stanford also raises money for major construction such a new Engineering Quad or a new Business Campus.

Leadership in Classroom Management and Improvement

Stanford added a number of buildings over the past 10 years. Engineering added a new Engineering Quad and is about to build another. Wallenberg Hall has been a major renovation project and is primarily a classroom building. The original building, a law school, was gutted with only 4 walls left and the whole building and the classrooms were subsequently rebuilt.

The Registrar's Office goes for maximum or larger impact when prioritizing classroom improvements. Priority to invest in classroom improvement is given to buildings used by more number of people, and buildings used by more number of departments. So far, the technology improvements have all been done in rooms used by more than one department. If a building is used only by one department, the classrooms in these buildings will get maintained to keep them safe and clean. Buildings get taken care of based on feedback, for example a building with many complaints gets priority. Movable classroom furnishings are all in good shape. Fixed furnishings have all been repaired in the last five years based on a repair cycle. Stanford does not have a large deferred maintenance backlog.

The Registrar's Office wishes for more "clustering" of classrooms. If there is one classroom managed by the Registrar's Office in a large multi-use building and an academic department wants to lock the building at 5 P.M., and the Registrar's Office wants to use the classroom at 7 P.M. in the evening, this could be a problem. It is easy to make a decision when to lock or when not to lock if there is a classroom only building. If classrooms are scattered, Facility Services staff will have to walk all over campus to lock and unlock. Also supporting classroom technology takes more time as instructional technology staff members have to walk all over campus to provide technology related support to the classrooms if classrooms are scattered. Building security could be an issue when there is technology fixture in the classroom. "Clustering" offers a balance.

2. ADVANTAGES OF STANFORD UNIVERSITY'S APPROACH:

Stanford's organizational structure with regard to classroom management is positive in that responsibilities are in different reporting structures; the nature of work of Facilities Operations in charge of repair and maintenance is different from that of scheduling. The two units make collective decisions as necessary. This structure has been tested for over 20 years now and has worked well for all units.

There are times when questions arise as to who pays for what, but these questions get resolved because the units communicate well. During the late 80's and in the 90's, there was a dramatic reduction in the budget for classroom maintenance when decisions were not coordinated. Stanford does not have that problem now because of better communication between the units in charge of the different aspects of classroom management.

Separate budget allocation for repair and maintenance and furniture/fixture residing in the Facilities Operations unit and the Registrar's Office respectively is a positive practice. Dollars for the different needs come from different pockets. The budgets for instructional technology and furniture/fixtures all come from the Registrar's Office budget. There is no conflict between the budget allocations as the decisions to prioritize instructional technology or furniture/fixtures for one building or another are made by the Registrar's Office. The Office relies on staff persons' observations of needs. It also gets inputs from other units and develops priorities on grades of A, B, and C, with category A given top priority and B and C, next levels of priority respectively. The office gets the job done, and continually looks for ways to bring C to B, and B to A.

There is a committee of people from the Registrar's Office and Facilities Operations that meets twice a year in the spring. The meetings are chaired by the Associate Registrar in charge of scheduling and academic aspects of classroom maintenance. The committee discusses and agrees on what to work on for next year including agreement on combining monies together for the purpose of classroom maintenance. Efficiencies are realized because the units talk amongst themselves. Classroom maintenance issues are handled well as the Registrar's Office keeps its communication and relationship with Facilities Operations office in good shape. The two Associate Vice Chancellors responsible for the two offices talk frequently throughout the year.

The Registrar's Office works well with Capital Planning. The Registrar's Office believes that they are good about communicating, and have good ongoing relationships with the department head. For example, when the new building construction for Engineering is planned, the Registrar's Office was involved in all classroom issues, and issues are ironed out during the planning and negotiation processes. The communication and relationship of the Associate Vice Chancellor and University Registrar with the Associate Vice Chancellor for Capital Planning is deemed to be instrumental in getting classroom needs met.

The Registrar has demonstrated his leadership on the operational aspects of classroom management by calling and hosting a meeting of all academics departments and schools including people from student services and financial aid. These monthly meetings are attended by about 100 people. The Registrar sets the agenda and the meeting takes about 90 minutes. Topics discussed include scheduling, restrictions on classrooms and other operational aspects and issues of classrooms. The purpose is to inform, consult, warn and solicit feedback for classroom operations/decisions.

The outside consultant's analysis discussed in the general information part of this case study pointed the Registrar to "right-sizing" a different approach to space management. The analysis was used to advocate for technology in the class rooms based on focus group studies and analysis of facts and figures. It provided guidance on how to approach classroom redesign, especially technology in the classrooms. The Registrar came to Stanford fourteen years ago. He was able to prove the need to the Provost with the help of the consultant's studies, with faculty support and analysis and documentation of needs and gaps. Through a combination of these strategies, to date, he has been successful in getting technology to 107 classrooms.

The Registrar's office has emerged as a leader for classrooms issues. It is a consistent advocate for classroom issues on behalf of the different units in charge of classroom management. This practice has proved to have worked over the years. There are a high percentage of the classrooms reporting to one unit – the Registrar's Office. It is typical for other (public) universities for the Registrar's Office to have fewer classrooms to manage. This reporting structure helps elevate classroom issues consistently in one voice over the years.

The Registrar's Office believes that the caliber of the faculty is key to creating an exciting and engaging learning environment. A dull class will always be a dull class despite high tech classrooms with better tables, chairs and furniture unless the faculty is of high caliber.

3. DISADVANTAGES OF STANFORD UNIVERSITY'S APPROACH:

A minor drawback related to seminar rooms at Stanford is about the number of chairs that can fit comfortably around the seminar table. Right now, there are some rooms that are listed to fit 25, but only 20 of those chairs may be around the table. The other 5 students may be pushed up against the wall. The Registrar's Office is taking steps to resize these rooms so they would be listed as 20.

4. FUTURE DIRECTIONS:

People are interested in high-end technology education. Bringing up classrooms to the high-end technology level is going to happen, albeit slowly. It requires working closely with the faculty and getting the faculty to advocate for classrooms. Most faculty are willing and students are excited about the high-end technology classrooms. Investing in technology is expensive and the very high end technology classrooms require supporting staff for faculty to use the technology. In some cases it is a one-to-one relationship and this gets to be costly when there are thousands of classes.

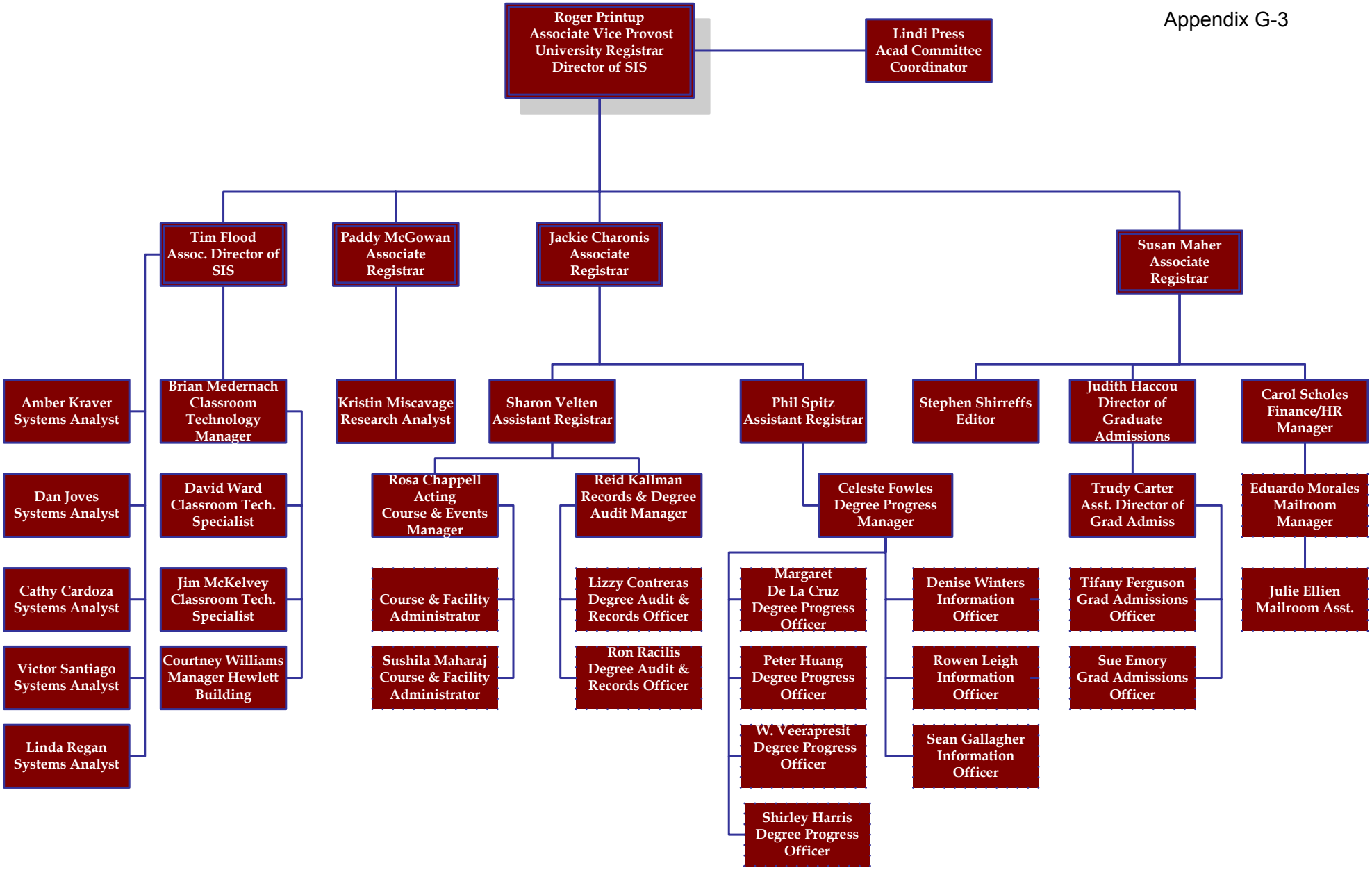
The future in classroom management includes streaming via video, pod casting, and there is research about students not needing to go into classrooms, etc. Streaming may work for other universities, but the Registrar's Office affirms that Stanford will not go this way as this kind of use of technology is not a primary mechanism for education at Stanford. Stanford is unique in that students get face to face time with high caliber faculty. The faculty members are leaders in their fields and the students are bright and the combination creates an essential energy for an optimal classroom experience.

Stanford's Registrar's Office looks to enhancements to existing classroom management software such as Resource 25, Schedule 25, and X-25. Useful enhancements are those that provide data on utilization of space (time of day, by dept, worst or least utilized space) as well as use of technology or use of Smart Panels (are they using technology, are they turning on technology, DVD, VCR, for one hour, 3 hours, etc).

Appendix G-2: Interview Details

Interview Details

1	**Name of University**	**Stanford University**
2	LDP Interviewer Name	**Zenebu Bekele**
3	Date of Interview	**November 29, 2006**
3.a	Date additional clarification question responses received by email	**December 8, 2006**
4	University Contact Name – 1	**Roger Printup**
5	University Contact Title	**Associate Vice Provost for Student Affairs, University Registrar and Director of Student Information Services**
6	University Contact Phone	**(650) 723-3160**
7	University Contact Email	**rprintup@stanford.edu**
8	University Contact Name – 2	**Jackie Charonis**
9	University Contact Title	**Associate Registrar**
10	University Contact Phone	**(650) 723-2033**
12	University Contact Email	**charonis@stanford.edu**

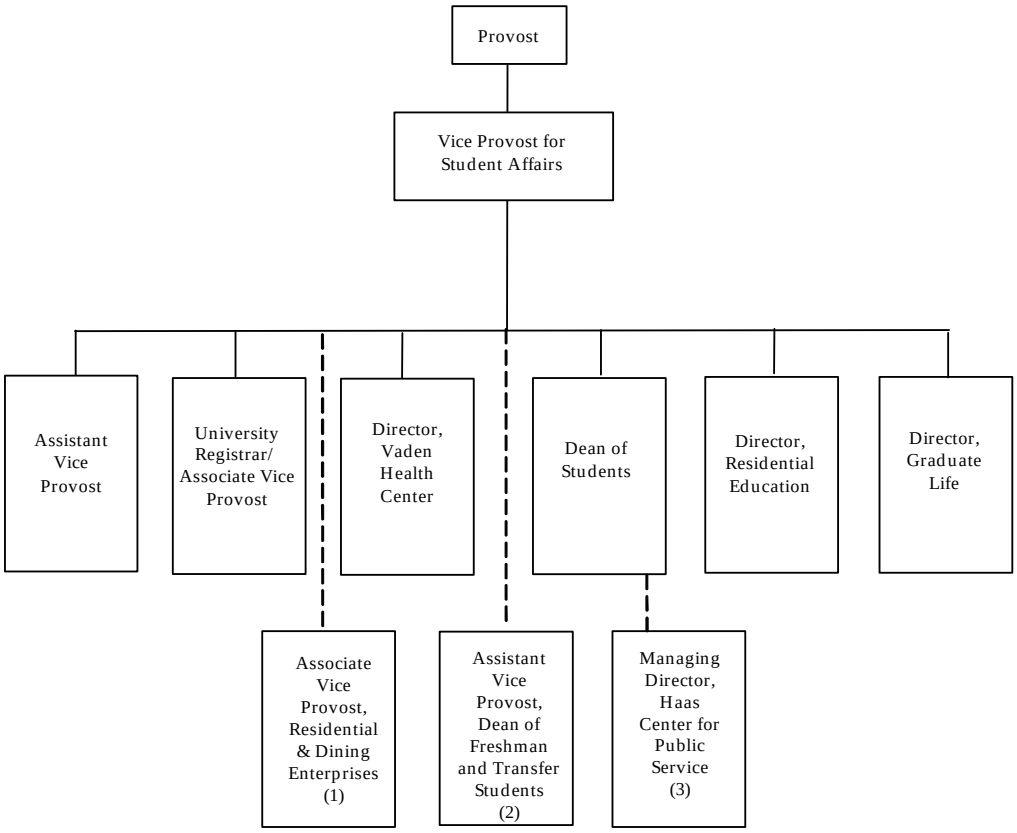


Office of the University Registrar

Responsibilities and Organization Chart

Vice Provost for Student Affairs

The Vice Provost for Student Affairs is responsible to the Provost for providing services and programs to undergraduate and graduate students in support of the academic mission of the University. The Student Affairs organization encompasses a broad range of services and programs including the following offices: Assistant Vice Provost with responsibility for budget and finance, resource planning, and human relations; University Registrar/Associate Vice Provost with responsibility for the Office of Accessible Education, Bechtel International Center, Career Development Center and Office of the Registrar; Vaden Health Center with responsibility for health services and psychological counseling; the Dean of Students with responsibility for the Office of Student Activities, Judicial Affairs, student unions, ethnic and community centers, and administrative oversight for the Haas Center for Public Service; Residential Education with responsibility for residential programs and staff; and the Graduate Life Office.

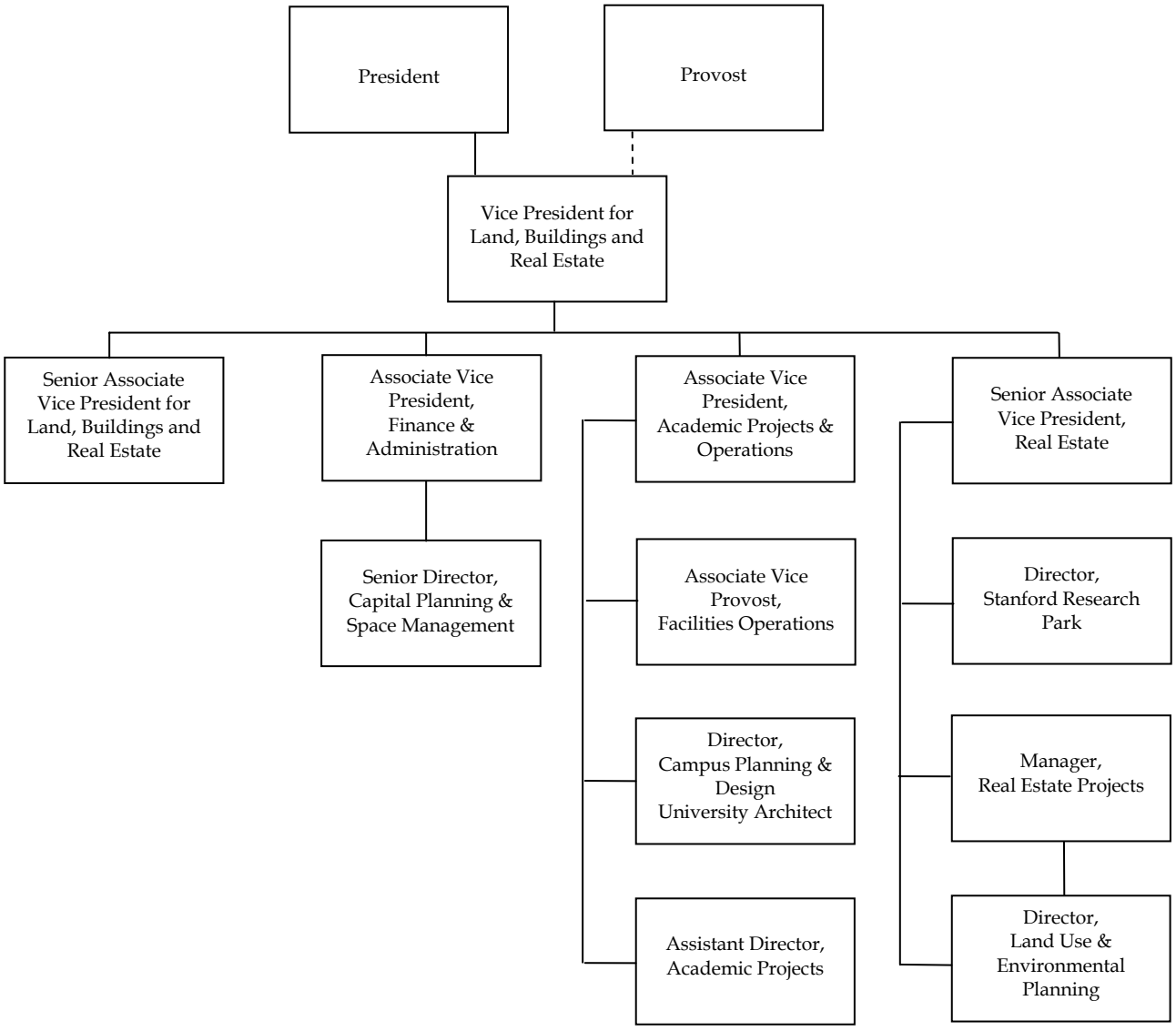


(1) Reports directly to Vice Provost for Budgets and Auxiliaries Management
(2) Reports directly to Vice Provost for Undergraduate Education
(3) Faculty Director reports directly to the Provost

Responsibilities and Organization Chart

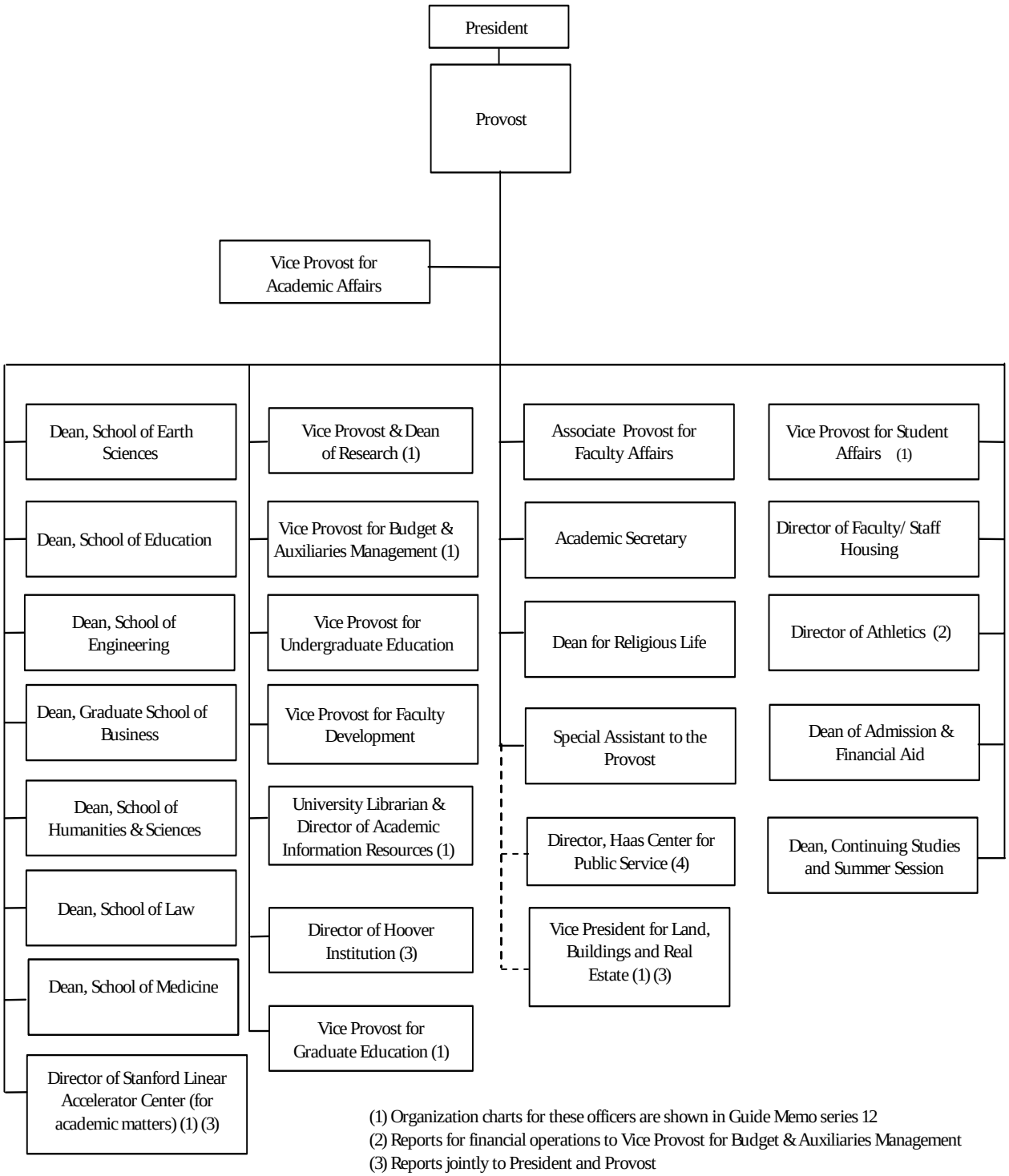
Vice President for Land, Buildings and Real Estate

The Vice President is responsible to the President and Provost of the University for managing the University's Land Use and Environmental Planning, Campus Planning and Design, Facilities Operations, Capital Planning, Project Management, Real Estate and Construction, within such authority as is granted to the President by the Board of Trustees.



Organization Chart

Provost



(1) Organization charts for these officers are shown in Guide Memo series 12
(2) Reports for financial operations to Vice Provost for Budget & Auxiliaries Management
(3) Reports jointly to President and Provost
(4) Reports jointly to the Provost and the Vice Provost for Student Affairs

APPENDIX H

University of California, Davis
Classroom Management Case Study

Appendix H - Table of Contents

Prepared by Pat Mimoto
Leadership Development Program
University of California, Berkeley

December 2006

Appendix H-1 Case Study

1. OVERALL DESCRIPTION OF CURRENT CLASSROOM MANAGEMENT PRACTICES:

General Information

UC Davis is currently ranked 16th among public universities nationwide (National Research Council), 14th among public universities nationwide (U.S. News & World Report), 12th in research funding among U.S. ranked public universities, and 5th among UC campuses (Appendix H-6). This fall it had a student population of 30,475 Students, 23,329 Undergraduates, and 7,146 Graduate and Graduate Professional Students combined (Medical School, Veterinary Medicine, and other small schools). In general, the Research and Medical schools tend to utilize more of their own department space and don't really impact the General Assignment (GA), pool of classrooms. They do share the use of larger lecture hall spaces for undergraduate level courses and for those, the Registrar's Office does do the scheduling but each group does their own departmental concentrated studies.

UC Davis has a current total of 119 GA classrooms, 22 of which are Lecture Hall size classrooms. The Registrar's Office can also access some additional 40 departmental spaces that are readily available when needed. These rooms have basically the same set up as the standard GA classroom space but are not under the management of the Registrar's office. Most departments use these smaller spaces for seminars or small discussion groups so the exact number is not clear. UC Davis also has labs and computer rooms, which are separate from the GA rooms.

There are usually between 5,500-6,000 classes taught in a quarter and half of these are GA. The average number of requests for scheduling GA classrooms is 2,400. The Registrar's Office was unable to say definitely which or how many actual rooms are not GA spaces, because no recent stats have been collected on departmental spaces.

UC Davis has both types of seating, fixed seating (auditorium or lecture hall style) or just movable for smaller seminar discussion type classes. When UC Davis underwent their recent classroom renovations during the past 5 years, they had to comply with the new stricter Fire Marshall fire codes and regulations and go with fixed seating so very few seats are now moveable. This means that all Lecture Halls have fixed seating and are square footage specific. The new regulations apply to all the larger classrooms 50-80 mid range and above and require them to bolt the seats down.

Usually standard to all GA rooms are the following equipment with additional exceptional equipment available on a loan basis:

- Instructor table and student chairs and desks
- Bigger rooms have a Podium or table top lectern
- One or more Chalkboards (Sliding chalkboards are preferred over white boards)
- LCD or projection TV (only a few classrooms have projection TV's for video conferencing, all others are LCD – (Appendix H-7)
- Overhead Projector
- Projection screen
- Microphone (corded or wireless)
- Cassette Tape Deck
- DVD/VCR players
- Overhead or Document Camera

- Amplified Sound
- Ethernet Connection Internet connections - Plug in

UC Davis' night classes begin at 5:00pm rather than the 6:00pm hour. A majority of these are more the large Lecture-size classes and the discussion sections. The quarterly count average is about 535 sections and a little under 25% of course offerings are scheduled between 5:00 pm to 8:00pm, sometime ending at 9:00pm and/or occasionally finishing at 10:00pm. The Registrar's Office continues to work with this issue as night classes are not a popular choice. UC Davis continually needs to push these hours to justify to the state they have an additional need for classrooms. Expectation for getting additional classrooms is more from a realization that they will need to increase the number of classes in order to accommodate the growing enrollment.

To do their classroom scheduling, they use the program, "Schedule 25" and it has been in place for the past 12 years. They know the program well and are able to work with the program and know what problems to look out for. The Registrar's Office does this by working on programming the bare minimum and then adding the exceptions manually. If too many parameters are used, any changes or rescheduling becomes difficult. With this method, the Registrar's Office has been able to place about 80% of the classes. She heard that other schools only place 50-60% of their classes.

Management of the GA classrooms is done by the Office of the Registrar (OUR) who provides stewardship and has total control of scheduling. They have both a mix of classroom buildings and multi-building locations. In the 1960's, classrooms were in multi-use buildings. The two main classroom buildings, Olson and Wellman, came in later years from the campus efforts to respond to anticipated campus growth. Both set-ups have been successful, due to good policy enforcement and cooperation between the Registrar's Office and other academic departments. The following is a list of the groups involved. Also the skill and experience of the Associate Registrar is credited with the smooth operation of all these groups.

- OUR (Office of the University Registrar) is charged with the scheduling and overseeing the maintenance of all of the 119 GA classrooms.
- CTS (Classroom Technology Services unit) is responsible for providing all the Instructional Technology support.
- IET (Instruction and Educational Technology division is responsible for scheduling and maintaining Computer Lab spaces for scheduled courses.
- O & M (Operations and Maintenance) coordinates the cleaning and maintenance for all rooms.
- ORMP (Office of Resource Management and Planning) manages all campus space allocations.
- Other campus classrooms / seminar / lab learning spaces are controlled by the individual academic departments or programs.

The General Assignment Classroom maintenance and technology operations budget is $700,000. This allocation is automatic and comes from the campus general funds annually. The $700,000 is for classroom renovations and improvements and includes funding for O & M. Ten years ago they realized there was a need for renovation and upgrades of media and technology in the classroom and as a result of this, the ORMP worked with the Chancellor's Office and the Classroom Media Technology Office to determine what upgrades were needed and what it would cost. Due to good reporting and the success of this program, it has been renewed ever since. The main groups responsible for implementation of this budget have been the Office of Resource Management Planning working with the Instructional Space Advisory group (a Committee of Administration & Faculty working together and committed to this end).

Organizational Structure

A UC Davis Campus Organizational Chart can be provided (Appendix H-3), but no organizational chart exists based on classroom management. There are two committees that provide direction with classroom policy and management. One is an Academic Senate Subcommittee for Instructional Space Advisory Group (chaired by an Academic Senate member and membership for 2006-07 has not been finalized), and the other is a 'Classroom Master Plan Committee' Co-Chaired by the Vice Chancellor for Resources Management and Planning and Vice Provost for Undergraduate Studies (other members include University Registrar, Associate Registrar for Scheduling, Assoc Vice Chancellor for ORMP, Director of CTS, Classroom Technical Team Member, Architects and Engineering representative, Academic Senate member). This "Future" group was formed initially from a new classroom building project, and has recently morphed into a group that will make recommendations for future classroom space and allocation.

Prior to the start of the Fall 2006 quarter, three classroom spaces were transferred from academic department control to the GA classroom pool since a new facility for that academic department planned to open. With the large influx of incoming freshmen in the Fall 2006, ORMP was able to review quickly and re-allocate those spaces to OUR for general assignment classrooms. Leadership came from the Vice Chancellor for Resources Management and Planning (Appendix H-4) and Vice Provost for Undergraduate Studies. Higher Administration playing more active roles has resulted in increased attention and priority to classrooms. The Provost Office's interest in space issues has also helped in the decision-making efforts. The Provost has been their strongest advocate. Faculty representation and participation in classroom committees has also assisted in voicing faculty needs, complaints and feedback.

Budget and Finance

No formula is currently used for getting more money for classrooms. A proposal process similar to those used to initiate other new funding requests can be submitted through appropriate channels if additional classroom space or renovation is required beyond the standard $700,000 already budgeted annually for GA classrooms. Increases in student FTE does not necessarily equate to increase in funds. The original budget came from a realization that the classrooms needed upgrading and that the campus needed to standardize classrooms spaces, especially the media equipment and not enough was coming from OMP. The Registrar's office initiated a study by going to the IT unit (Appendix H-8) who came up with a report which showed what they had, what was actually needed, and how to get there. It also showed what the life cycle of the equipment actually was. The budget people needed to have a plan of what was needed and what the actual costs were going to be. Over a period of three years the Registrar's Office with the help of the Office of Resource Management and Planning under the guidance of the Vice Chancellor's Office, were able to get the funding allocated. From this report, they were able to determine the actual costs and get the budget approved. A coordinated effort by dedicated, concerned people who were aware of the issues drove the project (Appendix H-5). As a result of this report, enrollment and classroom satisfaction and utilization have dramatically increased.

2. ADVANTAGES OF U.C. DAVIS' APPROACH:

Some of the advantages at UC Davis are:

- The University has many experts within each area that can provide a foundation for broad conversation and issue awareness.
- Management and scheduling of GA classrooms by the Office of the University Registrar provides efficiency in assignment and monitoring of utilization.
- Lots of space available – UC Davis is inheriting 1,100 Vet Med spaces which they hope to convert into 45 classes, one or two of them to be large classrooms next year (Medical School

moving to Sacramento, and in turn the Vet Med is moving into the old Medical School space resulting in the campus is getting all the old Vet Med spaces).

3. DISADVANTAGES OF U.C. DAVIS' APPROACH:

Some of the disadvantages at UC Davis are:

- Decision making may take time due to the number of units involved.
- Competing priorities between classes versus campus needs on occasion cause delays.
- Clear communication and coordination is necessary so that all information reaches all affected units in order to make informed decisions.
- Strict fire Marshall Codes which limit classroom design and use.
- Meeting current state regulations on classroom utilization (especially night classes)
- Outdated Policy guidelines that need to be revisited

4. FUTURE DIRECTIONS:

At UC Davis, coordination and collaboration between the OUR, CTS, O&M, and ORMP now exists for all GA classroom spaces. Regular meetings are scheduled as necessary depending on the seriousness of problem, issues, complexity or unique needs. The Registrar has developed a classrooms@ucdavis.edu e-mail address to report problems so they can be prioritized immediately. They do an analysis of common problems, assess older classroom by performing site checks, and receive and study regularly faculty feedback, etc. They are responsible for balancing the annual fund allocations to accommodate major, minor and repair projects, purchases and media/technology needs. They are also looking at more development funds and gifts for building projects rather than depending strictly on university or state funds. This was a result of large donations from two UC Faculty, Warren Giedt and his wife, and Rand Schaal and his father ,Ted (Appendix H-9 and Appendix H-10).

Looking to the future, some of things UC Davis believes can contribute to the best learning environment are:

- Clean, uncluttered classrooms and well designed spaces.
- Incorporating as much as possible the desires and accommodating the teaching needs of the majority of instructors.
- More moveable seating in the larger size classrooms.
- Add smaller classrooms for more individualized settings and learning experiences. They are also considering having some "smart classrooms". They want to be able to have flexibility in seating arrangements and to be able to partition rooms based on need).
- Be able at the same time to comply with Fire Marshall Code requirements without compromising the teaching environment.
- Re-evaluating departmental spaces to balance and maximize space utilization in response to increase demands.

UC Davis hopes to stay on top of innovations in technology, and wireless technology, and to continue to have a good, efficient working relationship with Media Units. They want to have engaging instructors and excellent faculty who have an active interest in their teaching environment. Finally, they want to continue the active participation and support of the Administration at the Provost and Vice Chancellor levels to nurture and expedite innovation and change.

Appendix H-2: Interview Details

Interview Details

1	**Name of University**	**University of California, Davis**
2	LDP Interviewer Name	**Pat Mimoto**
3	Date of Interview	**11/30/06, 12/8/06, 12/11/06**
4	University Contact Office of the University Registrar	**Maria Miglas - Asso. Registrar 530-752-2978** **mlmiglas@ucdavis.edu**
5	University Contact Office of the University Registrar	**Lynn Rabena - Acad. Sched. Superv. 503-752-5089** **lmravena@ucdavis.edu**
6	University Contact Office of the University Registrar	**Frank Wada –University Registrar 530-752-3619** **Fywada@ucdavis.edu**
7	University Contact Office of Resource Management & Planning	**Jerry Johnson – Sr. Faculty Req. Analyst 530-752-2437** **jljohnson@ucdavis.edu**

ACADEMIC SENATE

ACADEMIC FEDERATION

UCD STAFF ASSEMBLY

ASUCD

GRADUATE STUDENT ASSOCIATION

CHANCELLOR
Larry N. Vanderhoef

PROVOST AND
EXECUTIVE VICE CHANCELLOR
Virginia S. Hinshaw

SENIOR STAFF of the OFFICES OF THE CHANCELLOR AND PROVOST

ASSOCIATE EXECUTIVE VICE CHANCELLOR—CAMPUS COMMUNITY RELATIONS
Rahim Reed

VICE CHANCELLOR—ADMINISTRATION
Stan Nosek

Accounting and Financial Services: Accounts Payable; Business Contracts; Capital Asset Accounting & Equipment Management; Cashier's Office; Controls & Accountability; Costing Policy & Analysis; Education & Support Services; Extramural Accounting; General Accounting; Internal Control; Mail Division; Materiel Management; Payroll Services; Purchasing; Student Accounting; Systems Development & Implementation; Tax Services; Travel Management. **Architects and Engineers:** Design, Engineering, & Construction; Project Management. **Business Services:** Campus Events & Visitor Services; Fleet Services; Mediation Services; Organizational Development Services; Repro Graphics; Transportation & Parking Services. **Facilities Management:** Building Maintenance; Utilities Services; Buildings & Grounds; Renovations & Minor Capital Construction. **Human Resources:** Academic & Staff Assistance (ASAP); Benefits; Child Care and Family Services; Compensation Services; Disability Management Services; Employee & Labor Relations; Employment Outreach Services; Sexual Harassment Education Program; Staff Affirmative Action & Diversity; Staff Development & Professional Services; Temporary Employment Services; Work/Life. **Police Department:** Operations; Campus Violence Prevention Program; Investigations and Communications Center. **Safety Services:** Campus Emergency Planning; Emergency Management; Employee Health; Workers' Compensation; Environmental Health & Safety; Risk Management; Animal Care and Use. **Fire Department:** Emergency Operations; Fire Prevention & Fire Safety Education.

VICE CHANCELLOR—RESEARCH
Barry M. Klein

Central Administration: Academic Personnel; Conflict of Interest; Electronic Research Administration; Laboratory Management Institute; Limited Submissions; Marketing & Communications; Research Compliance & Integrity; Research Government Relations. **Central Facilities:** Controlled Environmental Facility; McClellan Nuclear Radiation Center; Molecular Structure Facility; Nuclear Magnetic Resonance Facility; Interdisciplinary Center for Plasma Spectrometry. **Interdisciplinary Research Support:** Interdisciplinary Research Grant Proposal Assistance; Funding Opportunity Search. **IRB Administration:** Human Research Policy; Training and Quality Assurance; Institutional Review Board. **Natural Reserves:** Bodega Marine Reserve; Eagle Lake Field Station; Jepson Prairie Reserve; McLaughlin Natural Reserve; Quail Ridge Reserve; Stebbins Cold Canyon Reserve. **Organized Research Projects:** Center for Computational Science & Engineering; Rhizosphere Biology Initiative. **Organized Research Units:** Agricultural History Center; Air Quality Research Center; Bodega Marine Laboratory; California National Primate Center; Cancer Center; Center for Health Services Research in Primary Care; Crocker Nuclear Laboratory; Institute for Data Analysis and Visualization; Institute of Governmental Affairs; Institute of Transportation Studies; John Muir Institute of the Environment; Nanomaterials in the Environment, Agriculture, and Technology; Program in International & Community Nutrition. **Research Centers and Other Support Units:** Biotechnology Program; CalSpace; Center for Biophotonics Science and Technology; Center for Health and the Environment; Consortium for Women and Research; Global Livestock Collaborative Research Support Program; National Institute of Global Environmental Change; Public Service Research Program; Tahoe Education Research Center; Toxic Substances Research and Teaching Program; UC Biotechnology Research and Education Program; UC Davis Center for Information Technology Research in the Interest of Society; Western Regional Center of National Institute of Global Change. **Sponsored Programs:** Contract and Grants Pre and Post Award Assistance; Award Closeout. **Technology Industry Alliances:** Industry Research Alliances (Innovation Center); Technology Business Development; Technology Transfer Services (Material Transfer Agreements; Intellectual Property; Licensing Agreements; Patents); UC Davis CONNECT (Entrepreneurial Support Services; Research & Technology Networking Programs; Education and Mentoring Programs).

DEAN—COLLEGE OF AGRICULTURAL AND ENVIRONMENTAL SCIENCES
Neal K. Van Alfen

DEAN—COLLEGE OF ENGINEERING
Enrique J. Lavernia

COLLEGE OF LETTERS AND SCIENCE

DEAN—DIVISION OF HUMANITIES, ARTS, AND CULTURAL STUDIES
Jessie Ann Owens

DEAN—DIVISION OF MATHEMATICAL AND PHYSICAL SCIENCES
Winston T. Ko

DEAN—DIVISION OF SOCIAL SCIENCES
Steven M. Sheffrin

DEAN—COLLEGE OF BIOLOGICAL SCIENCES
Kenneth C. Burtis

DEAN—GRADUATE SCHOOL OF MANAGEMENT
Nicole Woolsey Biggart

DEAN—SCHOOL OF EDUCATION
Harold G. Levine

DEAN—SCHOOL OF LAW
Rex R. Perschbacher

DEAN—SCHOOL OF VETERINARY MEDICINE
Bennie I. Osburn

VICE CHANCELLOR—HUMAN HEALTH SCIENCES
DEAN—SCHOOL OF MEDICINE
Claire Pomeroy

CHIEF EXECUTIVE OFFICER—UC DAVIS MEDICAL CENTER
Ann Madden Rice

VICE PROVOST—ACADEMIC PERSONNEL
Barbara Horwitz

Academic Development Programs
Academic Grievances
Academic Personnel Policy and Administration
Faculty Diversity/Affirmative Action/EEO
Faculty Recruitment and Retention
Faculty Work-Life Balance
Partner Opportunities Program

VICE PROVOST—INFORMATION AND EDUCATIONAL TECHNOLOGY
CHIEF INFORMATION OFFICER
Peter Siegel

Application Development and Data Administration
Communication Resources
Data Center and Client Services
Mediaworks
Project Management and Business Services

VICE PROVOST—UNDERGRADUATE STUDIES
Patricia A. Turner
Fred Wood (Interim through April 2007)

Colleges at La Rue
Davis Honors Challenge
Integrated Studies
Internship and Career Center
Subject A
Summer Sessions
Teaching Resources Center
UC Davis Washington Center
Women's Resources and Research Center--Library

VICE PROVOST—UNIVERSITY OUTREACH AND INTERNATIONAL PROGRAMS
William B. Lacy

Education Abroad Center
Humphrey Fellowship Program
Services for International Students and Scholars
Short Term Programs Abroad

DEAN—UNIVERSITY EXTENSION
Dennis F. Pendleton

UNIVERSITY LIBRARIAN
Marilyn J. Sharrow

General Library: Agricultural and Resource Economics Library; Carlson Health Sciences Library; Harrison Western Research Center; Peter J. Shields Library; Physical Sciences and Engineering Library; UC Davis Medical Center Library.

VICE CHANCELLOR—RESOURCE MANAGEMENT AND PLANNING
John A. Meyer

Budget Resource Management: Budget Planning and Coordination; Special Studies; Institutional Planning and Analysis. **Campus Planning:** Land Planning; Long Range Development Plan; Land Assignments; West Village. **Capital and Environmental Resource Management:** Capital Planning; Space Assignment; Environmental Planning; Putah Creek Riparian Reserve. **Internal Audit Services. Real Estate Services:** Off-Campus Leases; Aggie Village; Faculty/Staff Housing Assistance; Third-Party Development Partnership.

VICE CHANCELLOR—STUDENT AFFAIRS
Judy K. Sakaki

Health, Wellness, Governance and Planning: ASUCD Business Office; Counseling and Psychological Services; Cowell Student Health Center; Design Services; Student Affairs Development; Campus Unions & Campus Recreation; Activities and Recreation Center; Memorial Union Auxiliary Services; Memorial Union Programs & Campus Recreation; Student Judicial Affairs; UC Davis Bookstores. **Enrollment and Academic Support Services:** Advising Services; Financial Aid; Internship & Career Center; Learning Skills Center; Registrar's Office; School/University Partnerships; Services for International Students & Scholars; Student Affairs Research & Information; Student Special Services; Undergraduate Admissions. **Student Life:** Student Affairs in Ethnic Studies—African American & African Studies, Asian American Studies, Chicana(o)/Latina(o) Studies, Native American Studies; Cross-Cultural Center; Lesbian, Gay, Bisexual & Transgender Resource Center; Student Housing; Student Programs & Activities Center; Women's Resources & Research Center. **Intercollegiate Athletics.**

VICE CHANCELLOR—UNIVERSITY RELATIONS
Beverly "Babs" Sandeen

Alumni Relations: Cal Aggie Alumni Association; Alumni Publications; Alumni Internet Community; Alumni Advocacy; Association Dues & Revenue Generating Programs; Alumni Chapters, Reunions, Awards Program, & Special Events; Student Recruitment & Scholarship Awards; Cal Aggie Student Alumni Association; Walter A. Buehler Alumni and Visitors Center. **Development:** Individual/Planned/Major/Special/Annual Giving; Corporate & Foundation Relations; Development Communication; Prospect Research & Tracking; Campaign Planning & Programs. **Finance, Information Management and Administrative Services:** Advancement Information Systems; Gifts Policy & Administration; Finance & Business Services; Human Resources & Organizational Development; Ceremonies & Events; UC Davis Foundation Relations & Endowment Administration; Support Group Administration. **Government and Community Relations:** Community Relations; Legislative Advocacy; Local, State, & Federal Government Relations. **University Communications:** Marketing Communications; News Service; Publications.

DEAN—GRADUATE STUDIES
Jeffery C. Gibeling

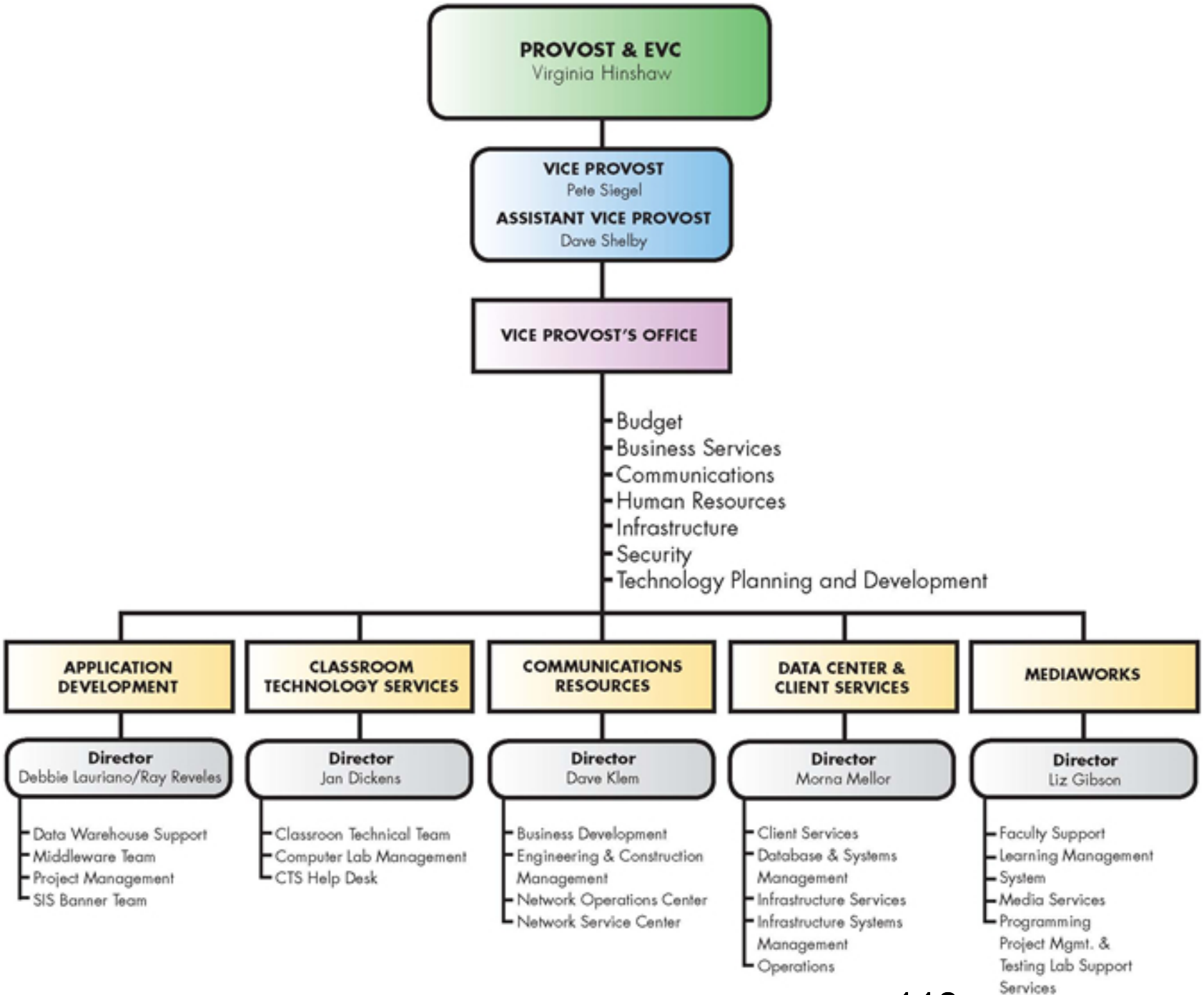
Academic Programs and Planning. Admissions and Academic Services. Analysis and Information Services. Financial and Business Services. Graduate Publications. Graduate Student Professional Development. Graduate Student Financial Support. McNair Scholars Program. Outreach, Recruitment and Retention Programs. Postdoctoral Scholar Programs.

UC DAVIS
RESOURCE MANAGEMENT AND PLANNING

Organization Chart

Office of Resource Management and Planning
John Meyer
Vice Chancellor

- **Budget Resource Management and Institutional Planning & Analysis**
  Kelly Ratliff
  Assistant Vice Chancellor
- **Campus Planning**
  Robert Segar
  Assistant Vice Chancellor
- **Capital and Environmental Resource Management**
  Richard Keller
  Assistant Vice Chancellor
- **Internal Audit Services**
  Richard Catalano
  Director
- **Real Estate Services**
  John Yates
  Executive Director
- **Administrative Services**
  Donna Udahl
  Financial/Budget
  Roxie Weaver
  Human Resources


PROVOST & EVC
Virginia Hinshaw
VICE PROVOST
Pete Siegel
ASSISTANT VICE PROVOST
Dave Shelby
VICE PROVOST'S OFFICE
Budget
Business Services
Communications
Human Resources
Infrastructure
Security
Technology Planning and Development
APPLICATION DEVELOPMENT
CLASSROOM TECHNOLOGY SERVICES
COMMUNICATIONS RESOURCES
DATA CENTER & CLIENT SERVICES
MEDIAWORKS
Director
Debbie Lauriano/Ray Reveles
Director
Jan Dickens
Director
Dave Klem
Director
Morna Mellor
Director
Liz Gibson
Data Warehouse Support
Middleware Team
Project Management
SIS Banner Team
Classroon Technical Team
Computer Lab Management
CTS Help Desk
Business Development
Engineering & Construction Management
Network Operations Center
Network Service Center
Client Services
Database & Systems Management
Infrastructure Services
Infrastructure Systems Management
Operations
Faculty Support
Learning Management System
Media Services
Programming
Project Mgmt. & Testing Lab Support Services

UCDAVIS FACTS

Rankings and other general statistics

Ranking:
16th among public universities nationwide (National Research Council)
14th among public universities nationwide (U.S. News & World Report)
12th in research funding among U.S. ranked public universities and 5th among UC campuses (National Science Foundation) 17th, just behind Harvard, in the first ranking of American universities based on their contributions to society (*Washington Monthly*).

Association:
One of 62 North American universities admitted into the prestigious Association of American Universities.

Research funding: $505 million in 2004–05

Private support: $79 million in 2004–05

Colleges/schools/divisions:
4 colleges (Agricultural and Environmental Sciences, Biological Sciences, Engineering, Letters and Science)
5 professional schools (Education, Law, Management, Medicine, Veterinary Medicine)

Student enrollment: 29,637 (fall 2005)

Alumni with degrees: 166,885

Undergraduate majors: 103

Graduate programs: 86

Intercollegiate sports: 26 (14 for women, 12 for men)

Campus acreage: 5,300 acres (largest UC campus)

Last updated Jan. 12, 2006

Appendix H-7

Picture of Classroom Video Technology

UCDAVIS The UC Davis Vision

» The UC Davis Vision: The Campus' Strategic Plan

» Frequently asked questions

Strategy: Provide the physical facilities, information resources and technology infrastructure necessary to achieve national and international distinction and leadership in learning, discovery and engagement.

Point People: John Bruno, John Meyer, Stan Nosek, Joseph Silva, Marilyn Sharrow

NOTE: The first-year implementation report for this strategy is divided into four parts: information and educational technology; campus operations; capital projects; and library.

INFORMATION AND EDUCATIONAL TECHNOLOGY

Narrative Summary of First Year Implementation Efforts:

In 2003-04, Information and Educational Technology (IET) led the development of the UC Davis Information Technology Strategic Plan and List of Campus IT Projects for 2003-05. Drawing on consultation with the campus community, an information technology framework is now in place that directly supports the campus vision, strategies, and priorities. From this comprehensive planning framework, several IT projects have been identified as high priorities for UC Davis (see Advances below). These projects are expected to provide a number of direct benefits to staff, students, and faculty. They also will help position UC Davis as an institution of national and international distinction.

IET has also taken a number of important steps to strengthen campus distinction in teaching, learning, and research. As an example, all 115 general assignment classrooms are now equipped with a uniform and effective technology built around ‘smart panels.’ We have also focused on providing the necessary infrastructure, tools and support to the increasing number of instructors who are integrating technology into their teaching, as illustrated for example by the popularity of course management tools, the availability of online courses, the record number of hours the computer classrooms were reserved for class, and faculty’s increasing participation in training institutes, and in the ET Partners Program.

In addition, faculty, students and staff have access to ubiquitous, high-speed networking and reliable, high-quality telecommunications services. Examples of major enhancements to voice and data services include upgrades to the campus building-wiring infrastructure, the installation of dark fiber between the campus and Sacramento, and the expansion of the campus’ wired network. In addition, a major effort has focused on restructuring financial accounts and reviewing reserve deposits related to the data network, the voice system, and other such costs. This analysis and financial restructuring have helped clarify funding needs and opportunities related to voice and data maintenance, future improvements as well as strategic initiatives, such as the convergence of the voice system and data network.

Implementing a robust, multi-faceted IT security program has also been a priority, and a number of measures have been taken in this area. They include installing spam filters on campus email servers, implementing an identity theft awareness, intrusion detection and notification program, as well as using network monitoring tools to identify and isolate computer viruses and other vulnerabilities.

Equally important to the campus’ vision is the exploration of advanced new technologies in support of learning, discovery, and engagement. An example of advances in this area is the recent use of two-way video-over-IP technology to link the Virtual Care Center in Sacramento to the departments of Anesthesiology and Pain Medicine on

campus, thereby providing faculty and students with new opportunities for 'real time' and 'real world' collaboration.

Advances and Ongoing Programs Consistent with Strategy:

- Campus-wide information technology planning (see http://itstrategicplan.ucdavis.edu):
  - Developed Information Technology Strategic Plan for the Campus (December 2003).
  - Developed a list of information technology projects for 2003-05 (January 2004); identified campus IT priorities for 03-05 (Spring 2004).These priorities will form the basis of the campus IT Plan for 2004-2006, and the call for central campus resources provided by Provost Hinshaw
- Coordination of major campus-wide information technology projects/systems:
  - Electronic Document Management Project. Proposes to explore a coordinated campus strategy to meet various departments' document management needs. Status: An executive-level oversight committee has been appointed (Bruno, Nosek, Sakaki, Gibeling, Sheffrin, and Loessberg-Zahl). The OnBase product has been implemented in Student Affairs' Enrollment Services unit as well as in the Offices of the Chancellor and Provost. In addition, the Office of Administration has issued a Request for Information (RFI), and the College of Letters and Science has obtained funding for a document management solution. The Office of Administration RFI will form the basis for assessing the availability of DM solutions and the feasibility of a campus-wide approach. A Project Manager has been hired by IET to help coordinate this effort.
  - Faculty Merit and Promotion Project. Proposes to create faculty digital portfolios that can be used in support of the academic merit and promotion processes, as well as other processes. Status: An implementation workgroup, reporting to Vice Provosts Bruno and Horwitz, was formed (Melendy and Shelby, co-chairs). The project was discussed with campus computing advisory groups in 2003-04 (see deliberations and report at http://ac4.ucdavis.edu). The workgroup has recommended a limited pilot implementation of the My InfoVault application developed by the Medical School A (see demo at http://media.ucdavis.edu:8080/ramgen/IET/MyInfoVault.rm).
  - Electronic Research Administration System. Will enable electronic submission, review, approval, and tracking of research grant proposals. Status: An oversight committee was appointed (Meyer and Bruno, co-chairs) as well as an implementation workgroup (Chronister and Hartline, co-chairs). The project was discussed with campus computing advisory groups in 2003-04 (see deliberations and report at http://ac4.ucdavis.edu). A proposal has been submitted for a phased, three year implementation beginning in October, 2004
  - Effort Reporting Project: UC Davis has entered into a collaborative partnership with the Office of the President and several other UC campuses. The goal is to improve the current, paper-based effort reporting process. At UC Davis, this project is headed by the Office of Administration. Status: Funding has been granted. The project is under way.
  - Student and Exchange Visitor Information System (SEVIS): The campus became compliant with major federal and other regulations/requirements.
  - Campus Web presence. Status: A planning team has been formed to redesign the main campus Web site. This project is headed by University Relations, with support from IET.
  - Telecommunications Master Plan. Status: Underway; completion is anticipated around May 2005.Periodic updates are provided to the Facilities and Enterprise Coordinating Committee, with the full FEPC acting as the Oversight Committee.
- Enhancements to information and educational technology infrastructure, access, and training:
  - Enhanced technology infrastructure in general assignment classrooms. Installed smart panels, media cabinets, data projectors, DVD players, electric screens and audio amplification systems in 115 classrooms (Summer 2003). Completed upgrade to projection systems and installed DVD/VHS players in all computer classrooms (Winter 2004).
  - Record number of computer classroom hours reserved for class (3,127 in Winter 2004). Fourteen campus

computer labs (2 open access labs, 2 media labs, and 10 computer classrooms). Online reservation system.
    - Increasing use of course management tools (Website Builder, GradeBook, Quiz Builder) from the MyUCDavis portal. Faculty and students are making increased use of these tools to manage assignments, learning assessment, and communication (1,027 courses used one or more course management tool in Winter 04).
    - Expansion of training for faculty (e.g., educational technology partnerships, institutes for integrating technology into teaching and learning, Spring Into the Web Course Management event).
    - A collaborative effort is underway with the Human Resources Information System (HRIS) team to review the current and potential applications of information technology in support of the campus Human Resources Unit.
    - Resumed development of the Data Warehouse. A team is exploring the development of a decision support mechanism to be integrated with PPS Decision Support. A proposal is anticipated in November 2004.
    - An IET/ Office of Administration partnership has been formed to develop a centrally-maintained Active Directory and Exchange service for campuswide use. Feasibility report expected in October 2004.
- Exploration of new technologies in support of teaching, research, and outreach
    - A joint proposal from IET and University Communications has been developed for expansion of Webcasting services in support of outreach (live and on-demand video offerings of events over the Web).
    - Implementation of two-way video-over-IP technology (e.g., from the UCD Health System's Virtual Care Center in Sacramento to the departments of Anesthesiology and Pain Medicine in the campus' Health Sciences Complex).
- IET and the UCDavis Health System are developing oversight and operational coordinating structures to manage the enhancements to voice and data infrastructure resulting from completion of the dark fiber connection between the campus and the UCD Health System in Sacramento

Short Statement of Plans for 2004-05:

- Identify, then prioritize and implement UC Davis Information Technology Projects for 2005-07. Includes continued consultation with CODVC, advisory groups (e.g., Senior Advisors, CCFIT, TIF), Academic Senate, campus community. Pursue specifically identification of projects in support of teaching and learning.
- Plan for the next generation of classroom instructional technology infrastructure and prepare for the next cycle of upgrades to the campus classrooms. Includes high-end digital projection capabilities.
- Implement further IT security infrastructure enhancements (e.g., network monitoring tools, secure email authentication, vulnerability scanning, encryption, Remedy incident tracking system; online resetting of Kerberos passwords). Includes development of broad communication campaign and training resources.
- Expand middleware service offerings (e.g., roles database, account provisioning, directory services).
- Develop a Telecommunications Master Plan for the campus, including an approach to Voice Over IP and horizontal building wiring.
- Finalize a plan to enhance centrally-managed wireless services infrastructure, and explore additional deployment as appropriate – particularly in campus "common areas."

Evaluation of Metrics:

- Enhancement of information and educational technology infrastructure, support, and training
  Examples of metrics:
    - Availability of report identifying major faculty technology needs (survey conducted by Educational Technology Subcommittee of Campus Council for Information Technology)
    - Number of technology upgrades and improvements made to classrooms, computer classrooms and

computer labs
    - Number of courses, instructors and students making use of course management tools
    - Number of classes with online components and number of students enrolled in those classes
    - Level of faculty satisfaction with the reliability of classroom equipment
    - Availability of tools to prevent computer vulnerabilities, viruses, spam, open relays, and intrusions
    - Increased capacity to manage and quantity of centrally-managed wireless access ports
    - Number of 100Mbs-enabled network connections
    - Number of campus sites made multicast ready
    - Quantity of sites that are Webcast-enabled
    - Completion of proposal for Webcasting of campus events (University Relations/IET)
    - Number of training classes offered to users of major applications (e.g., Banner, course mgt tools)
    - Number of security-related seminars, workshops, presentations, and other educational materials
    - Establishment of higher standards for campus computing help desk (IT Express); compliance with those standards
- Expansion of availability and accessibility to computing resources for faculty, students, and staff
  Examples of metrics:
    - Number of seats/workstations available for computer classroom instruction
    - Number of seats available for open computer access
    - Number of faculty, students and staff who have used computer labs and classrooms
    - Number of instructional applications developed/supported centrally
    - Number of campus computing accounts created by faculty, students and staff
    - Number of email listservs created for class or other purposes
    - Expansion of faculty and departmental participation in ET Partners and Arbor programs

CAMPUS OPERATIONS

Narrative Summary of First Year Implementation Efforts:

- Developed a tactical team to address immediate facilities-related issues that influence accreditations associated with the Law School, Veterinary Medicine and AALAC.
- Began work with Human Resources to develop apprenticeships, craft specific titles, management/supervisory classifications and market data for grounds and custodial with the goal of improving recruitment and retention of Operations and Maintenance staff.
- Completed aggressive negotiations with major energy providers that will save an estimated $75 million over PG&E rates over the next 6-year period.

Advances and Ongoing Programs Consistent with Strategy:

- Developed and implemented reforms to the campus utility program business model to better manage utility costs, reform of utility rates to provide rate stability and recoup service costs and reform of billing practices to provide timely, accurate and informative customer billing. Developing additional conservation methods including the lowering of set points.
- Identifying grants and external funding that would help support waste water treatment plant and utility operations.

Short Statement of Plans for 2004-05:

- Office of Administration to work closely with Office of Resource Management and Planning (ORMP) to enhance the facility planning processes to better address operational impacts (budget and service) of new facilities

- Work closely with ORMP to develop utility master plans that address both growth of the campus as well as existing infrastructure needs
- Defining roles and responsibilities of campus employees (e.g., Architects and Engineering, Operations and Maintenance, ORMP, Deans/VCs) involved with building and maintaining campus facilities.
- Continued efforts to improve reliability of campus utility services through initiatives to provide N+1 redundancy in production and distribution systems, reform or procedures for underground utility location and protection during construction activity and implementation of physical and procedural security improvements.
- Developing a comprehensive deferred maintenance and capital renewal plan.
- Developing a comprehensive strategy for commissioning new buildings
- Enhancing the minor capital process for more efficient and effective service to the campus.

Evaluation of Metrics:

- Transformation to a more sustainable campus in terms of energy consumption, resource utilization and environmental impact.

  We are continuing to develop the infrastructure that will allow us to monitor energy utilization. We believe that once departments have a clearer understanding of their energy utilization, they will become more effective in reducing energy consumption. We are also working with campus departments to increase awareness of their roles in being stewards of natural resources, which we can influence through the use of recycled paper and other materials, energy conservation, etc.

CAPITAL PROJECTS

Narrative Summary of First Year Implementation Efforts:

Adoption this year by the Regents of our Long Range Development Plan provides capacity of an additional 2.5 million square feet of building capacity on the campus.

Another principal activity this year was to prepare a second edition of the campus 10-year Capital Plan. UC Davis is the only campus in the system with such a plan.

To address increasing concerns about classroom capacity, planning has been initiated for a new classroom building: Giedt Hall

Advances and Ongoing Programs Consistent with Strategy:

- Adoption of Long Range Development Plan
- Construction planning initiated for new classroom building
- Physics-Geology Building fifth floor addition completed

Short Statement of Plans for 2004-05

- Publication (both hardcopy and web-based) of 10-year capital plan, second edition
- Open new facilities including 500 seat lecture hall, Sciences Lab Building, and Genomics Building.
- Continue construction of Mathematical Sciences Building
- Initiate construction of Vet Med 3A, Vet Med Instructional Facility, Robert Mondavi Institute, Watershed Sciences

Building, and campus infrastructure projects
- Complete review of minor capital improvement process to respond to rapidly changing academic priorities and improve service delivery.

Evaluation of Metrics:

- Completion of facility renovations and new construction, including classrooms, academic and administrative offices, research space and other support facilities.

  Base data exists to monitor progress in this area including how schools and college fare when compared to state space standards. The challenge will be to take the volume of data available and produce a report and format that easily tracks goals and progress.

LIBRARY

Narrative Summary of First Year Implementation Efforts:

The General Library employed a range of strategies targeted at sustaining the strength of library collections and access to them in the face of permanent reductions to the budget. The challenges of sustainability continue to be complicated by the changing methods in which research is reported out by publishers and the continuing increase in the cost of the acquisition of this research regardless of these changes.

Listed in bullets below is a sampling of the more significant strategies and metrics the General Library used to maximize available funding to sustain library collections and to provide efficient access to them in support of programs of excellence and emerging distinction. Despite the permanent reductions to the budget, the General Library was greatly assisted during this reporting period by one time funds provided by the Provost in recognition of the Library's role as a central and vital resource of the University.

Advances and Ongoing Programs Consistent with this Indicator of Achievement:

- Budget Reduction Planning
  - Develop and implement an Organizational Assessment of all General Library programs as an Administrative Unit Review. Implement efficiencies that emerge from the Assessment to reduce operating costs and re-direct funding to core activities.
- Continue to implement materials acquisition strategies that maximized available funding
  - Generate cost savings by continuing to reduce dual format journal subscriptions, canceling print titles where both print and electronic titles were being acquired.
  - Work with Academic Senate Library Committee to endorse this strategy
  - Bibliographers work with faculty to endorse this strategy
  - Use available funding to continue to acquire print materials where faculty require research in print to effectively conduct research
  - Consult with the Council of Deans and Vice Chancellors to endorse this strategy and to solicit one-time budgetary relief during a three-year bridge period as the movement to electronic access to research publications accelerates
- Convene and accelerate discussions concerning alternative methods faculty can use to present the results of their research (i.e., open access models) that ultimately could reduce the cost of collection acquisitions.
- Standing firm with systemwide colleagues to drive down the cost of licensed resource agreements (i.e., Elsevier).
- Accelerate efficiencies associated with system-wide resource sharing

o Implementation of software maximizing the Request feature both from the General Library Integrated Library System as well as MELVYL

- Implementation of Desktop Delivery
  - Develop and implement a pilot to scan and post to a library website research materials requested by faculty
- Continue to keep the campus community informed with regard to the changing nature of the methods used to acquire and disseminate research information for campus scholars through the Collections in Transition website (http://www.lib.ucdavis.edu/info/jrnltrans/index.html)
- Develop and implement an effective remote authentication strategy making licensed databases and other electronic resources easily accessible at the scholar's workstation
- Continual and ongoing enhancements to the Harvest Integrated Library System providing "MyAccount" features such as research storage; automatic research updates, etc.
- Grow the General Library Instructional Services Unit in order to provide guidance and instruction in an increasingly complex library landscape.

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DATELINE UCDAVIS

News for Faculty and Staff of the University of California, Davis

October 21, 2005

Campus envisions expanding classroom space

By Clifton B. Parker

This architectural rendering of Giedt Hall shows a front entrance with ample bicycle parking for the energy-efficient building. (Courtesy, MBT Architecture)

The upcoming Warren and Leta Giedt Hall will help ease the classroom crunch in the west-central side of campus, say university officials.

With groundbreaking next January and completion expected in spring 2007, the one-story Giedt Hall will provide 650 seats total in classrom space — the design calls for three lecture halls of 250, 175 and 150 seats, and two 40-seat classrooms. Scheduling priority for these classrooms will be given to engineering and geology.

In recent years it has been difficult for classroom construction to keep pace with rising enrollments. While some of the most rapid growth has slowed, the campus is expecting 100 to 300 new students a year for the foreseeable future.

Fred Wood, interim vice provost for Undergraduate Studies, said faculty are "extremely excited" about the Giedt Hall Building because it will help address the classroom shortages that are occurring on campus.

"Having additional classrooms will help meet the instructional needs of the campus and allow for more courses to be scheduled at optimal times," he said.

The $7.5 million building will be built on a parcel east of the Barn (formerly the Architects and Engineers Barn) and just north of Kemper Hall — a place where more mid-sized classrooms are needed. The site currently includes 18 single-story temporary facilities, which are now being taken down for the new building.

Rick Keller, assistant vice chancellor for capital resource management, said that UC Davis is hoping to address classroom needs with projects like Giedt Hall. In 2002-03, UC Davis' classroom usage was at 100 percent of the California Postsecondary Education Commission guidelines, which means that all available classroom seats are utilized an average of 35 hours per week. In Fall 2003, the usage of all classrooms exceeded the state standard by 3 percent.

As Keller noted, "The west-central area of the campus has grown rapidly in past years and as a result needs more classroom space. Once it is finished, Giedt Hall will help to address this issue in that area of campus."

Campus leaders point to Giedt Hall as a shining example of how faculty philanthropy makes a difference in the classroom.

"Financial gifts from faculty made this project possible," says John Meyer, vice chancellor for resource management and planning. "We have had a long-standing need for new classrooms. The generosity of the Giedts and Schaals gave us the opportunity to leverage campus funds to develop this new facility."

Gifts, campus funds

In 2003, the university received two donations for the new hall from UC Davis faculty — a $2.5 million gift from Warren Giedt and his wife, Leta, and a second gift of $400,000 from Rand Schaal and his father, Ted. The campus is also supplying funds to construct the 15,000-square-foot building.

Giedt is a professor emeritus in mechanical and aeronautical engineering. Internationally known for research in heat transfer, fluid mechanics and thermodynamics, Giedt has received numerous teaching awards and, in 1993, he and his wife established the College of Engineering's first endowed professorship with a deferred gift.

Schaal was a lecturer in geology and a UC Davis graduate. His classes on the solar system and lunar geology were popular and drew hundreds of students. He and his father, Ted Schaal, made a gift of $1.4 million to UC Davis in 1998, $1 million of which went to build the Schaal Aquatics Center.

Wood noted that one of the Giedt Hall lecture halls will have a prep room for geologic lab samples. That was one of the Schaals' wishes, he added.

Wood pointed out that faculty offered input on the building's design. "It truly is designed for instructional usage."

Plans call for Giedt Hall's three larger rooms to include tiered, fixed seating and a full complement of audiovisual equipment. Forty moveable chairs in each classroom will give instructors flexibility for seating arrangements.

Meyer said scheduling priority for these classrooms will be given to engineering and geology. "At other times, the rooms will be available for general assignment. And, of course, bringing any new classrooms online will add flexibility for all campus classroom scheduling."

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DATELINE UCDAVIS
News for Faculty and Staff of the University of California, Davis

April 23, 2004

Wired-up class space in works

By Clifton B. Parker

The construction of classroom space in the next few years will focus as much on technology as on bricks and mortar.

BUILDING COMMUNITY

Tech-savvy students and instructors will feel at home in the upcoming Warren and Leta Giedt Hall, due to open in 2006. Construction on the $7.5 million facility will begin next summer at a site near Kemper Hall in the Engineering/Physical Sciences district of campus, said Rick Keller, assistant vice chancellor for capital resource management.

"Our goal is to make these buildings as wired as possible so instructors have multiple options to choose from when using technology to educate our students," said Keller.

Keller said Giedt Hall's 250-seat Rand and Ted Schaal Auditorium will be Web-based with a state-of-the-art projection system capable of "bright, crisp pictures" for presentations and classroom exercises. The two-story facility will provide five new classrooms and lecture rooms for up to 650 student seats, serving general assignment classes with a special emphasis on engineering and science instruction.

Last fall the campus selected the San Francisco-based MBT Architecture firm to lay out the blueprint for Giedt Hall. Shortly thereafter a building committee was formed to explore how the building would be used.

The campus is developing new classroom space to fulfill its instructional needs, and Giedt is one example. Overall, Keller says, the campus needs to "catch up" with student enrollment. The campus also has under construction a new 500-seat lecture facility as part of the Sciences Laboratory Building, due to open next winter.

Once Giedt Hall is complete, Keller says the campus plans to review its classroom usage in light of enrollment projections and instructional needs.

"Our objective is to have options on how to respond to changing needs in the classroom," Keller said.

Part of the problem is that state mandates on classroom space have made it difficult for UC Davis to plan for instructional capacity, Keller said. In 2002-03, UC Davis' classroom usage was at 100 percent of the California Post-secondary Education Commission guidelines, which means that all available classroom seats are utilized an average of 35 hours per week.

"We want sufficient flexibility in our class sizes," said Keller, adding that California arguably has the

toughest classroom usage standards in the country.

"The state's rationale is that they want to carefully gauge any new investment in classroom space," said Keller. "But often times an institution must move sooner rather than later in meeting its obligations to the academic community, and adequate classroom space is a clear responsibility for any university."

As a result, about four years ago the university decided to seek more development funds and gifts for building projects rather than depend wholly on state funds.

For example, for Giedt Hall, the university received two donations from UC Davis faculty -- a $2.5 million gift from Warren Giedt and his wife, Leta, and a second gift of $400,000 from Rand Schaal and his father, Ted.

Giedt is a professor emeritus in mechanical and aeronautical engineering.

Schaal is a professor emeritus of geology, and a UC Davis graduate. His classes on the solar system and lunar geology were popular and drew hundreds of students. He and his father made a gift of $1.4 million to UC Davis in 1998. Of that, $1 million was designated to build the Schaal Aquatics Center.

Draft plans for Giedt Hall's three larger rooms call for tiered, fixed seating and a full complement of audiovisual equipment. The smaller rooms would have loose chairs to provide flexibility in their use.

During the past several years, Keller noted, the campus has remodeled classrooms in Young, Everson, Wellman and Olson halls, and has opened new classroom space in some of its professional schools, such as veterinary medicine.

All new classrooms and many existing ones will have or will be upgraded for "smart panels." The smart panel makes possible the concurrent operation of up to four output devices, such as computers, VCRs, DVD players, and document cameras.

Billy Sanders, an assistant dean in the College of Engineering and member of the classroom space committee, says that as the campus has grown in student enrollments, particularly at the undergraduate level, the number of campus classrooms and the mix of large and small rooms have not kept pace.

"From a College of Engineering perspective," Sanders said, "we have completely outgrown the small classrooms in Bainer Hall, and there are no lecture classrooms in either Kemper Hall or Engineering III."

As engineering enrollments have continued to increase, the college has found that they need lecture halls that accommodate 125-200 students, similar to many other programs on campus, he said.

"We are very excited about the new classroom facility at Giedt Hall," Sanders said, noting that the campus provided matching support to the Giedt's gift. "This new classroom facility will be near the engineering sector of campus, and will provide us with three lectures halls accommodating 150, 175, and 250 seats respectively, and two 40-seat classrooms."

He said the biggest issues facing the campus space committee are timing and funding. "Unfortunately, our needs and financial resources are going in opposite directions."

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APPENDIX I

University of California, Los Angeles
Classroom Management Case Study

Appendix I - Table of Contents

Prepared by Andrés Alvarez
Leadership Development Program
University of California, Berkeley

December 2006

Appendix I-1: Case Study

1. OVERALL DESCRIPTION OF CURRENT CLASSROOM MANAGEMENT PRACTICES:

General Information

Established in 1881 as the southern branch of the California State Normal School, the Regents of the University of California voted in 1919 to adopt the small teacher's college and designate it the southern campus of the University of California[1]. Shortly thereafter the campus relocated and it began conferring undergraduate degrees, and in 1927 the school was formally renamed the University of California at Los Angeles – which gave rise to the acronym by which the university is most commonly known: UCLA.[2]

A public, state-funded land-grant research university in the mold of its older sibling to the north, UCLA offers its students a first-rate education at its picturesque campus in sunny Southern California in one of the world's largest metropolises – factors that combine to make UCLA among the most desirable public universities in the world. Presently, there are approximately 35,625 students enrolled at UCLA, in 45 academic majors and professional programs offering in excess of 300 diplomate options at both the graduate and undergraduate levels[3]. Approximately 10,000 courses are offered at UCLA annually, which operates on the quarter system.

UCLA's campus, in the Westwood suburb of Los Angeles, is nestled among the bedroom communities of Bel-Air, Brentwood and Beverly Hills. It is comprised of 174 buildings ranging in age from new to eighty-plus years, on 419 acres of land. In addition, close to campus are several dozen more University-owned facilities that house research institutions and offices, graduate student housing, and other services[4].

Organizational Structure

Administratively, UCLA is virtually identical to Berkeley. There is a Chancellor, who is the overseer of the campus and who reports directly to the Regents of the University of California, who in turn report to the State legislature. Beneath the Chancellor are an Executive Vice Chancellor and Provost, Vice- and Assistant Chancellors, Provosts and Deans. There are myriad advisory committees, project committees, and standing committees serving a broad range of functions at UCLA.

To most – whether taxpayer, academic, alumnus, or parent – the college setting is epitomized by the classroom experience. Much of any university's effort is focused on optimizing the quality and the benefit of time spent in the classroom – for faculty and students alike – and UCLA is no different. The classroom represents the ultimate synthesis of academia and administrata: Facilities built, outfitted and maintained by the University, where nearly all formal teaching takes place based on curricula developed by respective academic departments pursuant to University standards.

At UCLA, there are two main categories of classroom: Departmental (controlled by individual departments and scheduled for their own exclusive use), and general assignment (University controlled and scheduled, assigned for use on a semester basis to courses whose departments are unable to host them due to timing or seat capacity restrictions). Putting a fixed count on classrooms at UCLA can be tricky – some joke that the University's acronym actually stands for "Under Construction Like Always" since

[1] Source: http://www.uclahistoryproject.ucla.edu/Timeline/Home.asp
[2] Source: http://en.wikipedia.org/wiki/Ucla
[3] Ibid.
[4] Source: http://www.ucla.edu/about.html

there always seem to be construction projects underway – but according to their best figures, there are presently 312 Departmental classrooms and 196 general assignment classrooms on campus. Outside of very basic services like power, heating, and trash pickup, the care and feeding of Departmental classrooms falls entirely to the departments themselves – everything from paint on the walls to audio/visual equipment to floor coverings. With general assignment classrooms, the responsibility to manage (and pay for) those types of services falls on the University itself. The same distinction is also made for room scheduling.

There are two separate and distinct units that deal with general assignment classrooms at UCLA, and their roles break down into operations and scheduling. While the two can and do occasionally coordinate efforts, for the most part they are entirely independent of one another. Functionally speaking, the roles of either entity are not dependent on the other – aside from ensuring that a room is actually usable (operations) and that it is actually booked (scheduling) – yet each is vital for its own particular reasons.

"Operations" consists of janitorial services, audio/visual services, plant maintenance and repair, and a planned cycle of refurbishment. "Scheduling" consists of matching a room's size and type with a comparable class, distributed across campus facilities to evenly spread overall usage in accordance with UCLA and State of California metrics pertaining to minimum room- and seat-hours per semester. As long as operations and services each does its job with care, skill and attention to detail, everyone is happy – and as shall be demonstrated, the caretakers responsible for those roles are very, very good.

At UCLA, operations of general assignment classrooms are managed by Gigi Marr of the Facilities Management group, which is a member of the General Services division led by Assistant Vice Chancellor Jack Powazek. General Services is one of the eleven divisions of the Business and Administrative Services section, led by Vice Chancellor Sam Morabito[5] – who himself reports directly to Acting Chancellor Norman Abrams and Executive Vice Chancellor and Provost Daniel Neuman[6]. Room scheduling is handled by the Scheduler, Kathleen Copenhaver, who works for Registrar Anita Cotter. Registrar Cotter reports to Assistant Vice Chancellor of Student Academic Services Thomas Lifka, who answers to Vice Chancellor of Student Affairs Janina Montero[7], who is beneath the Acting Chancellor and the Executive Vice Chancellor and Provost. [For organization charts, see Figures 1 through 3.]

As outlined above, the Registrar's Office scheduling role regarding general assignment classrooms is crucial for two reasons: First, because it is ultimately responsible for putting students in seats; and second, because the measurement of how well they do their job is how close they come to actually meeting the State's wish-list metric for minimum acceptable usage levels – and *that* report card delivered to the State then informs UCLA of how much funding it will get or lose for classroom initiatives in the subsequent budget cycle. Classes held in general assignment classrooms are scheduled using an old-fashioned mainframe-hosted application called CASA, which was adapted for UCLA's use from its implementation at Berkeley close to 20 years ago. CASA is little more than a relational database that cross references instructor name against course number, against enrollment, against time of day, against semester-hours, against classroom inventory/usage/location. By all accounts, the system works fine – but has the limitation of being fairly rigid by only scheduling fixed time blocks. While it was agreed that flexible time blocks may be a helpful feature, just how helpful, remains to be seen. Historically, UCLA has come very close to meeting the State minimum for general assignment classroom usage, but the State still withholds significant funding sums – making the classic parent-of-teenagers argument that if (UCLA) can't even use the space it already has, then why do they deserve money for more or better space in addition – overlooking the fact that, without question, one of the contributing factors to UCLA's inability

[5] Source: http://www.be.ucla.edu/orgchart.pdf
[6] Source: http://www.aim.ucla.edu/data/campus/general/chancellor.pdf
[7] Source: http://www.studentaffairs.ucla.edu/vcoffice/Visio-SAS%20org%2003_06.pdf

to meet the State standards is that they cannot convert classrooms to a use or configuration that would allow them to meet the standards without use of the funding that is being withheld. The argument is perfectly circular and doesn't show any sign of abatement any time soon, absent new legislation in the state capitol.

Budget and Finance

Functionally speaking, the main responsibility of the Facilities Management group as pertains to general assignment classrooms is to marshal resources and to coordinate services to best serve the space and its users. At UCLA there is a single point of contact whose phone number is posted in each general assignment classroom, and if there is something wrong with a general assignment room (exclusive of portable audio/visual equipment), she is able to order whatever service the room, its systems or equipment may need in terms of repair or replacement to return that room to full function in an expedient manner. The amount budgeted for this purpose is $30,000 to $50,000 annually, and meets their needs. In addition to emergency repairs, preventative maintenance and subgroup/stakeholder communication are also coordinated by Facilities Management via monthly standing meetings whose attendees include representatives from Building Maintenance, Special Events, Communications (information technology), the Registrar's Office, Audio/Visual Services, Capital Programs (custodians of large projects), and University Extension (the largest single user of general assignment classrooms at UCLA). The annual budget for preventative and deferred maintenance is $70,000 to $80,000, and again, UCLA reports that the amount is sufficient. In addition to the types of service listed above, Facilities Management at UCLA also oversees an ambitious space improvement cycle of ten years for general assignment classrooms. Begun in 1997, they are entering the tenth and final summer of the inaugural cycle, and will be refurbishing the final group of general assignment classrooms (some of which had not yet been built when the cycle started). Covering paint, general repairs and furniture, the budget for those initiatives is approximately $160,000 per year and is enough to permit them to meet their ten-year mandate.

Leadership in Classroom Management and Improvement

When asked about user satisfaction, Facilities Management's General Assignment Coordinator Gigi Marr was unable to quantify the results of her units' efforts in the realm of general assignment classroom management, but proclaimed "users love our general assignment classrooms!" There are no studies or surveys publicly available to substantiate or refute her claim, but it is difficult to imagine a state-funded university where faculty or students would complain about a ten-year cycle of space improvement. There are no standing committees at UCLA like Berkeley's Campus Committee on Classroom Policy and Management which advise the Chancellor on classroom policy and management issues, although there has been recent discussion at UCLA of reinstating a committee that last met in the late 1980's that advised their Chancellor on matters of classroom standards. Instead, it appears that the guidance function is internal to the Facilities Management unit. Gigi Marr explained, "my boss [AVC Jack Powazek] went to UCLA, and he wants his alma mater to look its best." Bob Thomson, Scheduling Office Supervisor at UCLA reports that overall general assignment classroom user satisfaction is "good", though he admits that it is based on anecdotal evidence from contact with faculty and departments and not from formal research methods.

As is the case at many Universities, space improvement is typically driven by a combination of need, age, funding, and room in that summer's program. For example, the most heavily used classrooms actually have accelerated improvement cycles – while others may fall outside of a ten-year chronological span since they were last overhauled, but will still be refurbished at least once within any given complete ten-year improvement cycle.

2) ADVANTAGES OF UCLA APPROACH

UCLA is effective in the realm of general assignment classroom management for several reasons, the most notable of which include: Single point of contact for virtually all general assignment classroom maintenance needs; pride of ownership and significant institutional memory; a firm commitment to quality customer service; effective communication between stake holders and Facilities Management, and between Facilities Management and the units whose services they marshal on behalf of classrooms; and Facilities Management having a reliable budget sufficient to meet their mission.

3) DISADVANTAGES OF UCLA APPROACH

While many aspects of UCLA's general assignment classroom management are strong, naturally there are some areas for improvement. Gigi Marr shared two areas for improvement that she was aware of: Faculty needing to better heed the class enrollment limits as set by the Registrar[8], and a swifter and more comprehensive adoption of federal American with Disabilities Act guidelines at UCLA[9].

4) FUTURE DIRECTIONS

From its early days as Berkeley's modest extension campus to the south, UCLA has transformed itself as revealed by its present membership in the club of the world's most elite public universities, while at the same time proving to taxpayers that their investment was sound and worthwhile. In doing so, UCLA has offered its students an education and a physical setting that are scarcely matched in this country. A key aspect of that remarkable setting is the classroom itself, and in recent years, considerable effort has gone into improving how, when and why the University cares for its general assignment classrooms. Other universities, Berkeley included, would be well advised to closely examine the model set forth by UCLA for the management of general assignment classrooms because it shows itself to be a success, and a paragon of efficiency, deliberate planning, and effective communication.

[8] She further explained that some faculty would encourage students to "crash" their classes, exceeding enrollment limits placed by the Registrar – sometimes doubling or tripling enrollment beyond the maximum capacity of a given room – causing hardship for students enrolled in the class, some of whom were forced to loot neighboring classrooms and offices for seats.

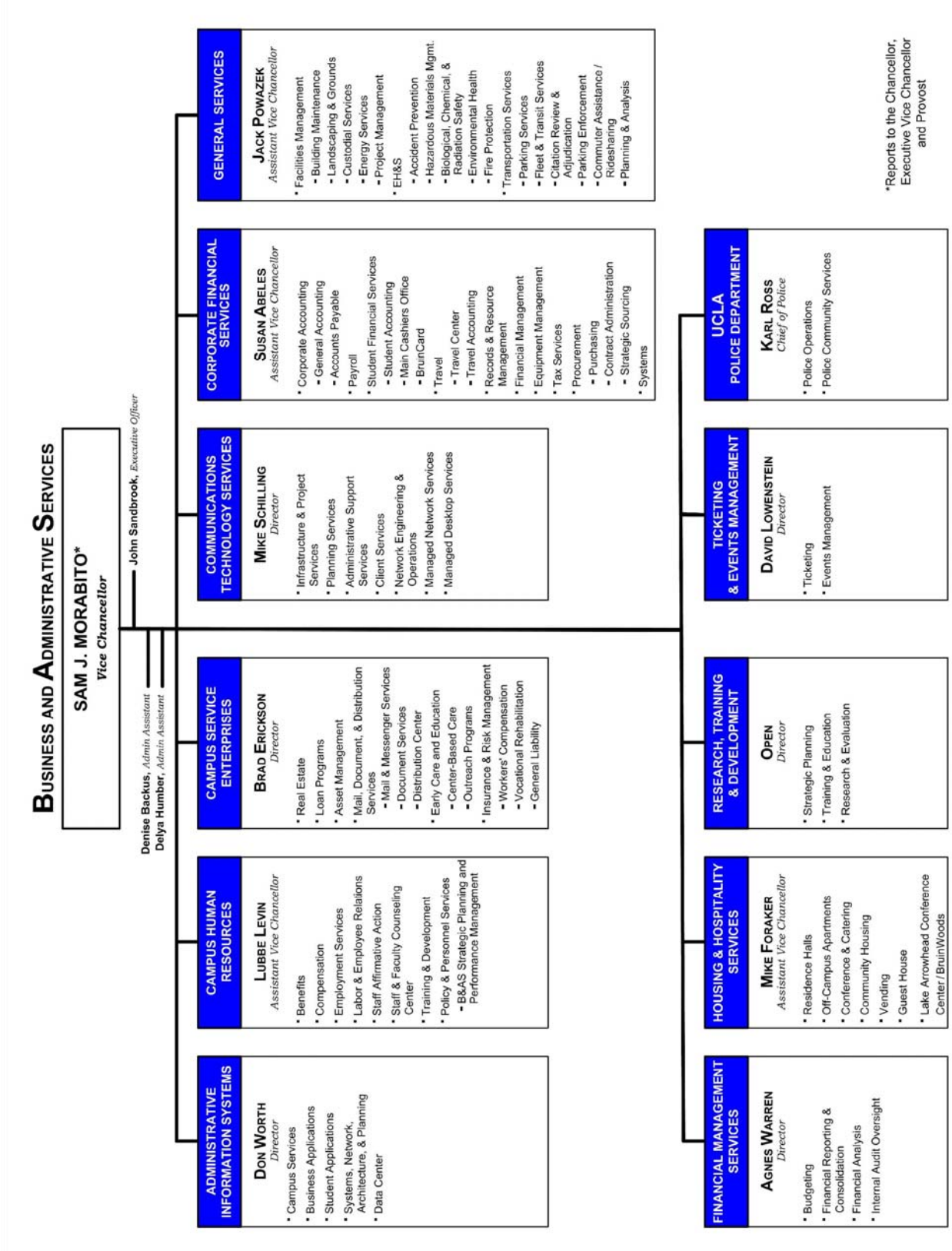
[9] There is a growing demand for accommodations for special-needs students at UCLA, and that there are no indications that the trend will abate any time soon. Furthermore, there seem to be more varied types of disability than in the past, requiring more flexibility and greater numbers and locations of furnishings configured for those special-needs students.

Appendix I-2: Interview Details

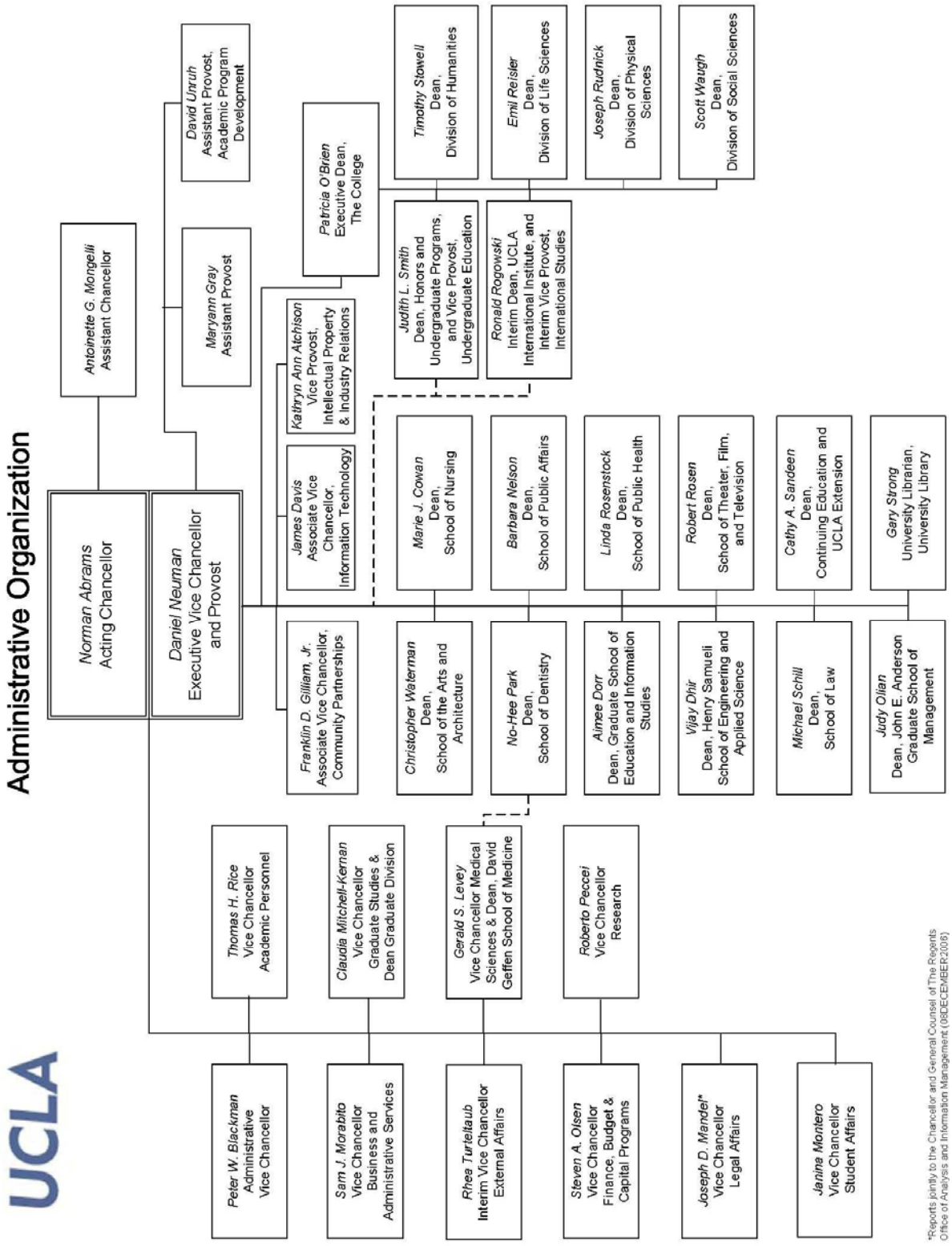
Interview Details

1	**Name of University**	**University of California, Los Angeles**
2	LDP Interviewer Name	**Andrés Alvarez**
3	Date of Interview	**December 12, 2006 and December 18, 2006**
4	University Contact Name	**Gigi Marr** **Doug Thomson**
5	University Contact Title	**Facilities Manager** **Scheduling Office Supervisor**
6	University Contact Phone	**310-825-4412** **310-825-1441**
7	University Contact Email	**marr@facnet.ucla.edu** **dthomson@registrar.ucla.edu**

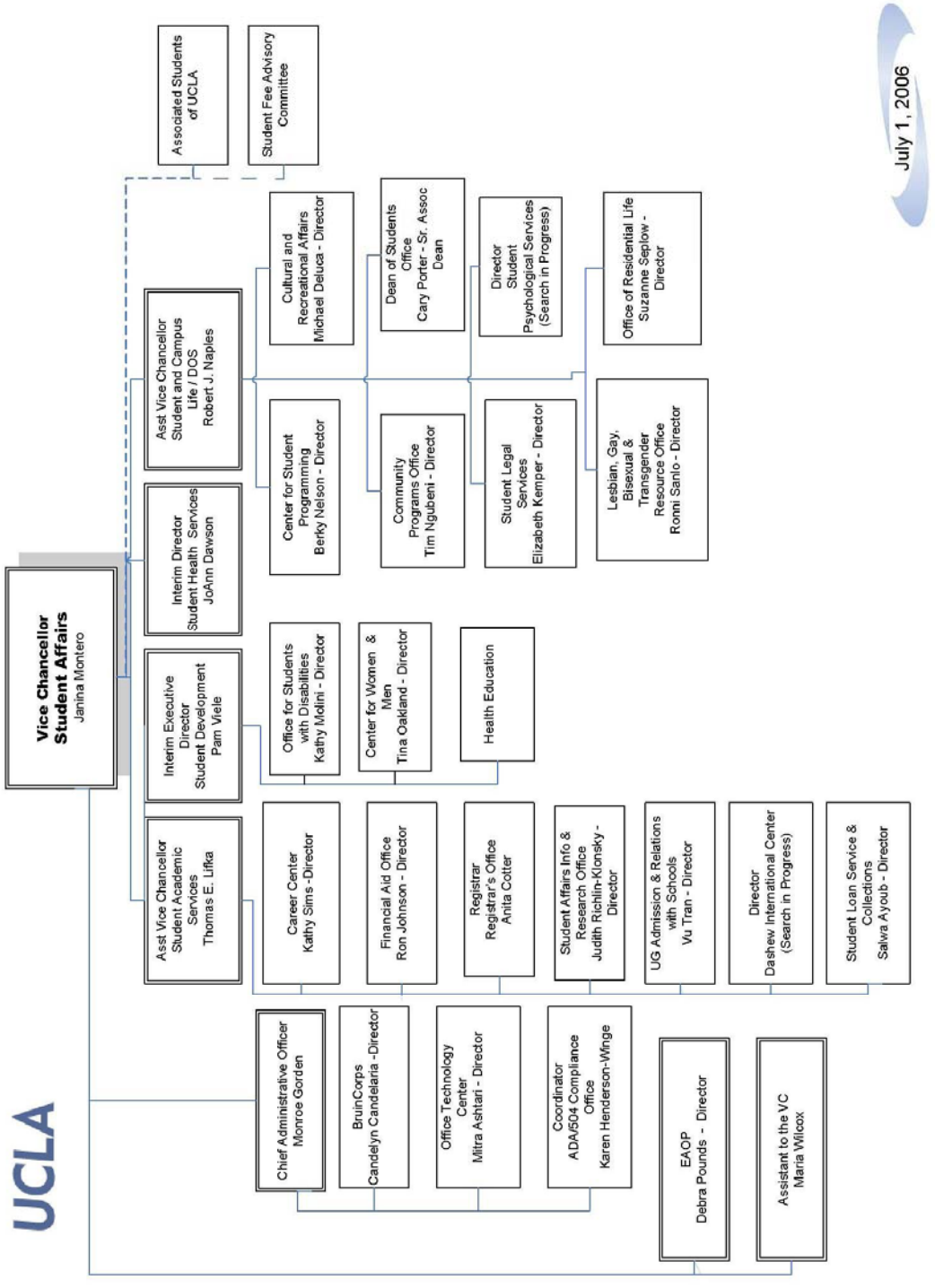
Appendix I-3 Figure 1



Appendix I-4 – Figure 2



Appendix I-5 – Figure 3



APPENDIX J

University of Illinois at Urbana-Champaign
Classroom Management Case Study

Appendix J - Table of Contents

Prepared by Rick Jaffe
Leadership Development Program
University of California, Berkeley
December 2006

Appendix J-1: Case Study

1. OVERALL DESCRIPTION OF CURRENT CLASSROOM MANAGEMENT PRACTICES:

General Information

During fall semester 2006, 40,670 students enrolled at the University of Illinois at Urbana-Champaign (UIUC). Of these, approximately 30,000 were undergraduates and 10,000 graduate and professional students. UIUC has 405 general assignment (GA) classrooms[1], which are managed by the Registrar's office, and 75-100 departmentally controlled classrooms. (Including instructors' offices, labs, and other rooms that aren't listed as classrooms, classes occurred in perhaps 120 departmentally controlled spaces this past fall.) In spring 2007, 9313 classes will be taught, not including independent study sections. In the fall of 2007, 9796 classes will be taught.

The typical general assignment classroom varies by size. "Tablet arm" rooms – in which the chairs have arms that serve as writing surfaces – hold 35-40 students. "Fixed theater seat" rooms hold greater than 50 students. Lecture halls hold anywhere between 75-800 people.

There are no written standards for smaller rooms, except for equipment. Basic small rooms have an instructor's table, a pull-down screen, an overhead projector – oftentimes an old-fashioned acetate roll-type overhead projector, because faculty like these – and chalkboards. Typically, the rooms have window treatments comprised of either Venetian blinds or c-fold shades. Many buildings are too old to have central air conditioning. Instead, the University supplies window units. About 100 rooms don't have these.

Chairs in the small rooms can be moved, and as a result, migrate from the classrooms. The campus's Building Services unit has the floor plan for each room, and janitors have a seat count for each. The janitors do a pretty good job of retrieving chairs each night. UIUC does not provide whiteboards, which are prone to vandalism and vulnerable to the use of permanent markers. In addition, janitorial service doesn't support marker boards. Janitors do wash chalkboards as part of their daily routine, and replace chalk and erasers.

The campus has received an annual classroom improvement fund of $2 million almost every year since 1994. This has resulted in the extensive renovation of many classrooms. 165 rooms (a bit more than 40% of the GA pool) have been remodeled over that period. The effort has concentrated on the larger and medium-sized rooms.

Classroom technology has been updated as part of this renovation work, under the guidance of UIUC's Campus Information Technologies and Educational Services (CITES) organization. CITES designs the equipment packages, and installs and supports the equipment.

With respect to electronic media, there are now three levels of technology in the rooms.

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[1] For a list of General Assignment classrooms, sorted by building, please see: http://www.fms.uiuc.edu/Facilities/ClassroomCapacities/index.asp?report=Classroom%20Capacity,%20Sorted%20by%20Buidling.xml.
For a list of GA classrooms sorted by size, please see: http://www.fms.uiuc.edu/Facilities/ClassroomCapacities/index.asp?report=Classroom%20Capacity,%20Sorted%20by%20Size.xml.

1) In the largest rooms, a technology cabinet has been installed that contains what the campus's Associate Director for Space Management describes as "everything [faculty] could dream of."[2] Called an 'Integrated Teaching System,' or ITS, the equipment includes:
- Overhead presenter
- Voice amp
- Hearing assist (RF)
- VCR/DVD
- Amplifier
- Digital projector mounted on ceiling
- Resident computer - IBM desktop
- Touch screen control panel[3]

The package of equipment costs about $85,000, with the total price tag being as much as $120,000 in large rooms that require lots of speakers spread across the ceiling.

The cabinet is custom made by the campus's mill shop. Campus policy is to leave classrooms unlocked so students can study in them. Therefore, cabinets are "hardened" against theft. Each has either an electronic lock or a tumbler lock. Combinations are changed every semester. When a faculty person enrolls to use a classroom, s/he gets the combination.

There had been concern about chalk dust in rooms with electronics. Therefore, cabinets are cleaned once a month. So far, dust hasn't become a problem.

2) Medium-sized rooms contain an abridged version of the above. The package might not include the overhead presenter and the desktop computer.

3) At a minimum, technology-enhanced rooms provide a projector and a docking station on the podium. Faculty members bring their laptops and plug in.

All technology-equipped classrooms have wired Internet access for the instructor. UIUC is currently in the third year of a five-year campus-wide initiative to get wireless Internet access into all campus buildings. Classroom buildings have been equipped first in that effort.

When asked about overall faculty and student satisfaction with the classrooms, Steve Hesselschwerdt, UIUC Associate Director for Space Management, quipped, "We rarely receive compliments, but not too many complaints, either." Steve is in charge of space assignment, and has been a driving force behind the classroom renovation effort since it started in 1994.

Chancellor Michael Aiken, said Hesselschwerdt, referring to the campus's leader at that time, "had foresight. The campus got ahead of the technology curve." At first, there was resistance to new technology in the classroom, especially from older teachers. Now, older teachers are used to technologies such as PowerPoint, and the younger faculty are more comfortable with technology overall.

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[2] Quote from phone interview, December 6, 2006. (See Appendix J-2 for details.) Unless otherwise cited, all quotes come from that interview.

[3] Web pages available on the UIUC website document the technology available in each classroom, present a photo gallery of the equipment in the room, and provide instructions on its use. See, for example, http://classtech.cites.uiuc.edu/cct/its_classroom_info.aspx?@full_room=Chemistry Annex 112, http://classtech.cites.uiuc.edu/cct/its_thumbs.aspx?@Classroom=Chemistry%20Annex%20112, http://classtech.cites.uiuc.edu/cct/Classroom%20Documents/CA112.pdf (PDF,196KB) respectively. These documents have also been included at the end of this report. (See Appendix J-3.)

The Classroom Technology division within CITES surveys faculty users of classroom technology annually. 93% of the respondents to the 2006 Instructor Survey "report that the ITS classrooms are 'very important' to their teaching." The report goes on to note that the "leading number of comments (16 responses)" in answer to an open-ended question at the end of the survey "offered appreciation and compliments for the technology and services. The second most popular (11 responses) were requests for more hi-tech classrooms on campus."[4]

The campus's Facilities & Services division doesn't survey faculty about their classroom satisfaction. Rather, Steve Hesselschwerdt maintains good, direct communication with faculty. He, together with his colleagues in the Registrar's office, recognizes the value of a feeling of participation among faculty, and has made it a point to nurture and maintain faculty input.

Before remodeling a room, Steve holds a planning charrette with instructors who have taught there in previous semesters. Rooms can be redesigned to fit faculty needs. For example, cabinets can be placed in different positions according to how the room is used.

Steve also handles all classroom issues that arise from faculty. If a faculty person calls with a complaint about a classroom, he makes sure the issue is taken care of, often by the next day and usually within a week. Steve has maintained a fund for these repairs, as well as a warehouse with reserves of chairs, instructor's desks, and podiums.

The Registrar's office, too, maintains communication with faculty, although it is largely buffered from direct contact. The campus classroom scheduler allocates classrooms to departments. 117 departments have their own departmental scheduler, who has authority to assign those rooms. After six weeks, scheduling authority reverts to the Office of the Registrar. This all happens about a year in advance. To accommodate changes made after that point in time, the central scheduling office works with the department. Changes continue to be made even after classes start.

The Registrar's office has a history of doing what faculty members want, according to Registrar Carol Malmgren. In the past, the campus's classroom scheduling office has been very generous, and flexible, in its dealings with departments. This further enhances the degree of satisfaction among faculty.

Last spring, the campus held 1,115 evening and weekend class hours per week. These occurred mostly during evenings, with very few classes taking place on Saturdays. This figure compares to 9,572 "7am-5pm" class hours/week.

Generally, classroom usage declines between 5pm and 7pm, and picks up afterward. Associate Director for Space Management Hesselschwerdt attributes this to the social norm in UIUC's geographic area to go home for dinner. Registrar Malmgren points out that the typical commute is ten minutes, and parking is not a problem. Making a trip home for dinner, then returning to campus to teach, is not logistically difficult. The campus is well lit, as well, with lots of defined walkways and excellent transportation. Overall, nighttime security is not much of a problem.

Classroom schedulers use Ad Astra software. The program has two parts, one for classroom scheduling and one for event scheduling. Department schedulers access Ad Astra using the campus's Banner enterprise application portal. The Space Management Office maintains the

[4] "2006 Instructor Survey: Overview of Results," CITES Classroom Technologies, July 31, 2006. For the full report, see http://classtech.cites.uiuc.edu/cct/instructor_survey/2006/SurveyReportFINAL public 20061113.pdf (PDF, 728KB), accessed on December 18, 2006.

database of resources, using AutoCad's Archibus software. Space Management holds records of net and gross square footage for every building and room on campus. The measurements were made manually in 1996, and the effort was taken at that point to put the data into electronic form. The campus chose the AutoCad application at that time.

Organizational Structure

The administrative units responsible for classroom management at the University of Illinois at Urbana-Champaign are currently in the midst of reorganization. In the new structure, the Associate Provost for Enrollment Management Services has oversight of the Office of Admissions and Records, which includes the Registrar. The Associate Provost in turn reports to the Provost & Vice Chancellor for Academic Affairs. The current Provost & Vice Chancellor for Academic Affairs is Linda Katehi; the current Associate Provost is Keith Marshall; the current Registrar is Carol Malmgren.[5]

Facilities Management and Scheduling (FM&S) now reports to the Registrar. FM&S used to be its own unit, reporting to the Office of the Provost & Vice Chancellor for Academic Affairs. According to Registrar Malmgren, "this change has to do with history and office location." Malmgren was Director of FM&S and is now the Registrar. Malmgren states that "bringing classroom scheduling into the Registrar's office matches the structure found at 60% of UIUC's peer institutions."

Campus Information Technologies and Educational Services (CITES) provides "campus-wide computing, networking, telephone, and instructional technology services supporting the academic activities of faculty, staff, and students."[6] CITES Classroom Technologies division (ClassTech) has primary responsibility for instructional technology in general assignment classrooms, "concentrating its efforts on the Integrated Teaching Systems (ITS) classrooms."[7]

CITES is overseen by the campus's Chief Information Officer, who in turn reports to the Provost. The interim CIO is Paula Kaufman. (See Appendix J-4 for an organizational chart of the units reporting to the CIO.)

Unlike the above units, Space Management and Building Services both fall under the aegis of the campus's Facilities & Services division. Facilities & Services reports not to the Provost/Vice Chancellor for Academic Affairs, but rather, directly to the Chancellor. The division has been in existence, in various forms, "forever," according to Steve Hesselschwerdt. It used to be known as Operations and Maintenance. Then, five years ago, Facility Planning and Management joined Operations and Maintenance to form Facilities & Services.

Hesselschwerdt, the Associate Director for Space Management, works within Facilities & Services and serves as liaison to the classroom management office. As an architect, Hesselschwerdt used to work in the classroom management office. Two years ago, he and other architects, campus facilities planners and project managers, moved over to the Facilities & Services unit. Steve's position at Facilities & Services gives him an overview of campus construction and facilities plans. Yet, because of past history, he remains close to the

[5] For UIUC organizational charts, including an overview of the UIUC administration showing a not-quite up-to-date list of units reporting to the Office of the Provost, see Appendix J-4.
[6] "About CITES: What CITES Does" (web page), http://www.cites.uiuc.edu/about/index.html#what_does, accessed on December 20, 2006.
[7] "About CITES: CITES Divisions" (web page), http://www.cites.uiuc.edu/about/index.html#divisions, accessed on December 20, 2006.

classroom management staff. (See Appendix J-4 for an organizational chart of the Facilities & Services division.)

The Provost provides a classroom maintenance account of about $150 – 200,000 per year. For renovation work, campus has received an annual classroom improvement fund of $2 million most years since 1994. From the beginning, Steve Hesselschwerdt has led the classroom improvement work. Even after his move to Facilities & Services, Hesselschwerdt has retained control of the $2 million renovation budget.

The units responsible for classroom management coordinate through good communication. Staff members talk to each other several times a day. Until recently, the responsible units had been very closely aligned in the organization. Deb Forgacs (current Associate Registrar for Classroom Management), Steve Hesselschwerdt, and the classroom schedulers worked together for a number of years. Even though Steve is now in Facilities and Services, he maintains good ties through these existing relationships.

"Historically," explains Hesselschwerdt, "when classroom improvement began, there was no oversight committee." Chancellor Aiken turned to the classroom scheduling office, to Steve, and to a CITES representative.[8] Those three parties would plan in September for the next summer's work, contacting faculty to begin the renovation design process.

"The classroom scheduling group, [myself], and CITES/Classroom Technologies Director Dan Doolen decided on the next group of classrooms that should be on the renovation list," relates Hesselschwerdt. "We prioritized rooms based on contact hours, or on importance [as expressed in] requests from academic sector users of the room. We estimated costs, figured out how many classrooms we could do per summer (four to five), and prioritized three years out. The list was a 'soft' list; things could change."

Following the adage 'Make hay while the sun shines,' the group decided to focus on large- and medium-sized rooms while the money flowed. In their judgment, renovation dollars for small classrooms, which don't cost as much to complete, could be found elsewhere. Under the classroom improvement initiative, Hesselschwerdt oversaw the spending of $30 million in 13 years. 165 rooms have been completed at present.

In retrospect, Steve adds, "If there had been an oversight committee, we'd still be in year three."

Budget and Finance

Individual campuses compete for state funding through the University (i.e., the three campus University of Illinois system). There is no formula driving funding from the Illinois state legislature. The Illinois Board of Higher Education (IBHE) lobbies on behalf of the University.

An academic unit's revenue is based on instructional units. In turn, each organization is "taxed" to pay administrative costs. General assignment classrooms are supported from these funds.

The annual campus budget decision-making process runs through the Provost's office. Departments make requests for new money and seek to reallocate existing lines. During the months of January and February each year, requests from departments and units filter up through

[8] CITES took a different form back then. For a history of the unit, see: http://www.cites.uiuc.edu/about/history.html, accessed on December 18, 2006.

the academic organization structure. The Provost works with others, including the Dean's Oversight Committee, to finalize the requests.[9]

The Provost and Dean's Oversight Committee can decide to reserve money for important needs. Registrar Carol Malmgren presents an example: "I've been struggling to support our new student information system, and requested a new FTE to help with this work. My request was heard." "The Provost's office is the 'bank,'" concurs Associate Director for Space Management Steve Hesselschwerdt. "It controls the funds."

Because of the importance placed on classrooms, the Provost has pulled $2 million out of the pot each year for renovation, according to Hesselschwerdt. "Instructional education is where the rubber hits the road," he explains.

With respect to classroom renovation, two Chancellors have made a commitment to faculty. (The Chancellor's Classroom Improvement Initiative started in 1994 by Michael Aiken has been continued by current Chancellor Richard Herman.) With that backing, the Provost could maintain the funding without making strong demands of the renovation program to justify its existence.

Given the support of the Chancellor, perhaps it's fair to say that success has been the best strategy for obtaining more funding. Faculty support has been an important indicator of this success. Of the $2 million per year, Hesselschwerdt reserved 25% for contingencies. He spent that money during the budget year, responding to issues raised by instructors. After completing a classroom renovation project, Steve has asked satisfied faculty users to tell the campus's upper administration how happy they were with the change. Registrar Malmgren adds: "Steve has the good sense to get buy-in."

Over the years, the classroom renovation effort received supplemental money from the state, as well as technology money from University. Renovation work has been addressing deferred maintenance, too. This helps solve another pressing, and expensive, problem on campus.

It's important to note that the run of classroom renovation funding has come during what has largely been an up time for the Illinois economy, a period that has seen the largest building boom in history, according to Hesselschwerdt. "There's been a lot of academic growth," he points out. "$1.5 Billion in new construction and renovation at UIUC in the last 15 years."

Support for classroom renovation may be changing. Faced with a large – and growing – backlog of deferred maintenance, The University of Illinois, and the UIUC campus, plans to earmark revenues to create a debt service pool, then sell bonds to finance deferred maintenance and other needs. Beginning this year, the campus planned to set aside $2 million toward this pool. According to UIUC's Stage 2 Strategic Plan, campus has already contributed $2 million to University-led deferred maintenance initiative. The campus will provide an additional sum of about $1 million in FY '07.[10]

In addition, there is a new $250/semester Academic Facilities Maintenance Fund Assessment (AFMFA) charged to students. This fee is to be phased in over four years. Revenues are intended to be used to retire bonds.

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[9] See also: "Communication #1: Budgetary Principles and Practice (Draft)," Office of the Provost, September 25, 2006, http://www.provost.uiuc.edu/communication/01/Comm01.pdf (PDF, 340KB), accessed on December 20, 2006.

[10] "University of Illinois at Urbana-Champaign Strategic Plan, January 2006," http://www.oc.uiuc.edu/announcements/Urbana_Strategic_333.pdf (PDF, 664KB), page 66; accessed Dec. 18, 2006.

Also, an Illinois "truth-in-tuition" law that took effect in 2004 mandates that "all public universities in the state of Illinois charge incoming freshman the same tuition for four consecutive years." UIUC students concerned over how the tuition differential for 2004-05 would be spent successfully advocated that the funds be used to upgrade classrooms.[11]

According to Hesselschwerdt, however, the usual $2 million in classroom renovation funds were not provided this year. He is not allowed to finance classroom improvements through deferred maintenance money.

Leadership in Classroom Management and Improvement

In describing the leadership that culminated in UIUC's classroom renovation project, Associate Director for Space Management Steve Hesselschwerdt identified former Director of Facility Planning and Management Dave Dressel, who held the position from 1987 through 2001, as an important figure. As "an architect of great foresight," states Hesselschwerdt, "[Dressel] identified several keystone items. Classroom renovation was one. He was instrumental in convincing Chancellor Aiken."

In 1994, Aiken said he would like an estimate for the classroom improvement work. The Chancellor left the details to Hesselschwerdt and the classroom scheduling/CITES group to define. The group estimated the task would cost $12 million dollars and be done in five years – "grossly inadequate amounts both in dollars and time!" declares Steve, in hindsight.

After the first five years of classroom renovation work, the Chancellor was able to convince others that the project should continue. The Chancellor (and the campus) was pleased, says Hesselschwerdt. "The work made faculty happy. [Everyone] wanted more."

There have been "no real roadblocks," Hesselschwerdt continues. "It's been pretty easy over the past few years. The reasons: The agenda has been as open as possible; the vision has been shared widely, so people understand why we do what we do. There have been no large objections. And I try to handle requests [for classroom maintenance] quickly."

Associate Registrar for Classroom Management Deb Forgacs points out that Hesselschwerdt represents the campus in national professional groups such as the Higher Education Facilities Management Association, a group of facilities managers from Big 10 schools. Visiting other campuses each year provides an opportunity for UIUC to benchmark its efforts. "We're not doing anything too different than others," concludes Hesselschwerdt. "We got out in front of everybody in 1994 and that has helped."

2. ADVANTAGES OF THE UNIVERSITY OF ILLINOIS' APPROACH:

The close alignment of the units responsible for classroom management, the strong communication and shared knowledge that has resulted from this structure, and the commitment to hear from faculty, have all contributed to the successful classroom renovation program (and to classroom management, in general) at the University of Illinois at Urbana-Champaign.

[11] "Classrooms receiving 'face lifts' and new technology," by Sharita Forrest, UIUC News Bureau *Inside Illinois* (web article), December 16, 2004, http://www.news.uiuc.edu/ii/04/1216/renovations.html, accessed on December 20, 2006. This article describes the classroom renovation done since 1994, and Steve Hesselschwerdt's role in it; a sidebar includes a picture of Hesselschwerdt. A copy of the article has been included as Appendix J-5 of this report.

Changes over the past few years have diffused control over classroom management. Steve Hesselschwerdt's position as Associate Director for Space Management within Facilities & Services gives him an overview of campus construction and facilities plans. Yet, the classrooms were better served with Steve being in the Office of the Provost.

The focus on classrooms is sharper in the Provost's office, argues Registrar Carol Malmgren. "Take project planning, for example. F&S [Facilities & Services] undertook an elevator expansion program in the spring in a main classroom building that impacted 6,000 students. Conflicts like this have sprung up more frequently." Steve Hesselschwerdt adds, "I have battles – more than I used to – about our academic clients and the semester system. In Facilities & Services, there is not as much sensitivity to the mission."

According to Registrar Malmgren and Associate Registrar for Classroom Management Forgacs, it is important that "Steve has retained control of the $2 million renovation budget." Hesselschwerdt, too, argues that the "$2 million planning/renovation budget needs to stay in the Provost's office. Having the money in the Provost's office helps keep the focus on the priorities, the major ones being education, research, service, and (local) economic development." The $150-250,000/year facilities maintenance budget can be held by Facilities & Services, he adds.

Several other aspects of the classroom management system at UIUC seem beneficial to the Registrar and to the Associate Registrar for Classroom Management.

For one, scheduling starts with last year's usage. Knowing how many classes are available helps departments plan.

For another, though tradition at UIUC dictates that instructors "stand and deliver" prepared lectures, in many departmental classrooms faculty experiment with different pedagogies: Group work, problem solving, hands-on teaching, etc. GA classrooms try to deliver bread and butter capacity; department classrooms answer specific needs. Small classrooms lend themselves to that. This is a good division for now, but the campus is beginning to feel pressure to change. For small schools within UIUC, for example, it would be nice to have access to those facilities.

3. DISADVANTAGES OF THE UNIVERSITY OF ILLINOIS' APPROACH:

When asked about the disadvantages of UIUC's classroom management system, Registrar Carol Malmgren responds, "The future may answer this." UIUC faces leadership succession issues, Malmgren explains. "We have recently lost the Academic Facilities Office [a unit reporting to the Office of the Provost that had been overseen by Campus Academic Facilities Officer Terry Ruprecht]. [Associate Director for Space Management] Steve [Hesselschwerdt] is about to retire, too. With him goes an important sense of history and knowledge."

To bridge the transition, a new committee has been formed, called the Instructional Spaces Advisory Group (ISAG). Members include Associate Registrar for Classroom Management Deb Forgacs, the campus's Chief Information Officer, staff from the Planning Office and Facilities & Services, and members of the Academic Senate Educational Policy Committee. "There is a strong faculty component," states Malmgren.

Examples of ISAG's duties include evaluating IT Academic Program support and advising on the technology replacement budget. Carol Malmgren sees several other cases that might call for ISAG's participation. "There's a new business facility being built," she says. "It will hold sixteen classrooms. Still to be decided: Will these rooms be departmentally-controlled or GA?"

(Typically at UIUC, all classrooms in a building built with more than $1 of state money are Provost's classrooms, whereas classrooms in privately funded buildings become controlled departmentally.) "ISAG could have an opportunity to play a role in that decision."

Registrar Malmgren continues, "Mark Netter, Director of the Office of Facility Management and Scheduling, is also retiring.[12] With so much loss of history and knowledge, it would be great if the committee could help [the campus] chart its course."

Malmgren suggests yet another instance where ISAG is needed. "Tuition is rising. This is of concern to the Director of Undergraduate Admissions. It's becoming an issue: UIUC is not as accessible to all Illinois citizens as it once was. It's the most expensive school, with Penn State, in Big 10. ISAG could take it upon itself to prioritize requests for funding."

Malmgren points out that ISAG was formed in October, and as of our interview was yet to hold its first meeting. It is still too soon to tell how well the group can help see the campus through this time of changing leadership.

On another note, the Registrar points out that campus is seeing increased enrollment. Room capacity, which had been excessive, is becoming stretched. Schedulers have also seen a compression of week and day, i.e., faculty want to teach Mon-Thurs, 10a – 2p. Though it has benefited from its commitment to pleasing the faculty, the Registrar's Office may have to review its policies.

4. FUTURE DIRECTIONS:

Associate Director of Space Management Steve Hesselschwerdt feels that the cost of maintaining physical space will drive changes at UIUC. "Everybody seems to think that the future belongs to the University of Phoenix model – online distance learning," he says. "Because of the cost of maintaining buildings and facilities."

Hesselschwerdt points out that the University of Phoenix instructs 43,000 students from 1 million square feet of space. UIUC has to operate 17 million square feet. So much money is spent on Operations and Maintenance.

"More and more, institutions are getting into this," Hesselschwerdt notes. Even setting aside the cost of operations and maintenance, he says, "That's what [makes sense]. To reach students who can't make it to campus. To reach remote markets, like India."

[12] For a picture of Mark Netter and then-Assistant Director Carol Malmgren, and a bit of background on Director Netter, see "Courses to be renumbered under new seven-level system," by Sharita Forrest, UIUC News Bureau *Inside Illinois* (web article), April 1, 2004, http://www.news.uiuc.edu/ii/04/0401/renumber.html, accessed on December 20, 2006. A copy of the article has been included as Appendix J-6 of this report.

Appendix J-2: Interview Details

Interview Details

1	**Name of University**	**University of Illinois at Urbana-Champaign**
2	LDP Interviewer Name	**Rick Jaffe**
3	Date of Interview	**December 6, 2006**
4	University Contact Names/Titles	**Carol Malmgren, Registrar;** **Deb Forgacs, Interim Assoc Registrar;** **Steve Hesselschwerdt, Assoc Dir for Space Management** **(Contact: Cheryl Tate, Secretary, Registrar's Unit)**
5	University Contact Titles	
6	University Contact Phone	**217-333-2034 (Cheryl Tate)**
7	University Contact Email	**crtate@uiuc.edu**

CITES
Campus Information Technologies and Educational Services
University of Illinois at Urbana-Champaign

Printer-friendly page

CHEMISTRY ANNEX 112

Classroom Photos

Classroom Documentation

This room is an Integrated Teaching System (ITS) Classroom. Instructors teaching timetable courses may request training and codes by completing the online form.

For more information, please read the ITS Guidelines, online documentation, or contact us: phone: 333-8165 e-mail: classtech@uiuc.edu

EQUIPMENT IN THIS ITS CABINET:

- Tethered Microphone (approx. 15 ft. cord)
- Wireless Microphone
- Touch Screen Control Panel
- VHS Video Cassette Player
- Document Camera
- Auxiliary RCA audio and BNC Video input jacks
- PC Computer (Dell Optiplex, Pentium 4 running Windows XP, 3.4 GHz, 1 GB memory, CD/DVD drive)
- Laptop computer interface with AC power outlet
- Assistive Listening System for the Hearing Impaired

Videos:

Using the ITS Equipment in Chem. Annex 112
Windows Media
Real Media

Things to know about this room:

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CHEMISTRY ANNEX 112 PHOTO GALLERY

Click on any thumbnail below to see enlarged version.

Cabinet Closed

Cabinet Open

Computer

Touchpanel

Touchpanel

Document Camera

Full Room (Front)

Alarm Panel

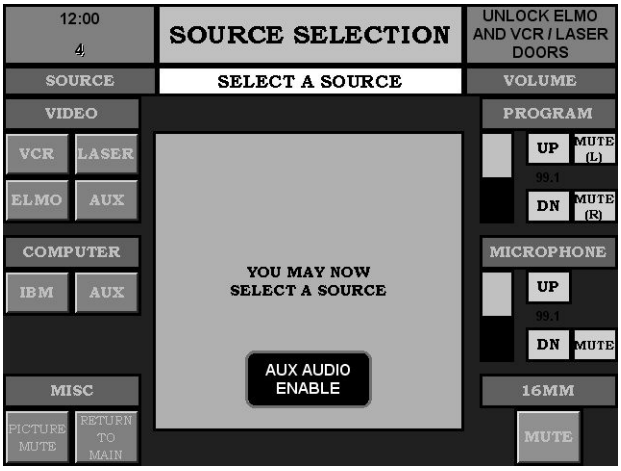
CITES Classroom Technologies
95 Bevier Hall
(217) 333-8165
http://www.cites.uiuc.edu/classtech
classtech@uiuc.edu

Turning the System On

1. Press firmly anywhere on the screen to awaken the control panel.
2. Press ACTIVATE SYSTEM.
3. Wait approximately 30 seconds for the start up procedure to complete.
4. To turn the system off press RETURN TO MAIN, then SYSTEM OFF, then YES, CONTINUE SHUTDOWN.

Using the Resident PC

1. Press IBM in the lower left side of the Source Selection menu.



Source Selection Menu

2. Use the CD/DVD drive, USB cable located in the cabinet or internet to access your files.
3. Double click My Computer icon on desktop to access CD/ DVD/USB drive.
4. Files open in appropriate application (i.e. Power Point, Word, Adobe, etc.).

Using a Laptop

1. Start projector—see "Turning the System On."
2. Press AUX under COMPUTER on the lower left side of the Source Selection menu.
3. Locate the VGA cable near the monitor in the cabinet. Plug the loose end into your laptop's VGA port. If using a Macintosh you may need to provide an adaptor.
4. If the projected image runs off the edge of the screen, turn the small blue HORIZONTAL POSITION CONTROL knob on the laptop interface panel until the image is centered.

Using Auxiliary Equipment

To use equipment such as a "boom box" or Video Camera please contact our office for assistance.

Using the Microphone

1. Press UNLOCK ELMO AND VCR/LASER DOORS in upper right corner to open microphone cabinet door.
2. Open wooden drawer in left cabinet to access microphone.
3. Wired Microphone—Hang microphone around your neck adjusting the cord length as needed. Press On/Off button on cord. This piece can be clipped to your clothing.
4. Wireless Microphone—Clip microphone to clothing near neck. Use On/Off switch on top of microphone. Clip battery pack to waist. Replacement batteries can be found in the small wooden box mounted inside the cabinet near the monitor.
5. Press UP or DN under MICROPHONE on the lower right side of the Source Selection menu to adjust the audio level for either microphone.

Using the VCR

1. Start projector—see "Turning the System On."
2. Press VCR on the upper left side of the Source Selection menu.
3. Press UNLOCK ELMO AND VCR/LASER DOORS in upper right corner to open VCR cabinet door.
4. Insert video tape into the VCR in left cabinet.
5. Press the corresponding words in the center of the Source Selection menu to play, rewind, fast-forward, stop or eject tape.
6. Press UP or DN under VOLUME PROGRAM on the upper right side of the Source Selection menu to adjust the audio level.

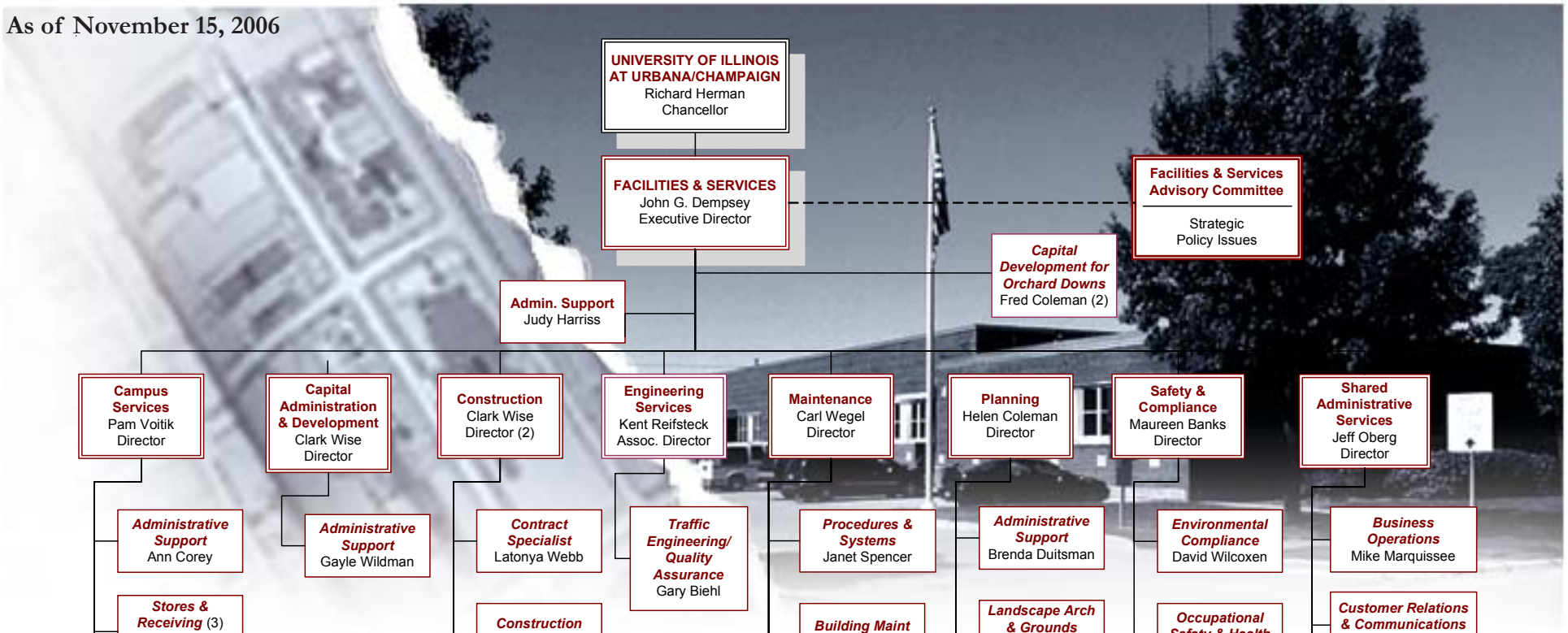
Playing a DVD

1. Start projector—see "Turning the System On."
2. Press IBM in the lower left side of the Source Selection menu.
3. Place DVD in DVD/CD drive of PC.
4. Double click Power DVD icon on the desktop.
5. Click green arrow on Power DVD menu.
6. Click with mouse to make menu DVD menu selections.
7. Right click mouse to access DVD menu once movie is in play.
8. Press UP or DN under VOLUME PROGRAM on the upper right side of the Source Selection menu to adjust the audio level.

Using the Document Camera

1. Start projector—see "Turning the System On."
2. Press ELMO on the upper left side of the Source Selection menu.
3. Press UNLOCK ELMO AND VCR/LASER DOORS in upper right corner to open document camera drawer.
4. Press UNLOCK button at base of document camera arm while raising camera/light arms until locked.
5. Rotate camera so it is pointing down.
6. Press ON/OFF LAMP UPPER button in the front left corner of document camera if necessary.
7. Press the Zoom buttons in the front right corner of document camera to adjust the image.

As of November 15, 2006



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Chancellor

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- ***Employee Relations & Human Resources***
  Beth Slotnick (1)
- ***IT Services***
  Greg Gulick
- ***Procurement Services***
  Sonya Chambers
- ***Project Financial Services***
  Stacy Wisegarver

Notes:
(1) Dual reporting line to the Director of Planning and Director of Maintenance
(2) Interim positions
(3) Temporary reporting through Shared Administrative Services

facilities & SERVICES

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University of Illinois at Urbana-Champaign

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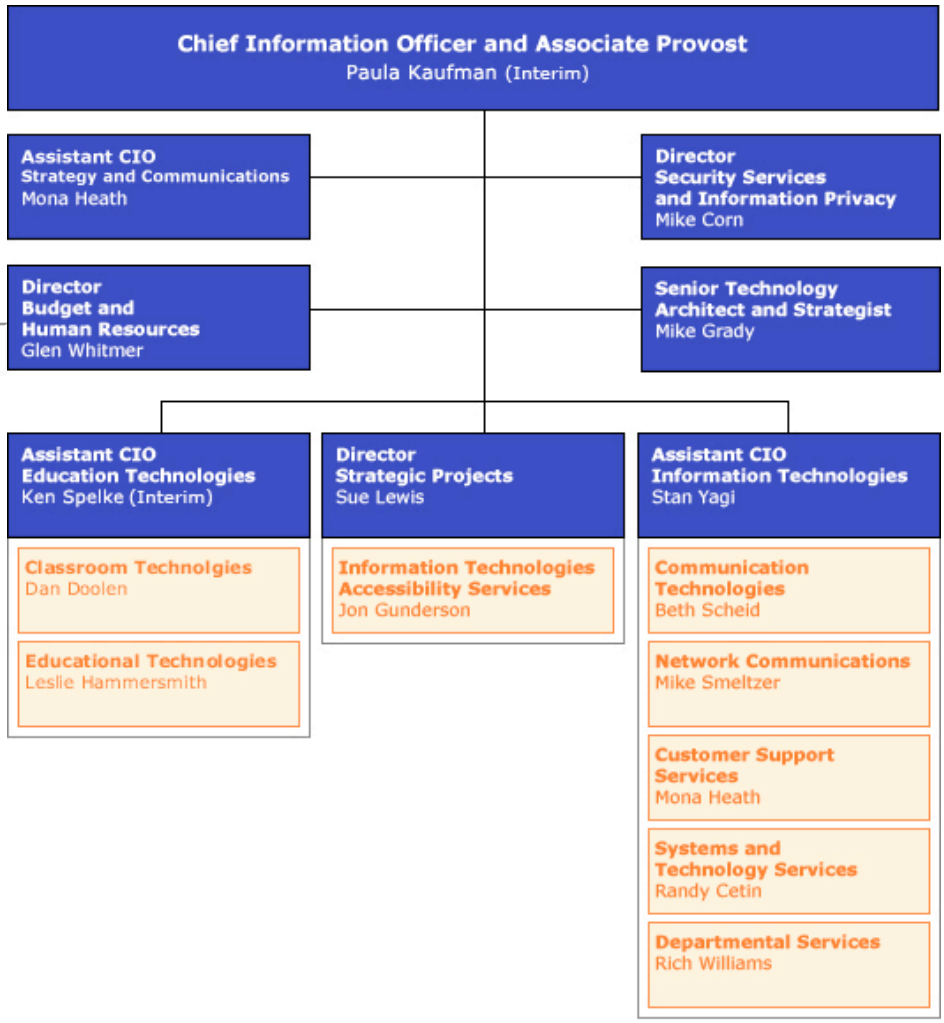
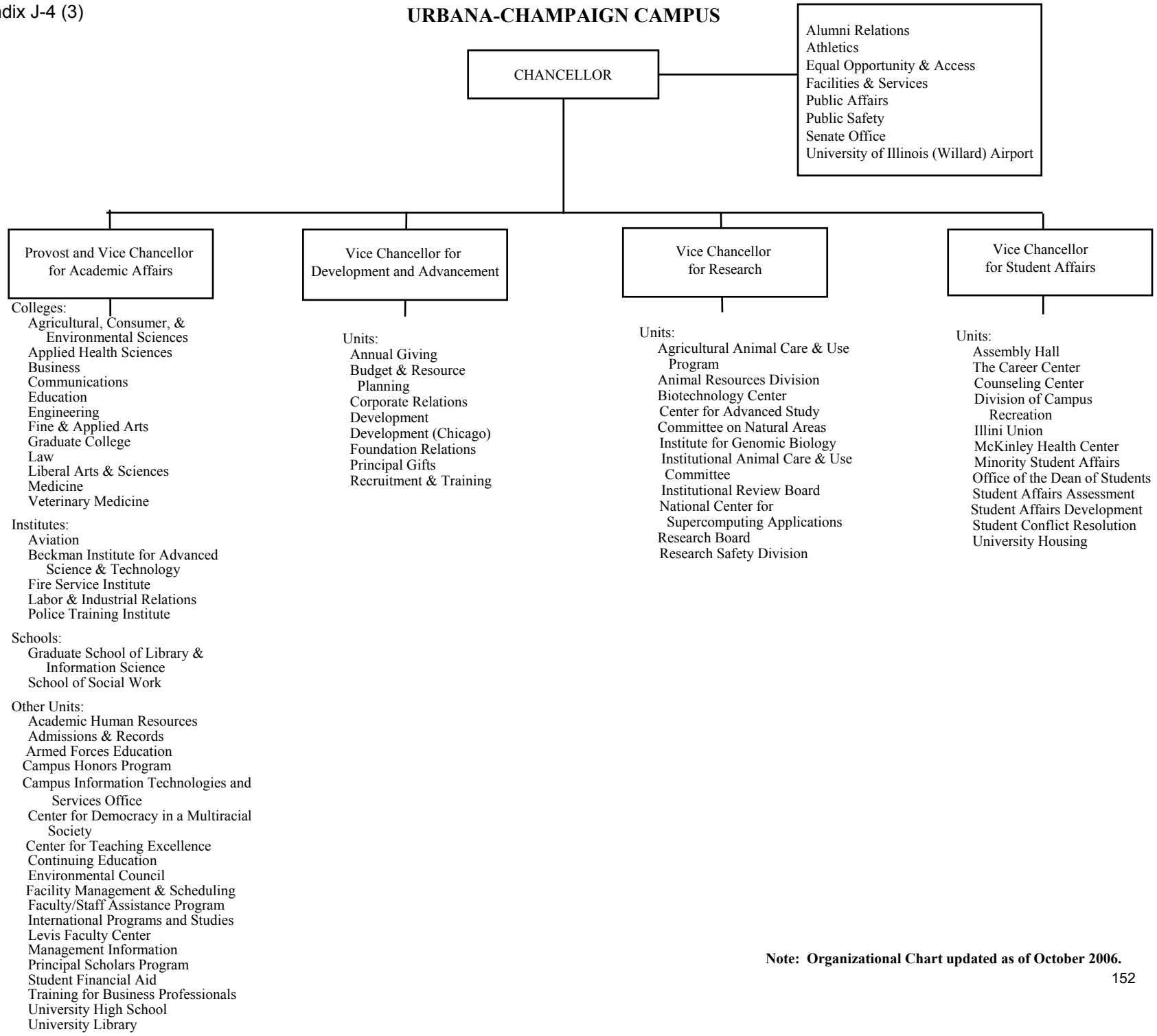
Organizational Chart, Office of the CIO



Appendix J-4 (3)

UNIVERSITY OF ILLINOIS
URBANA-CHAMPAIGN CAMPUS



Note: Organizational Chart updated as of October 2006.

news bureau
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

InsideIllinois

Classrooms receiving 'face lifts' and new technology

By Sharita Forrest, Assistant Editor
217-244-1072; slforres@uiuc.edu

The tuition that incoming freshmen and transfer students pay at the Urbana campus will do more than pay for these students' education: It will benefit UI students for years to come by funding badly needed upgrades in classrooms around campus.

The "truth-in-tuition" law that went into effect beginning with the summer 2004 semester mandated that all public universities in the state of Illinois charge incoming freshmen the same tuition for four consecutive years. The UI chose to extend the program to incoming transfer students as well, beginning with their initial enrollment at any of the UI campuses.

Students on the Tuition Policy Advisory Committee were concerned how the tuition differential for 04-05 would be spent and suggested that the campus use it to upgrade classrooms, associate provost Bill Adams said recently.

"Classrooms are high-traffic areas, and they are heavily used and well used," Adams said. "They just don't last a very long period of time. Seats need to be replaced and technology changes a lot too."

Click photo to enlarge

Photo by Kwame Ross

Class act Steve Hesselschwerdt, associate director for space management in Facilities & Services, is coordinating more than $4.4 million in improvements to classrooms in the Foreigh Language Building, the Armory and other buildings.

A $2-million-per-year classroom improvement initiative begun in 1994 was suspended in 2002 when the state's economic crisis precipitated a series of budgetary reductions and rescissions for the university.

When the classroom improvement program began in 1994, Steve Hesselschwerdt, associate director for space management in Facilities & Services, toured all 400 of the general assignment classrooms on campus, "and they were in horrible condition," Hesselschwerdt said. "They hadn't been maintained since the buildings were originally constructed. However, we have chipped away at this backlog of maintenance projects over the years and have turned the corner to where most of our classrooms are in excellent condition."

Even so, by FY05, which began in July, Hesselschwerdt had a backlog of classrooms needing new technology, new seating and extensive renovations.

While some smaller classrooms on campus will only receive minor "face lifts" – such as a new coat of paint – some of the larger, outdated theater-style auditoriums will

receive major overhauls next summer, including new furniture and media installations.

Before students return to campus in January, all 18 classrooms on the first floor of the Foreign Language Building will be freshened up with new paint and new desks. In addition, eight of the classrooms in FLB, as well as four classrooms in the Armory, will be outfitted with new media: computer consoles with overhead digital projectors and videocassette recorders and DVD players.

When the student population on campus dwindles this summer, major renovations will begin on six of the larger lecture halls, including rooms 23, 31 and 32 in the Psychology Building; a computer lab and Room 66 in the Library, which accommodate 35 and 210 students respectively; and Room 144 in Loomis Laboratory of Physics, which accommodates about 99 people. Also during the summer, rooms 229 and 231 in the Natural History Building will be combined to create a larger lecture hall that will seat about 85 students.

Full renovations and media installations in each of these larger classrooms are projected to cost between $150,000 and $456,000 per room.

Also on the “to do” list are the Living/Learning classrooms at Pennsylvania Avenue Residence Hall, Weston Hall, Illinois Street Residence Hall and Florida Avenue Residence Halls. New media and new seating will be installed in each of those rooms at a cost of $20,000 per room.

Room 112 Chemistry Annex, 116 Roger Adams Lab and 103 Transportation also will receive upgraded seating.

The goal is to have all renovations done before students return to campus in August, Hesselschwerdt said.

During summer 2006, two classrooms in the Vet Med building, rooms 80 and 100, will be updated as well.

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News Bureau, University of Illinois at Urbana-Champaign
807 South Wright Street. Suite 520 East, Champaign, Illinois 61820-6219
Telephone 217 333-1085, Fax 217 244-0161

news bureau
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

InsideIllinois

Courses to be renumbered under new seven-level system

By Sharita Forrest, Assistant Editor
(217) 244-1072; slforres@uiuc.edu

A new course numbering system will take effect on the Urbana campus with the fall 2004 semester.

A seven-level system will replace the four-level numbering system currently used. Many other institutions use seven-level systems, including Urbana's sister campus in Chicago.

Under the new system, course numbers at Urbana will range from 000 to 699 (see box). The 300-399 designation will delineate upper-division undergraduate courses, and the 400-level designation will comprise upper-division undergraduate courses that graduate students can also take for credit.

Under the four-level system, some upper-division undergraduate classes had 200-level designations while others had 300-level designations, a disparity that sometimes confused students as well as recruiters and officials at other universities.

UIC adopted a seven-level system in 1991 to help distinguish between lower-level and upper-level undergraduate courses as well as credit and non-credit courses, which will carry 000 designations in Urbana's new system.
Over the years, as courses were approved and added, the limitations of the four-level system led to inconsistencies in course numbering.

In side-by-side comparisons of UIC and Urbana students' transcripts, the four-level course numbers at Urbana were occasionally misinterpreted as indicating that Urbana students had taken lower-level classes than their peers who took similar courses but with higher course numbers at UIC, said David Ruzic, professor of nuclear engineering and materials science. Ruzic also chairs the faculty advisory committee on the UI Integrate project, an inter-campus committee that has represented faculty concerns throughout the implementation of the new system.

Photo by Bill Wiegand

Take a number Staff members in the Office of Facility Management and Scheduling had to rebuild the Class Schedule and related publications as a result of the course renumbering project and the implementation of SCT Banner. "We really need to thank the people in the colleges who provided all the data and reviewed it several times along the way," said assistant director Carol Malmgren, shown here with director Mark Netter.

As courses were added through the years, some academic units ended up with a hodgepodge of course numbers, and the course-renumbering project offered the opportunity for them to organize courses in more systematic ways.

“As new courses were developed, students rightfully believed that the higher the number, the more difficult or advanced the course, but that didn’t always happen because maybe the right number and sequence wasn’t available,” said Kirby Barrick, associate dean of academic programs in the College of Agricultural, Consumer and Environmental Sciences.

“This really does give students an advantage by providing a more consistent, understandable transcript,” said assistant provost Keith Marshall, who coordinated the renumbering project with campus academic units and the Office of Facilities Management and Scheduling. Staff in facilities management and scheduling rebuilt the course catalog and produced a new version of the Timetable, which is called the Class Schedule in the new Self-Service system.

The Urbana Senate approved a proposal to revise the course-numbering system at its Oct. 21, 2001, meeting. However, for cost effectiveness, implementation of the new numbering system was scheduled to coincide with the implementation of UI2 Self-Service, the student registration module of SCT-Banner, which is being launched this month.

A guide to new course numbers

A seven-level course-numbering system will be implemented at the Urbana campus beginning with the fall 2004 semester. The Course Information Suite, which contains the Class Schedule, the Course Catalog, the Programs of Study and information about general-education requirements, is available on the Web at http://courses.uiuc.edu/cis/index.html.

Course numbers	Description
000-099	Noncredit preparatory courses
100-199	Lower level undergraduate courses
200-299	Lower level undergraduate courses
300-399	Upper level undergraduate courses
400-499	Upper level undergraduate and graduate courses
500-599	Graduate courses
600-699	Professional courses (law and veterinary medicine

“We decided that while we were putting the new registration system up it was a golden opportunity to standardize data and refine the course-numbering system,” Marshall said.

Some units in the College of Liberal Arts and Sciences were in danger of running out of course numbers under the four-digit system, said Luci Rich, senior assistant dean for student affairs.

ACES had begun re-examining curricula in all seven of its departments about four years ago, Barrick said, to establish consistent course definitions and numbers, a project that dovetailed with the campuswide renumbering project.

“It took quite a bit of time to get seven departments to all agree to the same kind of terminology and numbers, but we think it has been very helpful to the degree-audit system and then very helpful to students,” Barrick said.

As a result of academic units’ re-examining and consolidating their course rubrics, the number of courses offered on the Urbana campus decreased from 7,500 to 7,200, said Mark Netter, director of the Office of Facility Management and Scheduling.

Since April 2003, a Course Renumbering Crosswalk Table has been available to make all units aware of the new campus

courses only)

numbers and was especially important in revising course marketing materials and other campus documents, said Carol Malmgren, assistant director of the Office of Facility Management and Scheduling.

The table cross-references the old course numbers and course rubrics, called subjects in the new system, with their new counterparts. Users can search the online table by the old rubrics or the new subject names and by the old and new course numbers.

The crosswalk table, the Class Schedule and the revised Course Catalog and Programs of Study are all components of a package called the Course Information Suite.

Users were able to preview thenew numbering system and the Course Information Suite online the past couple of months. However, students who register for summer courses must use UI-Direct and the old course numbers, since the new system and numbers do not take effect until fall.

In addition, summer registration was pushed ahead a couple of weeks instead of occurring concurrently with fall registration to help users distinguish between the old and new systems. On April 5, students will begin registering for the fall term using the new course numbers and Self-Service.

The Degree Audit Reporting System, DARwin, also had to be revised to recognize the new course numbers and academic requirements. Students and advisers will be able to view that information online when the academic history portion of the student module goes live and the next batch processing run is made in DARwin during the fall term.

The transition to the new numbering and registration systems will cause some “hiccups along the way,” Netter said, “and it’s going to be a challenge, but in the long run I think the university will be better served.”

Also beginning in the fall, credit for graduate courses will be conferred in hours rather than graduate units. The graduate-unit system was “almost unique to Urbana” and few other universities were using it, Marshall said.

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APPENDIX K

University of Michigan in Ann Arbor
Classroom Management Case Study

Appendix K - Table of Contents

Prepared by Kathleen Kelly
Leadership Development Program
University of California, Berkeley

December 2006

Appendix K-1: Case Study

1. OVERALL DESCRIPTION OF CURRENT CLASSROOM MANAGEMENT PRACTICES:

General Information

The University of Michigan (U-M) is one of the top-ranked public universities in the world, tied as the #2 public institution in the U.S. (U.S. News & World Report, 2006). It is internationally renowned for research and education and won the APPA's Award for Excellence in 2006 for its commitment to excellence in the field of educational facilities.

U-M is on a semester system with two full-terms during the academic year (fall and winter) and two half-terms during the summer (spring and summer). There is also a full spring-summer term that runs the length of the two half terms. For a fall or winter term, there are roughly 10,000 sections taught. This number is significantly higher than the 5,000 taught in the spring/summer term. Evening sections are taught after 6 p.m. and represent less than 10% of the sections offered. However, there are a large number of courses related to evening events, such as large evening exams and class film screenings.

Total enrollment for the fall of 2006 was 40,025 students (25,555 undergraduate and 14,470 graduate). There are 880 classrooms, 213 of which are scheduled centrally by the Office of the Registrar with the majority managed by the College of Literature, Science and the Arts (LS&A).

For centrally scheduled classrooms, U-M uses the Collegenet's Schedule25 software for mass room scheduling. Additional class changes, as well as special event scheduling in these rooms, are made directly in PeopleSoft v8.1. Scheduling of classrooms and equipment can be done on-line through the U-M website and training is offered to faculty on how to operate the equipment in the enhanced classrooms.

The U-M has tiered levels for the typical (vanilla) general assignment classrooms. These tiers are outlined below:

- 115 Basic Classrooms equipped with chalkboard, acetate overhead projector, video screen and Ethernet jack. No additional equipment comes standard with the basic classrooms. Support staff deliver any other equipment if needed.
- 23 Basic classrooms with TV and VCR/DVD Player installed in the room
- 47 Enhanced classrooms and large lecture halls with computers, video/data projection and VCR/DVD players (25 of these have voice reinforcement systems)
- 12 Classrooms with video/data projection, and VCR/DVD Players (2 of these have voice reinforcement systems)
- 12 Large lecture halls with video projection booths with film/video/data projection and separate voice reinforcement and audio system.
- 4 Classrooms with student computers and video/data project.

The U-M believes faculty, interested and engaged students, and excellent curriculum contribute most to creating an exciting and engaging learning environment. One example of how the U-M approaches development toward this goal is an annual program entitled "Enriching Scholarship" offered by the U-M Teaching and Technology Collaborative (TTC). This annual event invites U-M faculty and instructional staff to a week-long exploration of how technology can facilitate

effective learning and teaching through free seminars, workshops, demonstrations and other events to enhance teaching and research. The TTC is a group comprised of staff from many units across campus working to help faculty connect with services and resources that support their teaching. The TTC collaborates to provide information, referrals, and programs for instructors at the U-M (refer to Appendix K-5 for TTC's Guide to U-M Instructional Resources and Support.)

The CRLT, U-M's Center for Research on Learning and Teaching, maintains guidelines for learning spaces and has consultants that can help departments or units with learning space design. Their website (Appendix K-6), lists the guidelines for the common issues applying to all learning spaces, as well as the specific issues that apply to particular learning spaces. Their philosophy is that the design of any learning space is a collaborative effort between architects, facilities managers, engineering, IT specialists, university administrators and most importantly-students and faculty.

Podcasts are now bringing classrooms and labs to listeners. The U-M News Service recently started producing weekly news podcasts featuring faculty from across campus explaining their findings, their projects and programs.

Organizational Structure

The Office of the Provost and Vice President for Academic Affairs is responsible for space allocation. The Office of the Registrar is responsible for scheduling centrally scheduled classrooms, and individual units are responsible for scheduling all non-centrally scheduled classrooms.

The Office of the Registrar reports to the Office of the Provost and Executive Vice President of Academic Affairs, as do the instructional units which contain LSA Media Services and CAEN. Plant Operations reports to the Executive Vice President and Chief Financial Officer. Plant Operations handles the maintenance and cleaning of the classrooms.

Instructional technology is handled by a few different entities: Information Technology Central Services (ITCS), LSA Media Services and Computer Aided Engineering Network (CAEN). ITCS is a university-wide unit that provides high-quality information technology services that help the U-M faculty, students and staff excel at teaching, learning, research and administration. LS&A Media Services' primary mission is to provide support to the College of Literature, Science and the Arts' Instructional program. CAEN provisions a comprehensive set of computing and networking technologies and services in support of education at the College of Engineering. There is no formal communication protocol between the indicated units; however, building facilities managers may work as a conduit between units.

Although the Associate Vice President for Budget, Planning and Administration reports directly to the Provost, it is important to note that the Provost is the Chief Budget and Academic Officer, while the EVPCFO (Executive Vice President and Chief Financial Officer) is the Chief Financial Officer.

The U-M does not have any type of campus committee on classroom policy and management.

Budget and Finance

The primary funding mechanism for minor renovations, upgrades and maintenance for the general assignment classrooms is through the annual Classroom Renovation Funds. This fund is a

separate fund receiving $1.5M per year and is managed by the Provost's Office. The funding was developed in 1988-89 to recognize that classroom upgrades should have a dedicated stream of resources rather than having to compete with other University priorities annually. The fund started with a base addition of $1,173,000 and was followed with an additional $470,000 in 1989-90, then topped to its current $2 million with a third base addition of $357,000 in 1994-95. Of the $2 million, $1.5M is dedicated to classroom renovations, and $.5M is used for ADA upgrades. The Provost's Office serves as the authorizer for the fund, and the CFO covers the approved expenses.

Maintenance dollars are assigned to buildings based on overall equipment content. Building services costs are assigned based on space type and finish by building type. Overall, about $3.71 per SF is received for maintenance, which includes everything (maintenance, custodial, and grounds).

The U-M also receives state appropriations, but these appropriations go into the General Fund and are not specifically designated for classrooms. U-M anticipates a 3% increase in state appropriations for the FY 2007. The U-M Government Relations Department arranges legislative meetings for members of the University administration and faculty, and communicates with policymakers on appropriations and other issues impacting higher education.

Most classrooms are owned by the units and the design, maintenance, and outfitting of the classrooms is part of their budgetary responsibility to be prioritized by the unit. Units who own centrally scheduled classrooms are able to apply for Classroom Renovation Funds from the Office of the Provost for renovations and updates.

When asked to describe how the classroom needs determination and the budget decision making process intersect, the U-M representative stated they don't.

Leadership in Classroom Management and Improvement

The majority of the U-M buildings with classrooms are multi-use buildings. The U-M is investing in classroom technology, classroom furnishings, new classrooms and new buildings. Classroom needs are determined by faculty requests, departmental requests and student learning needs and brought forward by the Deans to the Provost. The Office of the Provost determines priority by the academic value.

2. ADVANTAGES OF U-M'S APPROACH:

Per U-M, overall satisfaction is fair. While a small percentage of faculty report a preference for low-tech chalkboard rooms, most faculty members would prefer more enhanced classrooms (projection and installed equipment, including computer). However, one must note it is not clear how significantly the overall number of enhanced classrooms must increase or whether faculty would be satisfied with the assurance there would be means to schedule access to enhanced classrooms when and where they need to hold specific courses.

The decentralization of the organizational structure largely leaves the units with the management of their classroom assignment, design and outfitting, which is a pro.

3. DISADVANTAGES OF U-M'S APPROACH:

The non-centrally scheduled classes are used less efficiently, which is not a desired effect.

4. FUTURE DIRECTIONS:

The U-M would like to implement centrally scheduled classrooms for the majority of campus, as well as standardized technology in the classrooms. **A key starting point to this goal is a recent decision made about all newly constructed classrooms in General Fund buildings. These classrooms will become centrally scheduled classrooms, with priority for specific units.** This decision was made by the Provost with support from the EVPCFO. The General Fund buildings do not include the Hospital and Health System, Parking, Housing or Athletics. All other buildings are considered General Fund, including the new Ford School of Public Policy.

In the U-M Budget Presentation to the Board of Regents for FY 2006-2007 General Fund Operating Budget, they stated that "Cutting-edge academic initiatives involve novel modes of teaching or research taking place in new scholarly areas. In many cases, facilities are key to the success of a particular initiative. Consequently, the University continues to invest heavily in the renovation and renewal of its physical plant. Whenever possible, we choose to renovate existing space."

In 1999, the U-M launched an $86 million project of major infrastructure upgrades and enhancement of academic space in four LS&A buildings on Central Campus. The state support of the revitalization program, through its Capital Outlay Program, amounted to $59.25 million. The remaining $16.75 million was borne by the University. One focus of the project was to renovate and upgrade the classrooms in the LS&A buildings.

In February 2005, the Board of Regents approved a $145 million plan by the Stephen M. Ross School of Business to create new facilities with the highlight to be on classrooms of the future. The plan proposed a new layout for classrooms with "new spaces, configured exactly to the needs and enhanced with the best technology, enabling the U-M to realize the learning community of the future". This is a fundamental change from lecture-style classes to interactive methods that integrate individual preparation, teamwork and in-class discussion, while effectively utilizing advanced technology. To understand how the Ross School facilities could meet those challenges, a strategic planning exercise was launched in 2003 that called on faculty, students, alumni and staff to define the school's infrastructure needs well into the 21st century. This strategic planning process enabled them to crystallize the understanding of what the physical spaces needed to make it a reality.

The facilities will provide 85-seat, u-shaped classrooms with tiered seating and adjacent small-group discussion areas, a configuration that will facilitate a seamless transition from formal classroom to team interaction during a single class session. Included in the building are enclosed group study rooms, informal student gathering areas, student commons, faculty offices large enough to facilitate meetings with students and clustered into suites of several offices; and an auditorium.

Another new facility will be the $61 million USB building. It is L-shaped and intended to house innovative classrooms. This new building will include a lecture hall and traditional teaching labs and will feature new studio classrooms that allow lectures and bench work in the same class period. The building will contain two "dinner theatre" rooms-feature fixed tables for 4 students set on risers that form a semicircle around the teacher. The design intended to facilitate active learning for about 100 students. Also housed in the building will be a spacious resource center with computers and small meetings rooms for student groups and for just hanging out, teaching laboratories and seminar classrooms, a 190 seat auditorium, and a small plant growing room.

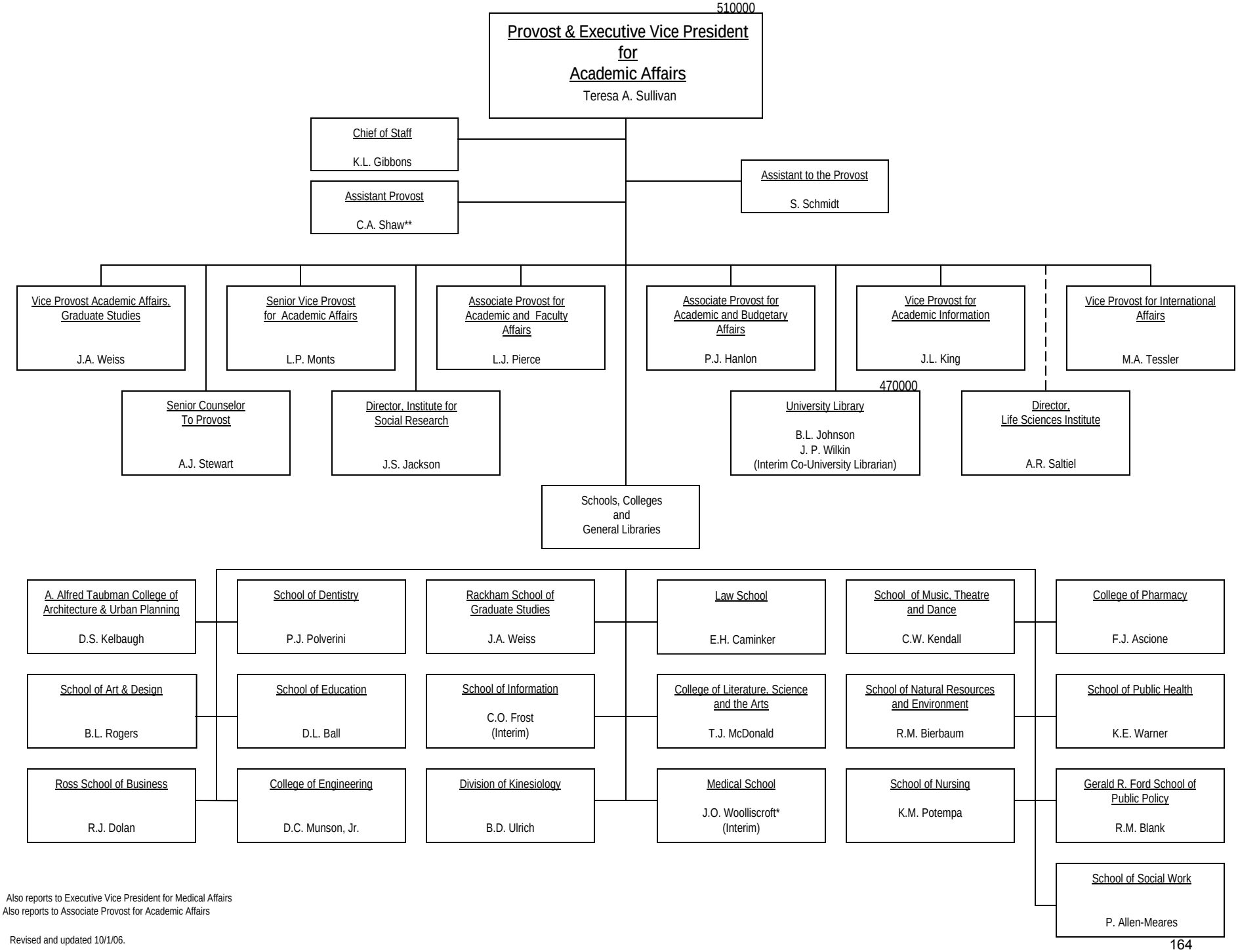
The U-M is really making great strides to support teaching and learning styles of the future.

Appendix K-2: Interview Details

Interview Details

1	**Name of University**	**University of Michigan**
2	LDP Interviewer Name	**Kathleen Kelly**
3	Date of Interview	**December 8, 2006 Received Via Email**
4	University Contact Name	**Stephanie Riegle on behalf of Lester Monts, Senior Vice Provost of Academic Affairs**
5	University Contact Title	**Senior Project Manager, Office of the Provost and Executive Vice President for Academic Affairs**
6	University Contact Phone	**1.734.615.6737**
7	University Contact Email	**sbrugler@umich.edu**

ACADEMIC AFFAIRS
PROVOST AND EXECUTIVE VICE PRESIDENT



* Also reports to Executive Vice President for Medical Affairs
** Also reports to Associate Provost for Academic Affairs

Revised and updated 10/1/06.

UNIVERSITY OF MICHIGAN

OFFICE OF THE PROVOST
AND EXECUTIVE VICE PRESIDENT
FOR ACADEMIC AFFAIRS

Appendix K-4

Reporting Units: Academic Affairs

Reporting Directly to the Provost, Teresa A. Sullivan

- Institute for Social Research
- University Library

Reporting to Lester P. Monts

Senior Vice Provost for Academic Affairs

- Academic Multicultural Initiatives (OAMI)
- Air Force Officer Education
- Army Officer Education
- Arts at Michigan
- Center for the Education of Women
- Center for Research on Learning and Teaching (CRLT)
- Evaluations & Examinations
- Financial Aid
- Institutional Equity
- National Center for Institutional Diversity (NCID)
- Navy Officer Education
- New Student Programs (NSP)
- Registrar
- Undergraduate Admissions

Reporting to John L. King

Vice Provost for Academic Information

- Bentley Historical Library
- High Performance Computing Center

- Hosted organizations:
  - Merit Network, Inc.
  - Internet2
- Information Services Shared Support Unit (ISSS)
- Information Technology Central Services (ITCS)
- IT Partnerships
- James and Anne Duderstadt Center and Digital Media Commons
- William L. Clements Library

Reporting to Lori Pierce

Associate Provost for Academic and Faculty Affairs

- Academic Human Resources
- Museum of Art

Reporting to Phil Hanlon

Associate Provost for Academic and Budgetary Affairs

- Matthaei Botanical Gardens and Nichols Arboretum
- Office of Budget and Planning (OBP)

UNIVERSITY OF MICHIGAN
OFFICE OF THE PROVOST
AND EXECUTIVE VICE PRESIDENT
FOR ACADEMIC AFFAIRS

3074 Fleming Administration Building Ann Arbor, Michigan 48109-1340
(734) 764-9290 Fax: (734) 764-4546 provost@umich.edu

Teaching and Technology Collaborative's
www.umich.edu/~teachtec

Guide to U-M Instructional Resources and Support

* Individual schools and colleges may provide additional resources and support. Some units serve specific campus populations. See the reverse side.

	Center for Research on Learning and Teaching	Faculty Exploratory	ITCS Education Services	Knowledge Navigation Center	LS&A Language Resource Center	Medical Learning Resource Center	Digital Media Commons	Science Learning Center (LS&A)	University Library
■ TEACHING AND PRESENTING									
Design and develop courses: consultation or training	●	●	●		●	●	●		●
Design and manage distance courses	●						●		
Design and develop class assignments	●	●	●		●	●	●	●	●
Make sample exams, readings, or other materials available for students					●	●		●	●
Make sample exams, readings, or other materials available on the web	●	●	●	●	●	●	●		●
Create web or computer-based course conference tools				●	●		●		
Scan text or images: facilities or training		●	●	●	●	●	●	●	
Edit, digitize, or convert formats of a video and audio tape		●			●	●	●	●	
Play a video tape		●			●	●	●	●	●
Use video conferencing or UMTV					●	●	●		●
Check out video cameras, recording/playback equipment, or software					●	●	●	●	●
Arrange training in library, web, or other technology for students in class			●		●	●	●		●
Reserve a computer classroom			●		●	●	●	●	
Find out what computer to use and how to set up for a presentation		●	●		●	●	●	●	
Learn presentation and other software programs	●	●	●	●	●	●	●		
Design curriculum for specific outcomes	●				●	●	●		●
■ RESEARCHING AND PUBLISHING									
Access and search the web, Mirlyn, library databases, or CD-ROMs		●	●	●	●	●	●	●	●
Learn how to do needs assessment and evaluation of courses	●						●		
Explore pedagogical issues and discuss project design and management	●		●		●	●	●		●
Organize and manage your notes and citations		●		●					●
Get help finding grant opportunities and writing grant proposals	●				●		●		●
Write a CD-ROM or DVD		●		●	●	●	●	●	
Learn how to put your work on the web	●	●	●	●	●	●	●		

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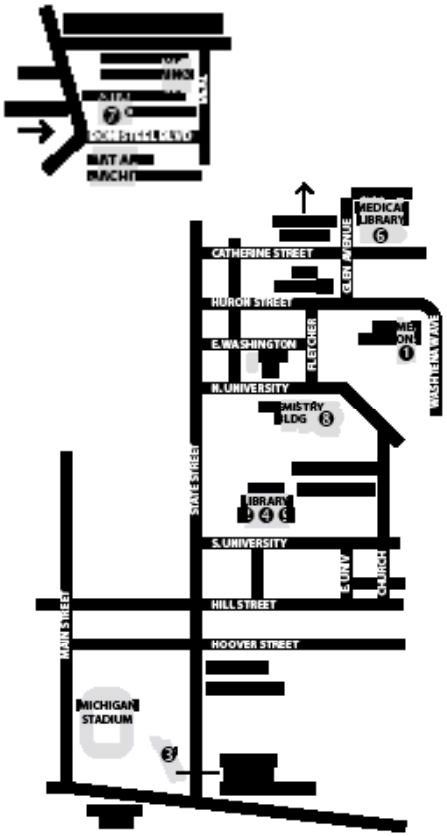
Teaching and Technology Collaborative



❶ Center for Research on Learning and Teaching

1071 Palmer Commons
Staff Hours: M-F 8am-5pm
Contact: Erping Zhu
764-0505
crlt@umich.edu
www.crlt.umich.edu

CENTER FOR RESEARCH ON LEARNING AND TEACHING
CRLT
University of Michigan

To enhance teaching and learning at U-M, the Center for Research on Learning and Teaching (CRLT) offers comprehensive services to faculty and GSIs in U-M's nineteen schools and colleges. CRLT provides consultation to individuals and departments on integrating instructional technology into teaching, including distance education, and on evaluating the impact of technology. Additionally, CRLT has grant programs to fund instructional technology and other projects.

Faculty Exploratory
"We Take You Further..."

❷ Faculty Exploratory

2nd Floor, Hatcher Graduate Library
Staff Hours: M-F 8:30am-5pm , Additional hours during Fall and Winter
Contact: Laurie Sutch
647-7406
exploratory@umich.edu
www.lib.umich.edu/exploratory

Intended especially for faculty who are new to or not highly proficient with technology, the Exploratory offers hands-on workshops as well as walk-in and by appointment assistance to help faculty explore ways of using technology to support their research and teaching. Visit our website for this term's workshop schedule.

MICHIGAN EDUCATION SERVICES

❸ ITCS Education Services

Room 2078, CSSB (Campus Safety Services Building)
1239 Kipke Drive
Staff Hours: Most classes taught during the normal work day. Special request workshops can be scheduled by appointment.
Contact: Carolyn Newman
647-4035
newman@umich.edu
www.itd.umich.edu/education

IT Education Services provides workshops to promote skill development in a wide variety of software for users at all skill levels. Our workshop services include regularly scheduled non-credit computing workshops open to all staff, faculty, students, and community members. Classes are taught in a variety of locations on campus including the Arbor Lakes Building, Campus Safety Services Building, and the North Ingalls Building.

KNOWLEDGE NAVIGATION CENTER
YOUR GATEWAY TO LEARNING TECHNOLOGIES

❹ Knowledge Navigation Center

2nd Floor, Hatcher Graduate Library
Staff Hours: call/e-mail ahead for hours
Contact: Nancy Sims
647-5836
knc-info@umich.edu
www.lib.umich.edu/knc/

The KNC provides assistance and instruction to faculty, staff, and students in the use of a wide range of information technology. Visit the KNC to learn about image and text scanning, web development, and bibliographic management tools, such as EndNote and RefWorks. Walk-in or call ahead to reserve a workstation.

❺ LS&A Language Resource Center

2018 Modern Languages Building
Staff Hours: M-Th 8:30am-10pm
F 8:30am-5pm
Sun 12:30-10pm
Contact: Monika Dressler
764-0424
mdressle@umich.edu
www.umich.edu/~langres

The Language Resource Center is an interdisciplinary resource center provided by the College of LS&A to support the exploration, learning and teaching of the diverse foreign languages and cultures taught at the University of Michigan. The Center provides instructional computing resources, library/media collections, GSI office hours, media production, academic technology consulting/assistance, international satellite television, and other related services.

❻ Medical Learning Resource Center

Taubman Medical Library
1135 E. Catherine St., Rm 3960
Staff Hours: M-F: 8am-5pm
LRC Computer Cluster Hours: 8am-12am
Sat 10am-12am, Sun 12pm-12am
Reduced hours during summer and breaks
Contact: Chris Chapman
936-2903
chapmanc@umich.edu
www.med.umich.edu/lrc/

The Learning Resource Center (LRC) offers a full range of administrative, educational, and support services to Medical School students and faculty. Faculty and students interested in understanding, exploring and developing computer-based technologies for use in medical education are welcome to discuss their interests with LRC staff.

❼ Digital Media Commons

2281 Bonisteel Blvd.
Staff Hours: 8am-5pm,
Building open 24/7
Contact: Diana Perpich
615-4317
dperpich@umich.edu
www.ummu.umich.edu

The Digital Media Commons at the Duderstadt Center, (formerly the Media Union), is a hub for development and study of digital media. Its mission is to help U-M faculty and students explore and use appropriate technologies in their work. A consultation network of four laboratories–Digital Media Tools; Collaboration Tools; Usability, Support and Evaluation (USE); and the 3D Lab–supports research and instruction. The USE Lab and the Collaboration Tools Lab collectively develop and support CTools and UM.Lessons, the University's online environments for courses, collaboration, and assessment.

❽ Science Learning Center

1720 Chemistry
Staff Hours: M-Th 9am-9pm
F 9am-6pm
Sat & Sun 12-6 pm
Contact: Claire Sandler
763-9399
csandler@umich.edu
www.umich.edu/~slc

The Science Learning Center is an interdisciplinary resource center provided by the College of LS&A to support teaching and learning in the five natural science disciplines: astronomy, biology, chemistry, geological sciences and physics. The Center provides instructional computing resources, library collections, GSI office hours, study groups, and other related services.

❾ University Library

Staff Hours: Vary by location
Contact: Darlene Nichols
936-2362
209 Hatcher Library North
dpn@umich.edu
www.lib.umich.edu

The University Library offers workshops and course-related instruction on information retrieval, the organization and management of information, and the presentation of information. Subject specialists can assist instructors in designing projects to enhance students' information literacy by developing their skills in evaluating and effectively using information resources.

LSA

❿ LSA Instructional and Classroom Support

1007 E. Huron
Staff hours: By appointment
Contact: Kim Bayer
615-9269
kimbayer@umich.edu
www.lsa.umich.edu/tsg

A collaborative effort between LSA Facilities and LSA IT will benchmark existing instructional support resources and practices and find ways of facilitating the evolution of these resources and practices to better align services and the LSA mission. With a working group comprised of leaders of instructional support services in LSA, we address issues that affect teaching and learning college-wide, such as learning space design, multimedia delivery and production, the online instructional environment, faculty and staff development, student opportunities, collaborative efforts with other campus partners, and more.

Updated: June 2005

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CENTER FOR RESEARCH ON LEARNING AND TEACHING
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Guidelines for Learning Spaces

Recommendations for the renovation and construction of learning spaces at the University of Michigan

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Introduction

The design of any learning space is a collaborative effort between architects, facilities managers, engineers, IT specialists, university administrators and–perhaps most importantly–students and faculty. Primary consideration should be for the immediate and long-term purposes of the space and the needs of the users. Therefore, because the purpose of a space and the needs of learners vary, designs should be flexible (Chism & Bickford, 2002; Oblinger, 2004). Classroom and building design should also be mindful of the fact that learning is not restricted to the bounds of a classroom, studio or lab, but may arise in any physical or virtual space.

The links below give guidelines for the common issues that apply to all learning spaces as well as the specific issues that apply to particular learning spaces.

- **Common Classroom Design Elements**

  Particular spaces:

  - **Large Lecture Hall**
  - **Large Classroom**
  - **Seminar Room**
  - **Science Laboratory**
  - **Computer Classroom**
  - **Studio Design**
  - **Informal Learning Spaces**

  Bibliography **(.pdf)**

CRLT Consultation Services for Learning Space Design

CRLT instructional consultants can help departments or units with learning space design. To request a consultation, call 764-0505 or email crlt@umich.edu.

Appendix K-7

Web Resources:

The University of Michigan: The University of Record Online
"Podcasts bring classrooms, labs to listeners"
http://www.unich.edu/~urecord/0607/Nov20_06/06.shtml

The University of Michigan: The University of Record Online
"Classrooms of the Future Highlight Ross School Plan"
http://www.U-Mich.edu/~urecord/0405/Feb21_05/01.shtml

The University of Michigan: The University of Record Online
"Revitalization of Central Campus Facilities
http://www.U-Mich.edu/~urecord/9900/Sep20_99/11.htm

The University of Michigan: The University of Record Online
"L-shaped USB to House Innovative Classrooms, Labs"
http://www.U-Mich.edu/~urecord/0405/Dec13_04/04.shtml

The University of Michigan: Office of the Provost
"Budget Presentation to the Board of Regents FY 2006-2007 General Fund Operating Budget"
http://www.provost.U-Mich.edu/budgeting/budget_2006-2007.html

APPA
"Award for Excellence in Facilities Management"
http://www.appa.org/Recognition/awardsForExcellence.cfm

University of Michigan
"Fast Facts"
http://www.admissions.U-Mich.edu/fastfacts.html

University of Michigan
"8th Annual Enriching Scholarship Program"
http://www.umich.edu/~teachtec/ES2005/es2005.pdf

University of Michigan
TTC Homepage
http://www.umich.edu/~teachtec/

CRLT's Guidelines for Learning Spaces
http://www.crlt.umich.edu/learningspaceguidelines/index.html

APPENDIX L

University of Virginia – Main Campus
Classroom Management Case Study

Appendix L - Table of Contents

Prepared by Sherry Reckler
Leadership Development Program
University of California, Berkeley
December 2006

Appendix L-1: Case Study

1. OVERALL DESCRIPTION OF CURRENT CLASSROOM MANAGEMENT PRACTICES:

General Information

The University of Virginia (UVA) operates on a two-semester system. Fall 2006 enrollment at UVA included 13,900 undergraduate students and 4,800 graduate students. Classes at UVA which include discussion sections, lectures, and seminars, resulted in 3869 classes being offered in the fall of 2006 and 4019 classes being offered in the spring of 2006. In the fall of 2006, 491 labs were offered and in the spring of 2006, 525 labs were offered. UVA has approximately 171 General Assignment-type rooms called Central classrooms **(**Appendix L-3) which include all classes, i.e., discussion, drill, lecture, and seminar rooms except professional school classes. There are no Departmental classrooms as such; rather, a total of 73 wet labs, class labs, studios, and workshops, make up a second category of rooms collectively called Labs. These labs are the equivalent for State counting purposes of Berkeley's Departmental classrooms.

While the State requires in writing that UVA hold classes from 8:00am-10:00pm it does provide UVA some flexibility, and as such, UVA may hold classes until 9:30pm and still gain credit for the required classroom utilization. In terms of utilization for night classes, classes held beginning at 5:00pm have the most frequency with classes beginning 6:00pm or later having some frequency. UVA holds evening classes 8:00am-10:00pm Monday-Thursday and 8:00am-6:00pm on Fridays, with 3:00pm-6:00pm on Fridays being almost a total loss due to lack of attendance by students.

UVA uses scheduling software called The SOURCE which is a web viewer for UVA's Resource (R25) software and includes scheduling software called Schedule (S25). All classrooms are loaded into both systems. Using R25, each department is coded with preferred partitions and any technical needs while S25 finds the best match for a course based on partitions chosen, seating capacity, enrollment, and technology. UVA has an interface that loads the results of the S25 "run" into R25. R25 is also used to reserve academic spaces for "other" events.

UVA has two types of vanilla classrooms:

- **Non-technology classrooms include:** the "basics", i.e., tablet arm chairs or fixed seats, long tables, chairs, a blackboard, a whiteboard, and an overhead projector. Only 50 non-technology classrooms are left and 5 are in historic buildings where equipment may not be attached.
- **The Basic Technology Enriched Rooms include**: rooms with built-in projectors that can be used with any source, computers, DVDs, appropriate HVAC or AC, appropriate lighting with control access, a whiteboard OR blackboard. This room may be fitted with a document camera and/or video tape player if requested. A slide projector and sound enhancement is provided for large rooms. Lecture halls have multiple ceiling speakers and microphones for teachers.

During the February 07-July 07 timeframe, the last 50 rooms to be renovated will contain, at least, basic projection capability except for those in historical buildings. Additional equipment is

guaranteed upon demand. A typical classroom includes technology found in the Basic Technology Enriched Room.

While no formal survey has been taken regarding student satisfaction with UVA classrooms that have been renovated to date, UVA Administrators do have a pulse on faculty members' satisfaction with both the renovated, and old, traditional-style classrooms. Seventy percent of those using old rooms are still satisfied with teaching and presenting within them. Eighty percent of those using newly renovated rooms are satisfied with teaching and presenting within those. The majority of faculty have expressed the requirement that they be able to present in PowerPoint and project; however, the Associate Provost Academic Support and Classroom Management, despite addressing faculty concerns for more projection, thoroughly expects to receive complaints from some faculty stating that there is too much technology in the rooms and too many projectors.

Organizational Structure

UVA's most important decision about classrooms was made and acted upon in 1995 by the Executive Vice President and Chief Operating Officer and the Provost; UVA classrooms would be updated and renovated and classroom utilization would meet State standards. The Associate Provost for Academic Support and Classroom Management makes the majority if not all decisions with regard to classroom management and renovation and works collaboratively with whichever Department may be involved, i.e. those entities that may have the dollars to equip more rooms. From 2000 to 2006, 120 of 171 classrooms were renovated with technology. The 50 remaining classrooms still requiring renovation will become the new vanilla classrooms and their technology will continue to be augmented. In the case of a renovated classroom's needs having been underestimated, return visits have and will be made to provide the necessary augmentations whether a light system, a computer system, or any other item that needs to be replaced.

Within UVA's Provost and Vice Provost Office, the Associate Provost for Academic Support and Classroom Management provides the "academic view," i.e. Dean's input etc., to the work of the Space and Real Estate Management Department when it comes to classroom renovation. The Office of Space and Real Estate Management is responsible for making decisions to change spaces from one use to another. It looks at issues to include saving space and planning for future needs and is accountable to the State for UVA's entire institutional inventory. Scheduling is handled by the Registrar's office, maintenance and cleaning of classrooms is handled by Facilities, and Information, Technology, and Communications (ITC) is responsible for instructional technology. In general, it is the Registrar's Office, ITC, and Facilities who act as the implementers to initiate and complete classroom renovations.

All responsible units speak to one another often and whenever necessary. The Associate Provost for Academic Support and Classroom Management is charged by ITC, Space and Real Estate Management, and Facilities to get everyone working together even though they are under separate Vice Presidents. While the UVA organization chart (Appendix L-4) suggests a traditional reporting structure, the Associate Provost for Academic Support and Classroom Management cuts across the chains-of-command of the Associate Provosts and Vice Presidents for ITC, Space Allocation, The Registrar's Office, and Facilities with their consent, and gets things done. The position does not require the individual consent of these other Associate Provosts and Vice Presidents on each classroom management and renovation issue. A classroom coordination group, which meets monthly, includes representation from the Associate Provost for Academic

Support and Classroom Management, ITC, Facilities, and the Registrar's Office, all of which have the ability to propose classroom policy, ideas, and, concerns, thereby furthering routine communication and coordination. Given this close coordination then, the Associate Provost for Academic Support and Classroom Management is in the position to take coordinated policy recommendations from the group to the Vice Provost. (The advantages and disadvantages of UVA's classroom management structure will be discussed in-depth in parts #2 and #3 of this Case Study.)

Budget and Finance

There is no specific calculation that drives the allocation of funds for classrooms at UVA. UVA has an annual overall budget request that is made to the State. Included is UVA's classroom maintenance request and, via a specific line item in their budget request, additional money for the gutting and renovating of classrooms for a specific target year. UVA's Academic side of the house receives only 8% total for its total Operating budget. The remaining funds come from tuition and private donations. There is no mid-year budget request.

UVA receives $350K per year for the maintenance of General Assignment classrooms. Of that amount, $100-$110K goes to furniture for General Assignment classrooms. This money may not be used for technology, repair of roofs, or wiring. For additional incremental renovation dollars UVA has turned to its students and charges them an annual fee which generates up to $400K per year for General Assignment or class lab upkeep. This revenue, generated by students, is separate from the dollars needed for the building of new buildings at UVA.

New buildings with new classrooms have not been built since the 1950s with the exception of three buildings. By 2012, however, there is a planned new building for every undergraduate school with classrooms. The funding for the new buildings will come from State and private funds. UVA has taken out General Obligation Bonds wherein VA taxpayers pay back UVA's lender, while continuing to raise remaining necessary funds through private donations. One of the new buildings will require 100% private funds. The primary funding mechanism for general assignment classrooms at UVA is State and private funding. Every even-year fall, e.g., fall 2006, fall 2008, UVA is required to report classroom utilization numbers for General Assignment classrooms and Labs. While UVA's classroom utilization rates have been down for years due to its rural location, UVA has received its annual dollar allocation for maintenance suggesting that the State evaluates timely reporting utilization rates as well as the condition of UVA's buildings, many of which are historic, in making a positive decision in UVA's favor and provided funding that is ultimately used for renovations (gutting buildings).

As part of its annual budget request to the State, UVA submits a justification which includes faculty salaries and an outline of exactly what the money will be used for; asks for an allocation to its Academic sector; and reports on any revenue it raises through Housing, the Bookstore, UVA Parking Structures, and other auxiliaries. UVA must have authorization from the State to spend not only its State allocation but any private monies it raises. UVA receives $350K for incremental maintenance of classrooms and via specific line items in their budget request, asks for additional monies for the gutting and renovating of classrooms and for classroom equipment (must be used for direct instruction only), for a specific target year. UVA's Academic side of the house receives only 8% total for its total Operating budget. The remaining funds come from tuition and private donations. Since 2004, private donations have exceeded State funding.

Leadership in Classroom Management and Improvement

In 1995 an Associate Provost for Academic Support was in existence but the position was subsequently expanded as a result of a key decision by The Executive Vice President & Chief Operating Officer and Provost to focus on classroom utilization and classroom renovation issues in the form of classroom management. Ultimately the position that emerged was the Associate Provost Academic Support and Classroom Management position, currently held by Wynne Stuart. The Executive Vice President & Chief Operating Officer and Provost's 1995 classroom management decision proved to be the keystone and catalyst for the implementation of future classroom renovations on campus.

UVA's classroom needs are determined by administrative priority along with a strategic budget and location determination. Its goal is to respond to students and the faculty through "form and content." Renovation of classrooms was planned in two 5 year plans to be completed in the 1995-2005 timeframe. The renovation of remaining classroom (Arts and Sciences) will actually be completed by summer 2007. Implemented plans ranged from renovating classrooms in geographic clusters on campus, to renovating only auditoria, to taking requests from School Deans and from core groups, to making renovation decisions based upon how many students would be impacted, to using a cookie-cutter approach to rooms wherein an auditorium in each school was renovated or 10 to 40 classrooms were renovated in each building. UVA will not build new classrooms in old buildings. Facilities canvasses classrooms twice per year and individuals schools within UVA are required to provide their top priorities for improving classrooms. UVA continues to try to find a balance amongst the renovation of classrooms. Note that there are no classroom-only buildings. All buildings have multiple uses, i.e. faculty offices, lecture halls etc…UVA looks for ownership of classrooms within a building while believing that classrooms should be spread across campus and have multi-use environments. As such, all new buildings will have multi-use environments.

The Associate Provost for Academic Support and Classroom Management states that since the key 1995 decision was made by the senior UVA Administrators and her position was given the authority to lead on classroom management issues, there have not been any considerable roadblocks. This is in large part due to her having identified a small team of implementers from Facilities, the Registrar's Office, and ITC, who very closely coordinate with her on next steps. Institutionally, no roadblock exists except for a requirement and desire for more funding. All classroom management and renovation associated with classrooms has occurred through excellent communication and a collaborative and flexible approach.

2. ADVANTAGES OF UVA'S APPROACH:

Since the Associate Provost for Academic Support and Classroom Management, ITC, and Facilities began working together as a team in 1998, renovation decisions and the implementation of the renovations have been rolling forward smoothly. According to the Associate Provost on Academic Support and Classroom Management, the key to UVA's seamless progress on renovations has resulted from the following:

- The Associate Provost for Academic Support and Classroom Management has the authority to make decisions about, and lead the classroom management and renovations process. She is empowered, despite the formal look of the school's reporting structure, to work directly with ITC, The Registrar's Office, and Facilities staff without having to go through the Departments' individual bureaucracies on every issue. She has the authority

to make decisions on classroom management and renovations herself but also takes requests and input from other Vice Provosts and Deans. This process allows what can be described as a "team" to move forward cooperatively and in a non-traditional manner. The Team communicates effectively with one another because there is good will and buy-in by the participants to make UVA classrooms the best that they can be.

- In terms of funding successes, both the charge to students for incremental renovations and the use of State Obligation Bonds for the building of new buildings and new classrooms has proven to be successful in raising revenue. Despite these successes, UVA still requires additional private funding for classroom renovation and the building of new buildings which exceeds any annual State funding it receives.

- While not an advantage that emerged as a result of UVA's classroom management processes, the fact that the State of Virginia looks more at the existing conditions of UVA buildings and classrooms due to many of them being historic rather than whether UVA is meeting State classroom utilization rates has helped UVA continue to gain State funding.

3. DISADVANTAGES OF UVA'S APPROACH:

No clear disadvantages exist. According to the Associate Provost for Academic Support and Classroom Management, UVA's methodology/system is working very well.

4. FUTURE DIRECTIONS:

UVA would like to build and resource classrooms so that, ultimately, a faculty member can walk into a classroom and find everything he needs to conduct a class from a supply, technology, and a furniture standpoint, while only being one phone call away from additional help if necessary. The room ideally would be fully equipped so that the faculty member need not bring anything with him in order to teach his class. Currently, twenty percent of faculty have "know-how" when it comes to utilizing technology in the classroom and have been instrumental in training other faculty on technology. UVA additionally has Faculty Support Groups for technology training as well as general training or demonstrations; with the goal being to ensure that all faculty that desire and need training on technology in classrooms receives it.

UVA is currently finishing its renovation of its last 50 classrooms and should have all equipped with at a minimum projection capabilities by the end of summer 2007, with the exception of 5 historic classrooms. The plan is to continue it process of returning to all previously-renovated classrooms to ensure that they remain current and with up-to-date technology. For the future, UVA believes that classroom support is essential and would like to be able to track the life of its classroom assets remotely, e.g., track bulb life on projectors and life of equipment for maintenance purposes. Ultimately, if UVA can evaluate its classrooms as a whole, and remotely on a consistent basis, associated physical labor costs will decline.

While the last 12 years of classroom renovation have been critical in terms of upgrading the classrooms in general, and with the necessary technology so that UVA may attract the high caliber students and faculty that UVA has become know for, ultimately the Associate Provost for Classroom Support and Classroom Management believes that it is faculty members themselves that create the exciting environment for learning and that technology is subservient or secondary to the overall teaching plan.

Appendix L-2: Interview Details

Interview Details

1	**Name of University**	**University of Virginia (UVA)**
2	LDP Interviewer Name	**Sherry Reckler**
3	Date of Interview	**11/17/06 and 11/21/06**
4	University Contact Name	**Wynne Stuart**
5	University Contact Title	**Associate Provost Academic Support & Classroom Management**
6	University Contact Phone	**434-924-6313**
7	University Contact Email	**wynne@virginia.edu**

Appendix L-3

Centralized Registar's Academic Classrooms (Excerpt)

	FACILITY#	FACILITYNAME	RMNO	ROOMUSE	ROOMUSEDESCR	ASF	STATION
1	0252	Astronomy Building	265	110	Classroom	445	25
2	0094	Bryan Hall	310	110	Classroom	407	17
3	0094	Bryan Hall	312	110	Classroom	398	18
4	0094	Bryan Hall	328	110	Classroom	503	22
5	0094	Bryan Hall	330	110	Classroom	414	18
6	0094	Bryan Hall	332	110	Classroom	398	16
7	0094	Bryan Hall	334	110	Classroom	407	15
8	0438	Campbell Hall	105	110	Classroom	1,278	24
9	0438	Campbell Hall	107	110	Classroom	339	18
10	0438	Campbell Hall	108	110	Classroom	331	14
11	0438	Campbell Hall	135	110	Classroom	685	30
12	0438	Campbell Hall	158	110	Classroom	1,092	90
13	0438	Campbell Hall	160	110	Classroom	1,120	85
14	2360	Cauthen House	112	110	Classroom	404	18
15	2360	Cauthen House	116	110	Classroom	338	18
16	2360	Cauthen House	134	110	Classroom	822	35
17	0222	Chemical Engineering Research	005	110	Classroom	1,185	55
18	0256	Chemistry Building	260	110	Classroom	650	28
19	0256	Chemistry Building	303	110	Classroom	800	32
20	0256	Chemistry Building	304	110	Classroom	1,210	100
21	0256	Chemistry Building	305	110	Classroom	744	40
22	0256	Chemistry Building	402	110	Classroom	5,055	475
23	0068	Clark Hall	101	110	Classroom	812	38
24	0068	Clark Hall	102	110	Classroom	812	38
25	0068	Clark Hall	107	110	Classroom	2,480	130
26	0068	Clark Hall	108	110	Classroom	2,480	150
27	0068	Clark Hall	G004	110	Classroom	723	45
28	0068	Clark Hall	G054	110	Classroom	482	20
29	0061	Cocke Hall	101	110	Classroom	544	22
30	0061	Cocke Hall	115	110	Classroom	544	32
31	0442	Drama Education Building	206	110	Classroom	450	18
32	0442	Drama Education Building	217	110	Classroom	696	35
33	0406	Fayerweather Hall	206	110	Classroom	451	18
34	0406	Fayerweather Hall	208	110	Classroom	373	12
35	0406	Fayerweather Hall	215	110	Classroom	377	17
36	0210	Gilmer Hall	130	110	Classroom	4,560	354
37	0210	Gilmer Hall	141	110	Classroom	1,122	65
38	0210	Gilmer Hall	190	110	Classroom	1,349	151
39	0210	Gilmer Hall	225	110	Classroom	674	30
40	0210	Gilmer Hall	240	110	Classroom	502	27
41	0067	Halsey Hall	123	110	Classroom	261	20
42	0069	Kerchof Hall	317	110	Classroom	432	20
43	0270	Material Science	125	110	Classroom	548	25
44	0066	Maury Hall	104	110	Classroom	874	55
45	0066	Maury Hall	110	110	Classroom	655	33
46	0066	Maury Hall	113	110	Classroom	621	31

Appendix L-3

Centralized Registar's Academic Classrooms (Excerpt)

	FACILITY#	FACILITYNAME	RMNO	ROOMUSE	ROOMUSEDESCR	ASF	STATION
47	0066	Maury Hall	115	110	Classroom	875	60
48	0066	Maury Hall	209	110	Classroom	3,294	300
49	0105	McLeod Hall	1003	110	Classroom	1,177	63
50	0105	McLeod Hall	1004	110	Classroom	1,142	63
51	0105	McLeod Hall	1006	110	Classroom	1,028	58
52	0105	McLeod Hall	2005	110	Classroom	388	18
53	0105	McLeod Hall	2006	110	Classroom	389	20
54	0105	McLeod Hall	2007	110	Classroom	385	18
55	0105	McLeod Hall	2008	110	Classroom	379	20
56	0105	McLeod Hall	2014	110	Classroom	2,141	118
57	0259	Mechanical Engineering	205	110	Classroom	2,365	140
58	0259	Mechanical Engineering	214	110	Classroom	943	46
59	0259	Mechanical Engineering	215	110	Classroom	943	32
60	0259	Mechanical Engineering	216	110	Classroom	943	32
61	0259	Mechanical Engineering	339	110	Classroom	1,225	72
62	0259	Mechanical Engineering	341	110	Classroom	1,365	84
63	0259	Mechanical Engineering	345	110	Classroom	322	16
64	0259	Mechanical Engineering	347	110	Classroom	322	16
65	5087	Memorial Gymnasium	211	110	Classroom	783	40
66	5087	Memorial Gymnasium	222A	110	Classroom	562	11
67	0065	Minor Hall	125	110	Classroom	2,165	194
68	0065	Minor Hall	130	110	Classroom	718	30
69	0083	Monroe Hall	110	110	Classroom	1,320	40
70	0083	Monroe Hall	114	110	Classroom	667	24
71	0083	Monroe Hall	116	110	Classroom	1,044	49
72	0083	Monroe Hall	118	110	Classroom	829	40
73	0083	Monroe Hall	122	110	Classroom	797	40
74	0083	Monroe Hall	124	110	Classroom	1,398	68
75	0083	Monroe Hall	130	110	Classroom	1,909	90
76	0083	Monroe Hall	134	110	Classroom	1,325	49
77	0060	New Cabell Hall	118	110	Classroom	660	38
78	0060	New Cabell Hall	119	110	Classroom	752	45
79	0060	New Cabell Hall	122	110	Classroom	708	36
80	0060	New Cabell Hall	123	110	Classroom	685	36
81	0060	New Cabell Hall	130	110	Classroom	347	20
82	0060	New Cabell Hall	132	110	Classroom	596	36
83	0060	New Cabell Hall	134	110	Classroom	599	30
84	0060	New Cabell Hall	138	110	Classroom	984	95
85	0060	New Cabell Hall	139	110	Classroom	425	20
86	0060	New Cabell Hall	215	110	Classroom	642	48
87	0060	New Cabell Hall	216	110	Classroom	555	32
88	0060	New Cabell Hall	222	110	Classroom	708	36
89	0060	New Cabell Hall	224	110	Classroom	339	18

continued…..

Total			**171 Classrooms**	**82,990**	**Total ASF**

Appendix L4

UNIVERSITY OF VIRGINIA PLAN OF ORGANIZATION

- The Rector and Visitors
  - President
    - General Counsel
    - Director of Audits
    - Senior Assistant and Special Assistant
    - Chief of Staff
    - Secretary, Board of Visitors & Special Assistant
    - **Executive Vice President and Chief Operating Officer**
      - Vice President for Research and Graduate Studies
        - Associate VP and Director, Academic Research Compliance
        - Associate Vice President, Research Enhancement
        - Associate Vice President, Graduate Studies
        - Director, Center for Comparative Medicine
        - Director, Virginia Gateway
        - Assistants to the Vice President
        - Special Advisor, National Labs & Homeland Security
        - Asst. VP, Director, Environmental Health and Safety
        - Director, Post-Graduate Enhancement Programs
      - **Vice President and Provost**
        - Vice Provost for Academic Programs
        - Vice Provost for International Affairs
        - Associate Provost for Management
        - Dean, School of Architecture
        - Dean, Darden Graduate School of Business Administration
        - Dean, School of Continuing & Professional Studies
        - Dean, School of Engineering and Applied Science
        - Dean, School of Nursing
        - University Librarian
        - Director, Weldon Cooper Center for Public Service
        - Director, Center for Liberal Arts
        - Dir., Univ. Outreach & Special Asst. to the Vice Pres. & Provost
        - Senior Academic Facilities Planner
        - Vice Provost for Faculty Advancement
        - Associate Provost for Academic Support & Classroom Management
        - Associate Provost for Institutional Advancement
        - Dean, College and Graduate School of Arts and Sciences
        - Dean, McIntire School of Commerce
        - Dean, Curry School of Education
        - Dean, School of Law
        - Dean, Undergraduate Admission
        - Director, Virginia Foundation for the Humanities
        - Director, Center for Politics
        - Director, Institute for Advanced Technology in the Humanities
        - Director, Teachers for a New Era
      - Vice President & Dean, School of Medicine*
        - Senior Associate Dean
        - Senior Associate Dean for Clinical Affairs
        - Senior Associate Dean for Research
        - Senior Associate Dean for Faculty Development
        - Senior Associate Dean for Education
        - Senior Assoc Dean for Cont Med Educ & External Affairs
        - Senior Associate Dean for Finance & Administration
        - Associate Dean, & Dir, Claude Moore Health Sci Library
        - Associate Dean, Medical Alumni Affairs
      - Vice President & Chief Executive Officer of the Medical Center
        - Chief Operations Officer
        - Chief Financial Officer
        - Chief Marketing Officer
        - Chief Information Officer
        - Chief Nursing and Clinical Officer
        - Director, Health System Relations and Network Systems
        - Special Advisor and Director, State and Federal Relations
        - Assoc. Dean of Graduate Medical Education
      - Vice President and Chief Financial Officer
        - Associate Vice President for Business Operations
        - Assistant Vice President for Finance/Comptroller
        - Associate VP and Chief Human Resource Officer
        - Assistant Vice President for Research Administration
        - Director of Risk Management
        - Assistant VP, Integrated System Deployment & Support
        - Director of Treasury Operations
        - University Policy Manager
        - Executive Asst to the VP & Chief Financial Officer
      - Vice President for Management and Budget
        - Director, Procurement Services
        - Director, Leadership Development Center
        - Director of the Budget
        - Chief Facilities Officer
        - AVP, Director of State Governmental Relations
        - Director, Space and Real Estate Management
        - Assistant to the Vice President
      - Vice President & Chief Information Officer
        - Director, Applications and Data Services
        - Director, Budget and Administration
        - Director, Communications and Systems
        - Director, Computing Support Services
        - Director, Advanced Technology
        - Director, Security Coordination and Policy
        - Special Assistant to the Vice President
      - Vice President and Chief Student Affairs Officer
        - Assistant Vice President for Student Affairs
        - Dean, African-American Affairs
        - Dean of Students
        - Director, WTJU Radio Station
        - Director, University Career Services
        - Executive Director, Student Health
        - Associate Dean of Students & Director, Residence Life
        - Special Assistant to the Honor Committee
        - Special Advisor/ Liason to the General Council
      - Director of Athletics
        - Executive Associate Director
        - Senior Assoc. Director for Programs/Senior Women's Administrator
        - Associate Director for Business Operations
        - Exec. Dir., VAF & Assoc. Director for External Affairs
        - Associate Director for Development
        - Associate Director for Facilities & Game/Event Management
        - Associate Director for Compliance**
        - Associate Director for Marketing, Promotions and Licensing
        - Assoc. Director Intramural-Recreational Sports
        - Associate Director for Football Administration
        - Associate Director for Public Relations
        - Assistant Director for Ticket Office Management
        - Associate Director for Academic Affairs
        - Assistant Director for Human Resources
        - Assistant Director for Media Relations
      - Chief of Police
        - Assistants to the Executive Vice President
        - Compliance Officers
        - Architect for the University
      - Senior Vice President for Development and Public Affairs
        - Asst Vice President for Development
        - Associate VP for Health System Development
        - Assistant Vice President for University Relations
        - Assistant Vice Pres. for Advancement Services
        - Director, Univ. Publications & Development Communications
        - Sr Assoc VP for Principal Relationship Development
        - Special Assistant to the Senior Vice President
      - Vice President and Chief Officer for Diversity and Equity
        - Assistant Vice President for Diversity & Equity
        - Director, The White Burkett Miller Center of Public Affairs
        - Editor, Virginia Quarterly Review
        - Director, Equal Opportunity Programs
        - Exec. Assistants for State Governmental Relations
        - Executive Assistant for Federal Relations
      - Chancellor, The University of Virginia's College at Wise
        - Provost and Senior Vice Chancellor
        - Vice Chancellor for Finance and Governmental Relations
        - Vice Chancellor for Development and College Relations
        - Vice Chancellor for Administration
        - Vice Chancellor for Enrollment Management
        - Executive Assistant to the Chancellor

AS OF OCTOBER, 2005

306909/PRPE1

http://www.virginia.edu/orgchart/ for Second Semester Updates.

* Also responsible to the Executive Vice President & Chief Operating Officer for clinical operations and management issues

** Also responsible to the Executive Vice President & Chief Operating Officer

UNIVERSITY OF VIRGINIA PLAN OF ORGANIZATION

Appendix L4

President – John T. Casteen III

A. Chief of Staff – Nancy A. Rivers
   1. Manager, Finance and Administration – Lynda Birckhead
   2. Director, Major Events – Pamela W. Higgins
   3. Assistant – Jon D. Bowen
   4. Assistant – Nargis J. Cross
   5. Assistant – L. Cameron Howell
   6. Assistant – Kelli E. Palmer
   7. Assistant – Jerilyn F. Teahan
B. Senior Assistant – Gordon C. Burris
C. Special Assistant – Joan B. Fry
D. Director of Audits – Barbara J. Deily
E. General Counsel – Paul J. Forch
F. Secretary, Board of Visitors and Special Assistant – Alexander G. Gilliam, Jr.
G. Director, The White Burkett Miller Center of Public Affairs – Vacant
H. Editor, Virginia Quarterly Review – Ted H. Genoways
I. Director, Equal Opportunity Programs – Darlene Scott-Scurry
J. Executive Assistant for State Governmental Relations – Stuart W. Connock
K. Executive Assistant for State Governmental Relations – Rob Lockridge
L. Executive Assistant for Federal Relations – James D. Savage

I. Vice President and Provost – Gene D. Block

A. Vice President for Research and Graduate Studies – R. Ariel Gomez, M.D.
   1. Associate Vice President and Director, Academic Research Compliance – David J. Hudson
   2. Associate Vice President, Research Enhancement – Jeffrey Plank
   3. Associate Vice President, Graduate Studies – Roseanne M. Ford
   4. Director, Center for Comparative Medicine – Sanford Feldman, D.V.M.
   5. Director, Virginia Gateway – Pace Lochte
   6. Assistant to the Vice President – Jeffrey D. Blank
   7. Assistant to the Vice President – Prudence M. Thorner
   8. Special Advisor, National Labs & Homeland Security – Phillip Parrish
   9. Assistant Vice President, Director, Environmental Health and Safety – Ralph O. Allen
   10. Director, Post-Graduate Enhancement Programs – Kimberly P. Dunsmore, M.D.
B. Vice President and Dean, School of Medicine – Arthur Garson, Jr., M.D., M.P.H.
   1. Senior Associate Dean - Munsey S. Wheby, M.D.
   2. Senior Associate Dean for Clinical Affairs – Jonathon D. Truwit, M.D.
   3. Senior Associate Dean for Research – Erik L. Hewlett, M.D.
   4. Senior Associate Dean for Faculty Development Sharon L. Hostler, M.D.
   5. Senior Associate Dean for Education – Richard D. Pearson, M.D.
   6. Senior Associate Dean for Continuing Medical Eduction and External Affairs – Karen S. Rheuban, M.D.
   7. Senior Associate Dean for Finance and Administration James H. Scott, III
   8. Associate Dean, Director, Claude Moore Health Sciences Library – Gretchen Arnold
   9. Associate Dean, Medical Alumni Affairs – Barry Collins
C. Vice Provost for Academic Programs – J. Milton Adams
   1. Director, Teaching Resource Center – Marva A. Barnett
   2. Director, Summer Session – Dudley J. Doane
   3. Director, Institute for Practical Ethics and Public Life – James F. Childress
   4. Director, Center for American English Language and Culture – Dudley J. Doane
   5. Director, University of Virginia Press – Penelope J. Kaiserlian
   6. Director, Institutional Assessment and Studies – George A. Stovall
   7. Assistant Dean and Director, Center for Undergraduate Excellence – Nicole F. Hurd
D. Vice Provost for Faculty Advancement – Gertrude Fraser
   1. Assistant to the Vice Provost for Faculty Advancement – Maria W.L. Chee
E. Vice Provost for International Affairs – Leigh Grossman, M.D.
   1. Assistant to the Vice Provost for International Affairs – Maria W.L. Chee
   2. Director, International Studies Office – Rebecca S. Brown
   3. Principal, International Residential College – Brad Brown
F. Associate Provost for Academic Support and Classroom Management– M. Wynne Stuart
   1. Principal, Brown College – Carl O. Trindle
   2. Principal, Frank L. Hereford College – Louis A. Bloomfield
   3. Director, University of Virginia Art Museum – C. Jill Hartz
   4. Director, Women's Center – Sharon Davie
   5. Director, Kluge-Ruhe Aboriginal Art Collection – Margaret W. Smith
   6. Director, Upward Bound – Leah W. Puryear
G. Associate Provost for Management – Anda L. Webb
   1. Assistant to the Associate Provost – Becky A. Yancey
   2. Directors, Officer Education –
      i. Air Science – Col. John C. Vrba
      ii. Military Science – Lt. Col. Hampton E. Hite
      iii. Naval Science – Capt. John R. Warnecke
   3. Registrar of the University – Carol A. J. Stanley
   4. Director, Student Systems Project – Charles M. Grisham
H. Associate Provost for Institutional Advancement – E. Clorisa Phillips
I. Dean, School of Architecture – Karen Van Lengen
J. Dean, College and Graduate School of Arts and Sciences – Edward L. Ayers
K. Dean, Darden Graduate School of Business Administration – Robert F. Bruner
L. Dean, McIntire School of Commerce – Carl P. Zeithaml
M. Dean, School of Continuing and Professional Studies – Sondra F. Stallard
N. Dean, Curry School of Education – David W. Breneman
O. Dean, School of Engineering and Applied Science – James H. Aylor
P. Dean, School of Law – John C. Jeffries, Jr.
Q. Dean, School of Nursing – B. Jeanette Lancaster, Ph.D., R.N.
R. Dean, Undergraduate Admission – John A. Blackburn
S. University Librarian – Karin Wittenborg
T. Director, Virginia Foundation for the Humanities – Robert C. Vaughan
U. Director, Weldon Cooper Center for Public Service – John P. Thomas
V. Director, Center for Politics – Larry J. Sabato
W. Director, Center for the Liberal Arts – Bonnie M. Hagerman (Interim)
X. Director, Institute for Advanced Technology in the Humanities – Bernard Frischer
Y. Director of University Outreach and Special Assistant to the Vice President and Provost – Laura F. Hawthorne
   1. Associate Director of University Outreach, Megan M. Raymond
Z. Director, Teachers for a New Era – Victor E. Luftig
AA. Senior Academic Facilities Planner – Richard S. Minturn

II. Executive Vice President and Chief Operating Officer – Leonard W. Sandridge

A. Vice President and Chief Executive Officer of the Medical Center – R. Edward Howell
   1. Chief Operations Officer – Margaret M. Van Bree, M.H.A., Dr. P.H.
   2. Chief Financial Officer – Larry L. Fitzgerald
   3. Chief Marketing Officer – Patricia L. Cluff
   4. Chief Information Officer – Barbara S. Baldwin
   5. Chief Nursing and Clinical Officer – Pamela F. Cipriano, Ph.D., R.N.
   6. Director, Health System Relations and Network Systems – W.E. Carter, Jr.
   7. Special Advisor and Director of State and Federal Relations – Sally Nan Barber
   8. Associate Dean of Graduate Medical Education – Thomas A. Massaro, M.D.
B. Vice President and Chief Financial Officer– Yoke San L. Reynolds
   1. Associate Vice President for Business Operations – Richard A. Kovatch
      a. Chief Housing Officer – Mark S. Doherty
      b. Director, Parking and Transportation Services– Rebecca White
      c. Executive Director, University of Virginia Bookstore – Jonathan A. Kates
      d. Director, Dining Services – Brent Beringer
      e. Director, Printing and Copying Services – Scott S. Keeney
      f. Director, Child Development Center – Jacquelyn Fisher
      g. Director, Mail Services – John H. Parker
      h. General Manager, John Paul Jones Arena – Larry Wilson
   2. Assistant Vice President for Finance/Comptroller – Stephen A. Kimata
      a. Director, Student Financial Services – Yvonne B. Hubbard
      b. Director, Financial Information Services – A. F. Seaman, Jr.
      c. Associate Comptroller of Revenue and Collections – Kenneth E. Sinarski
      d. Associate Comptroller for Financial Analysis – David J. Boling
      e. Director, Investment and Tax Services – Jane E. Johansen
      f. Director, Accounting Services – Tommye C. Arnold
   3. Associate Vice President and Chief Human Resource Officer – Nathaniel Scurry (Interim)
      a. Director, Compensation and Classification – Vacant
      b. Director, Faculty and Staff Employee Relations– Alan S. Cohn
      c. Director, University Recruitment and Staffing– Lucinda R. Childs–White
      d. Director, HR Administrative Operations and Support – Darrell J. Kozuch
      e. Director, Office of Learning and Development– Robert Lake
      f. Director, Faculty and Staff Career Services – Emily L. Bardeen
      g. Business Manager – Lynda M. Roberts
      h. Director, HR Information Management and Technology – Gary D. Helmuth
      i. Director of Benefits – Jeffrey P. Overweg (Interim)
      j. Executive Assistant to the Chief Human Resource Officer – David Ripley
   4. Assistant Vice President for Research Administration – Michael G. Glasgow, Jr.
      a. Director, Grants and Contracts – Gerald J. Kane, Jr.
      b. Director, Award Management and Accounting– Vonda T. Durrer
      c. Director of Research Administration Compliance and Outreach – Sharon Boyd
   5. Director of Risk Management – Richard F. Schupp
   6. Assistant Vice President for Integrated System Deployment and Support – Virginia H. Evans
      a. Director, System Usability – Rose Chisholm
      b. Director, Human Resources Applications – Barbara C. Henry
      c. Director, Finance Applications – Shy M. Hicks
      d. Technical Director – Teresa B. Wimmer
      e. Communications Manager – Carole R. Horwitz
   7. Director of Treasury Operations – James S. Matteo
   8. University Policy Manager – Lynn M. Mitchell
   9. Executive Assistant to the Vice President and Chief Financial Officer – Gary S. Nimax
C. Vice President for Management and Budget – Colette Sheehy
   1. Director, Procurement Services – Eric N. Denby
   2. Director, Leadership Development Center – Brian Bell
   3. Director of the Budget – Melody S. Bianchetto
   4. Chief Facilities Officer – Vacant
      a. Deputy Chief Facilities Officer – Richard H. Rice, Jr.
      b. Director, Business Management Services – Jay W. Klingel
      c. Director, Facilities Planning and Construction – C.A. Johannesmeyer
      d. Director, Facilities Operations – Chris M. Willis
      e. Director, Health System Physical Plant – Peter M. Arn
      f. Director, Energy and Utilities – Cheryl L. Gomez
   5. Assistant Vice President, Director of State Governmental Relations Sarah L. Collie
   6. Director, Space and Real Estate Management – Judy Maretta
   7. Assistant to the Vice President – Vacant
D. Vice President and Chief Information Officer – Robert E. Reynolds, M.D.
   1. Director, Applications and Data Services – Donald L. Reynard
   2. Director, Budget and Administration – L. Susie McCormick
   3. Director, Communications and Systems – James A. Jokl
   4. Director, Computing Support Services – Teresa W. Lockard
   5. Director, Advanced Technology – Timothy M. Sigmon
   6. Director, Security Coordination and Policy – Shirley C. Payne
   7. Special Assistant to the Vice President – Alice G. Howard
E. Vice President and Chief Student Affairs Officer – Patricia M. Lampkin
   1. Assistant Vice President for Student Affairs – Christina Morell
      a. Director, External Relations – Virginia L. Carter
      b. Assistant to the Vice President – Laurie Casteen
   2. Dean, African-American Affairs – M. Rick Turner
      a. Associate Dean – Sylvia V. Terry
      b. Assistant Dean – Peter Yu
      c. Director of Luther P. Jackson Cultural Center– Vacant
   3. Dean of Students – H. E. (Penny) Rue
      a. Senior Associate Dean of Students – V. Shamim Sisson
      b. Director, Orientation/New Student Programs – Tabitha Gray-Enoch
      c. Associate Dean of Students & Director, Newcomb Hall – Bill Ashby
      d. Director, Center for Alcohol and Substance Education (CASE) – Susan Bruce
      e. Associate Dean of Students & Director, Fraternity and Sorority Life – F. Aaron Laushway
      f. Director, Administration and Technology – Lori Ann Willy
   4. Director, WTJU Radio Station – Charles W. Taylor
   5. Director, University Career Services – James L. McBride, Jr.
   6. Executive Director, Student Health – James C. Turner, M.D.
      a. Director, Health Promotion – Alison Beaver
      b. Director, Gynecology – Christine M. Peterson, M.D.
      c. Director, Counseling and Psychological Services – Russell Federman
      e. Director, Learning Needs and Evaluation Center – Allison E. Anderson
      f. Director, Administration – Bill Tolley
   7. Associate Dean of Students and Director, Residence Life– Angela M. Davis
      a. Assistant Dean – Vicki Gist
      b. Assistant Dean – Jason Shaffer
   8. Special Assistant to the Honor Committee – Nicole P. Eramo
   9. Special Advisor/Liaison to the General Counsel – Susan Davis
F. Director of Athletics – Craig K. Littlepage
   1. Executive Associate Director - Jon K. Oliver
   2. Senior Associate Director for Programs/Senior Women's Administrator – Jane Miller
   3. Associate Director for Business Operations – Keith D. VanDerbeek
   4. Executive Director, Virginia Athletic Foundation and Associate Director for External Affairs – Dirk P. Katstra
   5. Associate Director for Development – Barry P. Parkhill
   6. Associate Director for Facilities and Game/Event Management – Jason D. Bauman
   7. Associate Director for Compliance – James W. Booz
   8. Associate Director for Marketing, Promotions, and Licensing – Hunter R. Yurachek
   9. Associate Director of Intramural-Recreational Sports – Mark E. Fletcher
   10. Associate Director for Football Administration – Gerard Capone, Jr.
   11. Associate Director for Public Relations – Richard J. Murray
   12. Assistant Director for Ticket Office Management – Richard L. Mathias
   13. Associate Director, Academic Affairs – Tomas F. Jimenez
   14. Assistant Director for Human Resources – Brett C. Schnell
   15. Assistant Director for Media Relations - James B. Daves
G. Chief of Police – Michael A. Gibson (Interim)
H. Assistant to the Executive Vice President – Susan G. Harris
I. Assistant to the Executive Vice President – Megan K. Lowe
J. Assistant to the Executive Vice President – Kathleen F. Jump
K. Compliance Officer for the Health System – Ralph W. Traylor
L. Associate Athletic Director for Compliance – James W. Booz
M. Architect for the University – David J. Neuman

III. Senior Vice President for Development and Public Affairs – Robert D. Sweeney

A. Assistant Vice President for Development – Alison Traub
   1. Director, Arts Grounds Campaign – Vacant
   2. Senior Director of Development, Corporate and Foundation Relations – Timothy T. Redden
   3. Director, Gift Planning – Mark H. Smith
   4. Director, Regional and Reunion Development – Michael Clarke
B. Associate Vice President for Health System Development – Michael J. Morsberger
   1. Assistant Vice President for Health System Development – Deborah B. Donnelly
   2. Assistant Vice President for Health System Development/Nursing – David C. Black
C. Assistant Vice President for University Relations – Carol S. Wood
   1. Senior Director, University Relations – Jeffrey Hanna
   2. Director, University Web Communications/Webmaster – Nancy A. Tramontin
   3. Director, Television News – Sheri B. Winston
   4. Director, Community Relations – Ida Lee Wootten
D. Assistant Vice President for Advancement Services – Julian M. Bivins, Jr.
   1. Director, Annual Giving Operations – Beth Bishop
E. Director, University Publications and Development Communications – William D. T. Sublette
F. Senior Associate Vice President for Principal Relationship Development – Charles B. Fitzgerald
G. Special Assistant to the Senior Vice President for Development and Public Affairs – Kathryn Jarvis

IV. Vice President and Chief Officer for Diversity and Equity – William B. Harvey

A. Assistant Vice President For Diversity and Equity – Vacant

V. Chancellor, The University of Virginia's College at Wise – David A. Prior

A. Provost and Senior Vice Chancellor – Gilmer W. Blackburn
   1. Academic Dean – Amelia J. Harris
   2. Director of Technology – Brian Ward
   3. Director of Institutional Research and External Programs – Scott Bevins
   4. Director of Center for Teaching Excellence – Jewell Askins
B. Vice Chancellor for Finance and Governmental Relations – Simeon E. Ewing
   1. Comptroller – Charles W. Banner
   2. Director of Human Resources – Connie C. Hope
   3. Director of College Services – Joe Kiser
C. Vice Chancellor for Development and College Relations – J. A. Knight
   1. Assistant Vice Chancellor for Athletic Affairs – Carroll Dale
   2. Director of Special Events – Debra Wharton
   3. Director of Planned Giving and Major Gifts – R. Winston Ely
   4. Grant Writer – Vanessa Freeman
   5. Director of Alumni Relations – Valerie S. Lawson
   6. Director of College Relations – Jane Meade-Dean
   7. Director of the Annual Fund, Stewardship, and Gift Accounting – Tami Ely
D. Vice Chancellor for Administration – Gary Juhan
   1. Dean of Students – Jeff Howard
   2. Director of Bookstore Operations – Chad Gentry
   3. Director of Athletic Operations – Ray Spenilla
   4. Director of Public Safety – Steve McCoy
   5. Director of Student Development – Lelia Bradshaw (Interim)
   6. Director of Facilities Management – John Reeves
E. Vice Chancellor for Enrollment Management – Russell Necessary
   1. Director of Financial Aid – William D. Wendle
   2. Coordinator of Advising, Retention, and Assessment – Elizabeth Steele
F. Executive Assistant to the Chancellor – Marcia K. Quesenberry

APPENDIX M

University of Wisconsin – Madison
Classroom Management Case Study

Appendix M - Table of Contents

Prepared by Steve Maranzana
Leadership Development Program
University of California, Berkeley

December 2006

Appendix M-1: Case Study

1. OVERALL DESCRIPTION OF CURRENT CLASSROOM MANAGEMENT PRACTICES:

General Information

University of Wisconsin – Madison (UWM) had a total student population of 41,480 in the 2006 fall semester. The campus consists of approximately 150 buildings of which 36 contain 370 general assignment (GA) classrooms (see Appendix M-3). The campus also has an additional 164 departmental classrooms. Approximately 9,000 sections are taught each semester, 5,381 (~60%) in GA classrooms.

General assignment classrooms are categorized by technology levels and range from 1 to 3+. A level 1 classroom typically has a 16 foot black-board, 6 foot projection screen, light controls near the entrance or instructor station, and conference seating or moveable tablet arm chairs. In addition to these features, a level 3+ classroom has a video projector in the ceiling, DVD player, VCR, a control system at podium in front of room, and a document camera. A 3+ tech room can have anywhere from 35 to 500 seats. If a room is Instructional Technology (IT) intensive, additional acoustical measures such as drop ceilings and carpets are typically installed. If a particular project is funded by the state, specific state codes and guidelines are followed. Smaller and newer rooms typically have seminar or classroom tables that are moveable that can be arranged as needed. Larger fixed seating arenas have fixed tables with moveable chairs and/or swing-arm chairs.

Approximately 50% of GA classrooms have wireless connectivity, but if all the students were to use it, there would not be enough bandwidth to serve everyone. The Space Management Office (SMO) considered providing Ethernet and power at every seat and began doing so. SMO soon realized that these amenities were not being used and were very costly. Wireless technology is replacing Ethernet and SMO is hoping that future advances in battery technology will preclude the need for power at student desks. What they have done is to provide power junctions at key locations that can be used in the future if needed.

An innovative use of technology at UWM is that 74 GA classrooms are networked together and relay information to the SMO. SMO can manage the rooms via network and the system sends maintenance and security alerts allowing remote troubleshooting. This significantly simplifies the support structure. When a projector lamp nears its expected lifetime or when something is in need of scheduled maintenance, SMO is automatically notified and can remedy the problem seamlessly.

Generally, faculty responds very positively to the upgrades in classrooms that have been implemented. SMO has used online surveys as well as exit surveys for students to obtain feedback on newly renovated spaces. If concerns arise, SMO brings it up at an annual Deans and Directors meeting where GA classrooms are the focus (more on this in the next section of the case study).

Only 3.5% of the 5,381 sections are being taught at night with the majority being professional classes. Those 191 sections are being taught in 136 of the 370 GA classrooms. UWM has not been charged with increasing nighttime utilization and is focusing on improving daytime utilization.

The scheduling software that the campus uses is called Resource 25 by College Net from Portland, Oregon. Prior to this application, in-house software was used. The change was made in anticipation of Y2K issues.

Organizational Structure

Facilities Planning and Management (FPM) houses SMO, Capital Planning and Development, Campus Planning and Landscape Architecture, and Physical Plant. The only classroom management unit not under FPM is the Registrar's Office that does the scheduling. Under FPM, the SMO deals with all aspects of classroom management (technology, design, renovation) except physical plant maintenance and custodial operations (see Appendix M-4).

This organizational structure works very effectively. It allows SMO to be the gatekeeper of when and how classroom issues are handled and they really do know what rooms need attention. The SMO is recognized as the classroom management expert on campus and is in the position to prioritize and administer the management of the work orders to avoid duplication. If there is a planned project, SMO can effectively analyze instructional effort and can propose classroom improvements to be implemented as part of the project. Effective communication and collaboration is still key, and there is good line communication with Physical Plant and the Registrar's Office.

The "one stop shopping" nature of the SMO obviates the need for any committees that deal with classroom management. SMO is recognized as the subject matter expert and all classroom management issues are sent their way.

In the early 1990's, UWM recognized that teaching was moving towards the IT direction and was able to convince administration that in order to keep the campus as a leading teaching institution, they needed to support initial IT installation and ongoing maintenance. To convince administration to provide the funds to improve the classrooms, the appropriate organizations were represented (SMO, Scheduling, Division of Instructional Technology) and the group came up with a campus plan to support technology. It was decided that technology wouldn't necessarily be installed in every classroom, and opted to have some IT intensive classroom in all the different zones of the campus (NSWE) with appropriate support staff.

Budget and Finance

Funding for GA classroom improvement and maintenance was obtained via a grassroots movement that involved faculty and appropriate staff expressing the need for better classroom facilities. Faculty approached SMO and asked for classroom improvements. When SMO said it could not be done due to lack of resources, faculty responded by sending letters to the chancellor and other appropriate high-level administrators that recognized the need. This movement also led to the recognition of the SMO as the campus classroom management authority. SMO took the opportunity to document how much needed classroom improvements would cost. These estimates were used for funding justification to the University of Wisconsin (UW) system and ultimately resulted in securing several funds for GA classrooms discussed below.

For major classroom remodeling projects, UWM takes advantage of the Instructional Technology Improvements Program (ITIP). This is a UW system-wide program where campuses request classroom improvement funds every two years. The ITIP had $15M of funding available last year and UWM received $1.4 million. It is important to have a documented need for classroom

improvements in order to obtain the funding. ITIP gives UWM the opportunity to renovate classrooms top to bottom and provide instructional technology (see Appendix M-5).

UWM performs classroom surveys every year and that information is used in the ITIP funding justification process (see Appendix M-6). The funding need is estimated based on square footage. This is a great way to show on paper that there is a large unmet need to remodel classrooms. Appendix M-7 is an example of UWM's worksheet for how the renovation costs are estimated. The classroom utilization calculation can be used when selecting a certain classroom for remodeling. It's easier to justify renovating a room with a high utilization rate.

In addition to the ITIP, there are three other mechanisms that fund classroom maintenance and improvements. Similarly to the ITIP, these funds were established after demonstrating a need:

- The General Building Maintenance Fund is administered by Physical Plant and is used for repairs, upkeep, heating, electricity, plumbing, and other maintenance needs.
- The Minor Remodeling fund (created in 1992) consists of $100K per year for most basic needs like carpet, ceiling tiles.
- The Class Modernization Program (created in 1996/1997) consists of $670K per year for new instructional technology installations and IT upgrades.

Funding for classroom management is not impacted by a State utilization calculation. Funding is obtained by a demonstrated need. SMO performs yearly inspections of all general assignment classrooms by five people. Any deficiencies are noted and work orders are submitted to Physical Plant. Classroom improvements can be requested by filling out an electronic form and sending it to the appropriate Dean (see Appendix M-8). The Dean reviews the submissions to filter out duplicates or frivolous requests and then passes on the appropriate forms to SMO, which in turn obtains cost estimates and places them on a list of future projects. This list is review and prioritized yearly at a Deans and Directors meeting dedicated to discussing classroom needs.

After the Deans and Directors set priorities, SMO makes the decisions on how funds are spent. As the recognized campus experts of classroom management, if money is available, SMO can react within a couple of months and initiate projects.

Leadership in Classroom Management and Improvement

Having dedicated GA classroom buildings would be ideal. Maintenance and upkeep would be more efficient and cost effective. It would also make a great place for students to come together and congregate. However, this idea lends itself towards smaller institutions. It also poses challenges for classroom design, as facilities for chemistry or philosophy classes could be very different.

The leadership story describing how the classroom movement started and how roadblocks were overcome discussed in the Budget and Finance section above is very important. Obtaining the initial funding was very challenging. Until the ITIP program was rolled in the system-wide UW program, there was not much success. The system-wide approach demonstrated to the state that there is a huge need for classroom improvement funding, and not just at UWM. This helped justify the establishment of a larger system-wide fund which is doled out to universities based on demonstrated need.

2. ADVANTAGES OF UWA'S APPROACH:

The concept of a single office that handles all aspects of classroom management is very powerful. SMO is recognized as the campus resource for all classroom management issues and therefore communication is streamlined and the entire process is simplified.

Also stemming from a unified classroom management office is a direct connection of need and available resources. The same office that receives classroom improvement requests also manages the budget and prioritizes and implements those request. This has led to most of the classrooms now achieving a good level when it comes to technology and associated maintenance. For example, if a projector breaks, SMO will typically get to it the same day.

3. DISADVANTAGES OF UWA'S APPROACH:

Currently, there is no good process to ensure that when new buildings come online they already contain furniture and classroom technology. Those items are usually the first thing cut from a project when budget issues arise during construction.

Renovation projects pose a challenge in providing students enough personal space and still achieving classroom occupancy goals. New classrooms typically have 22 square feet per person while space and other limitations often result in 9 square feet of personal space in classrooms that have been retrofit. Replacement chairs often still have the pull up writing surface as opposed to newer installations.

One limiting factor of the UWM classroom funds is that they are not necessarily interchangeable. For example, the Class Modernization fund can only be spent on technology even if there are more pressing needs. This means that work is sometimes prioritized by the amount of funding available rather actual need.

Maintenance issues are increasing due to custodial cutbacks or energy cost increases which are handled through the Physical Plant Building Maintenance Fund. Classroom costs account for approximately 10% of this budget and Physical Plant is responsible for increasing that budget as needed.

A potential downside of having the scheduling task outside the SMO is that planning for remodeling takes place a year in advance and not having direct access to scheduling complicates the planning process. Also, since SMO has a large amount of knowledge about faculty needs they would be able to put a person in a room knowing that it would work for them, but now that scheduling is separate they have lost a little of that individual handling of the professors. Having the scheduling function outside of SMO adds a layer of communication. SMO now needs to effectively communicate with the Registrar's Office on issues such as room capacities, technology requirements, and remodeling projects.

4. FUTURE DIRECTIONS:

The instructors are still the most important aspect to an ideal learning environment. They have to take it upon themselves to rethink how they teach and keep the students engaged. Facilities are somewhat fixed and they need to think of new and innovative ways to teach. In a general assignment classroom, a proper mix of technology and old school board & chalk is key. The instructors have to put on a show. Discussion sections are increasingly becoming the place where a lot of the understanding and problem resolution takes place. Office hours and now web-hours

are also becoming a more popular place to learn. Classroom management practices need to consider these new trends when planning improvements.

In addition to 'the human factor' there is an increasing need for flexible teaching space. Ideally there would be lecture halls adjacent to smaller breakout classrooms with moveable furniture and flexible seating in lecture space. Faculty have expressed the need for big lecture groups with perhaps 100 students for 20 minutes, followed break-out sessions for 20 minutes in an adjacent or reorganized room, and then back together as the big group for the last 10-20 minutes.

Seamless integration of instructional technology and audio visual aids will determine if you have a successful learning space whether it's a classroom, student union, or lobby in a dorm.

Appendix M-2: Interview Details

Interview Details

1	**Name of University**	**University of Wisconsin - Madison**
2	LDP Interviewer Name	**Steve Maranzana**
3	Date of Interview	**11/30/06 and 11/31/06**
4	University Contact Name	**Kim Todd** **Tom Wise**
5	University Contact Title	**Classroom Major Projects and Remodeling - Space Management Office** **Classroom Modernization & Support - Space Management Office**
6	University Contact Phone	**608-262-4414** **608-262-1584**
7	University Contact Email	**ktodd@fpm.wisc.edu** **twise@fpm.wisc.edu**

Appendix M-3
UNIVERSITY OF WISCONSIN – MADISON
LIST OF GENERAL ASSIGNMENT CLASSROOMS – FALL SEMESTER 2006 Term 1072

AGRICULTURAL ENGR-0080
% 101*** (40)L
AGRICULTURAL HALL-0070
% 10* (42)L 125** (593)L
# 38** (30)
ANIMAL SCIENCE-0118
+ 209* (48)L # 226* (24)
= 212** (152)L
BABCOCK HALL-0106
% 119** (42)L %121** (42)L
BASCOM HALL-0050
+ 52* (35) + 58* (25)
+ 53* (30) 165* (390)
+ 54* (25)L 272* (478)L
+ 55* (28)
BIOCHEMISTRY-0084
125*** (358)L 132* (67)
BIRGE HALL-0054
B302** (105)L + 348* (32)
145*** (316)L + 350* (32)
+ 346* (49)
CHAMBERLIN HALL-0055
= 2103*** (295)LLL + 2120* (43)
+ 2104* (42) + 2124* (27)
+ 2108* (26) + 2135* (23)
+ 2112* (26) % 2223* (46)
+ 2116* (34) % 2241*** (173)LL
CHEMISTRY-0047
+ B351* (30) 1351*** (353)$L
+ B355* (30) 1361* (247)$L
+ B357* (30) + 2307* (24)
B371** (149)$ 2311* (45)
+ B379* (30) + 2373** (54)
+ B383* (24) 2377* (27)
+ B387* (24) 2381* (27)
COMPUTER SCI & STATS-0155
% 1207* (36) 1263* (49)
1221** (106)L % 1289* (30)
= 1240* (181)L + 1325** (76)L
1257* (49)

EDUCATION-0400
147** (253)
% 228* (25)L + 318* (42)L
+ 229* (40) # 330* (26)
% 234* (25)L + 339* (32)
# 242* (24) # 347* (25)L
+ 249* (42) + 434* (38)
EDUCATIONAL SCIENCES-0154
+ 301* (50)L + 308* (38)
% 303* (35)L + 310* (38)
+ 304* (32)L + 1053* (35)L
ENGINEERING HALL-0408
% 1209* (48)L % 2355* (30)L
% 1213* (48)L % 2534** (57)L
1227* (103)L = 2535** (76)L
% 1800* (258)LL % 2540** (52)L
% 2239* (49)L % 3024* (54)L
% 2255* (60)L % 3032* (63)L
% 2265** (48)L = 3345** (69)L
% 2305* (60)L % 3349* (36)L
% 2309** (36)L + 3355* (35)L
% 2317** (96)L + 3359* (27)L
% 2321* (36)L % 3418* (33)L
% 2341* (27)L % 3444* (32)L
2345* (50)L % 3534** (47)L
% 2349* (36)L
GRAINGER HALL-0140
% 1070* (24) = 1270** (54)L
% 1080* (24) = 1280** (54)L
1100*** (280)L = 2080** (135)L
= 1140** (43)L = 2120* (129)L
= 1170** (43)L % 2165* (24)L
= 1175** (60)L = 2170** (47)L
= 1180** (43)L % 2175* (27)L
= 1185** (60)L = 2180** (47)L
= 1190** (43)L % 2185* (27)L
= 1195** (60)L = 2190** (47)L
= 1220** (56)L % 2195* (27)L
= 1230** (56)L = 2270** (47)L
= 1240** (47)L = 2280** (47)L

GYM-NAT-0031
1140** (94)L + 1190* (30)
HUMAN ECOLOGY-0085
21* (174) + 118** (55)L
HUMANITIES-0469
1101** (95) + 2211* (30)
1111** (141)L + 2221* (30)
1121** (144)L + 2231* (30)
1131* (95) + 2241** (30)
1217** (47)L + 2251* (28)L
1221** (47)L + 2261* (28)L
1641** (89)L # 2611* (20)
1651** (78)L + 2619* (30)
+ 2101* (27) + 2625** (30)
+ 2111* (30) + 2631* (20)
+ 2115* (30) + 2637** (38)
+ 2121* (30) 2650***(268)L
+ 2125* (20) + 2653** (38)
+ 2131* (26) 3650* (489)L
INGRAHAM HALL-0056
B10** (484)L + 122* (42)
14* (52) + 123** (32)
19** (212)L + 214* (42)
22* (118)L + 215* (28)
= 23* (30) # 216* (20)
+ 113** (32) = 222* (74)
= 114** (49) + 223** (32)L
+ 115* (35) + 224* (49)L
+ 116* (35) % 225* (27)
% 120* (72)
MATERIALS SCI & ENGR-0520
% 235** (42)L % 275* (24)L
= 265** (53)LL
MECHANICAL ENGR-0407
% 1106*** (149)LLL%1163** (58)LL
% 1143* (40)L % 1164* (44)L
% 1152* (40)L % 2106* (30)L
% 1153** (66)LL % 2108* (32)L
% 1156* (48)L % 2121* (34)L

KEY: Student Seating
- = Fixed Tbls & Cantilevered Chairs
- % Classroom Tables & Chairs
- Fixed Seating (blank)
- + Moveable Tablet Arm Chairs
- # Seminar Tables & Chairs

Audio-Visual Equipment
- $ Monitor/TV
- * Screen or Projection Surface
- L LCD Video Projector

Miscellaneous
- (///) Out for Remodeling
- ( ) Room Capacities in Parentheses

UNIVERSITY OF WISCONSIN – MADISON
LIST OF GENERAL ASSIGNMENT CLASSROOMS – FALL SEMESTER 2006 Term 1072

MOORE HALL-AGRONOMY-0087A
% 351** (54)L

NOLAND HALL-0402
+ 119* (54)L # 455* (28)
132*** (234)L # 539* (23)
168*** (126)L # 553* (26)
+ 342* (24) # 579* (26)
# 379* (26)

NUTRITIONAL SCI-0449
290** (74)L

PLANT SCIENCES-0087C
108** (155)L

PSYCHOLOGY-0470
101** (55) 121* (105)L
103** (77)L + 130* (30)
105** (394)L + 134* (30)
107** (106)L % 138* (30)
113*** (214)L + 210* (15)
115* (54)

RUSSELL LABS-0114
104*** (63)L 184** (145)L
150** (56)L

SCIENCE HALL-0053
180** (199)L 360* (55)L

SOCIAL SCIENCE-0046
% 4308* (42)L % 6116** (30)L
# 4314* (24) + 6117* (23)
+ 4322* (28) + 6121* (23)
5106** (137)L + 6125* (23)
5206* (241)$L 6203* (96)
5208* (241) 6210* (452)LL
5231* (99)L + 6224* (24)
5322* (24) + 6228* (32)
% 6101* (32) + 6232* (35)
6102* (72)L 6240* (54)
6104* (114)L # 6304* (18)
6105* (18) # 6310* (24)
+ 6109* (23) # 6314* (24)
+ 6112** (34)L # 6322* (24)
+ 6113* (23)

SOCIAL WORK-0453
106* (31) + 114* (35)L
110* (31)

SOILS-0074B
270** (187)L 357* (96)

STERLING HALL-0057
+ 1327* (30) + 2327** (42)
+ 1333* (30) 3331** (64)
1407** (39) 3335** (95)
+ 1412* (25) + 3401* (32)
+ 2323** (37) 3425** (152)¢

VAN HISE HALL-0482
104*** (102)L + 387* (30)L
114*** (99)L + 391* (30)L
115* (63) + 395* (32)L
119* (25) # 399* (30)L
+ 123* (24) # 474* (30)
+ 140* (27) + 475* (32)L
# 144* (28) # 478* (30)
# 148* (28) 479* (50)
+ 155** (36)L + 482* (30)
+ 159** (36)L + 483* (32)L
+ 201* (48) # 486* (30)L
+ 205* (27) + 487* (32)L
+ 207* (27) + 490* (30)
+ 209* (27) + 491* (30)L
+ 215* (48) 494* (75)L
+ 219* (30) + 495* (32)L
+ 223* (30) + 499* (32)L
+ 227* (30) # 574* (30)
+ 240* (30) + 575* (32)L
+ 286* (27) # 578* (30)
+ 290* (27) + 579* (32)L
+ 355* (25) # 582* (30)
# 367* (30)L + 583* (32)
+ 374** (30) # 586* (30)
+ 375* (30)L + 587* (32)
+ 378* (28) + 590* (30)
+ 379* (32)L + 591* (30)
# 382* (30)L 594* (75)
+ 383* (32)L + 595* (32)
+ 386* (30)L + 599* (32)

VAN VLECK HALL-0048
B102* (327)L + B223* (45)L
+ B105* (40) + B231* (52)L
+ B113* (40) + B235* (40)
+ B115* (54) B239** (137)
+ B119* (45) + B305* (32)
+ B123* (45) + B309* (32)
+ B129* (32) + B313* (32)
B130** (260)L + B317* (32)
+ B131* (32) + B321* (40)
+ B135* (45) + B325* (40)
+ B139* (54) + B329* (32)
+ B203* (40) + B333* (32)
+ B211* (32) + B337* (32)
+ B215* (44) + B341* (40)
+ B219* (40)

VILAS HALL-0545
+ 4004* (20)$ + 4018* (21)$
+ 4008* (42)L + 4020* (30)$
+ 4011* (25)$ 4028* (81)L
# 4013* (24)$ + 4035* (25)$
+ 4014* (25)$ + 4041* (25)$
+ 4017* (25)$ # 4046* (24)$

WHITE HALL-0018
+ 4208* (42)L # 7111* (20)
# 4212* (21) # 7115* (20)
# 4275* (30) # 7117* (20)
# 4279* (20) # 7121* (17)
4281* (62)L

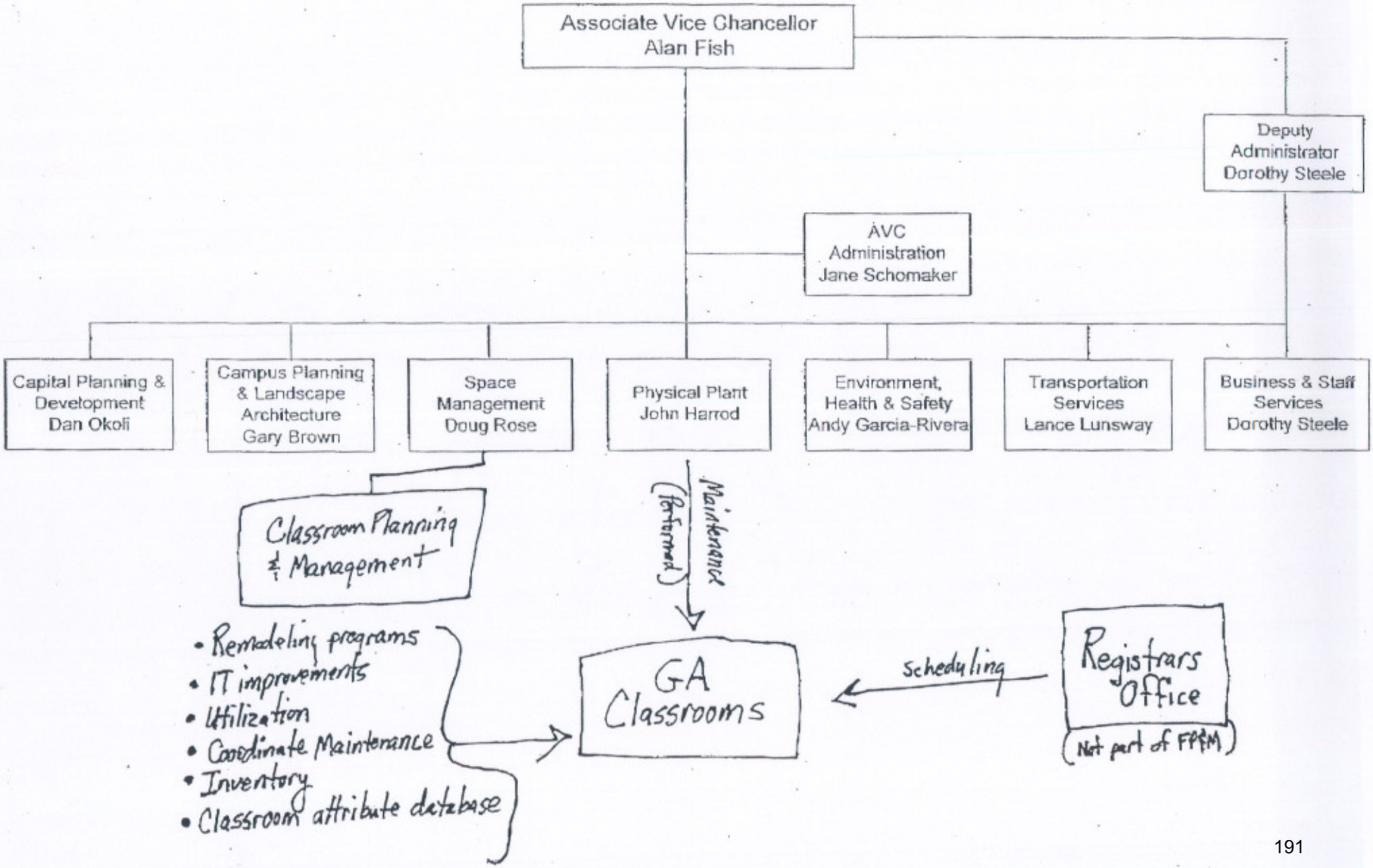
GA-BUILDINGS
GA-CLASSROOMS
(in use)

KEY: Student Seating
= Fixed Tbls & Cantilevered Chairs
% Classroom Tables & Chairs
Fixed Seating (blank)
+ Moveable Tablet Arm Chairs
# Seminar Tables & Chairs

Audio-Visual Equipment
$ Monitor/TV
* Screen or Projection Surface
¢ CRT Video Projector
L LCD Video Projector

Miscellaneous
(///) Out for Remodeling
( ) Room Capacities in Parentheses

University of Wisconsin - Madison
Facilities Planning & Management
October 2006



Appendix M-5

2001 - 2003

CLASSROOM RENOVATION/

INSTRUCTIONAL TECHNOLOGY IMPROVEMENTS

UNIVERSITY OF WISCONSIN

Madison Campus

Bruce B. Braun
Assistant Vice Chancellor
Facilities Planning & Management
University of Wisconsin - Madison

Date: October 31, 2001

Appendix M-5

TABLE OF CONTENTS

Appendix M-5

EXECUTIVE SUMMARY

This classroom renovation/instructional technology improvements project will remodel 6,609 ASF of general assignment lecture hall space on the University of Wisconsin-Madison campus. The three lecture halls identified for renovation include: 1651 Humanities (current seating capacity 90), B10 Ingraham Hall (current seating capacity 503) and 22 Ingraham Hall (current seating capacity 129). The Humanities Building was constructed in 1965 and Ingraham Hall in 1968. The primary user of all three lecture halls is the College of Letters and Science.

The three lecture halls identified for this project have been selected as part of the "Plan for Application of Technology in UW-Madison Instructional Facilities." A major priority of the plan is to remodel classrooms and lecture halls in buildings defined within geographical subsections of the campus. There are a total of six subsections: North, South, East, West, Business, and Engineering. Remodeling in this manner promotes support and other efficiencies such as service, maintenance and staffing. Ingraham Hall is adjacent to a technology-intensive building in the North subsection and Humanities is the identified technology intensive building in the East subsection.

Classroom instructional technology survey guidelines from UW System (March 2001) distinguish B10 and 22 Ingraham Hall as a Level 1 technology classroom. Lecture hall 1651 Humanities is currently listed as a Level 3 technology classroom.

- **Level 1** classrooms are basic classrooms containing writing and projection surfaces, a standard overhead projector, lighting controls and room darkening, voice/data connections and a podium, cart, or lectern.
- **Level 2** classrooms are those rooms with basic level 1 attributes plus traditional instructional technologies such as a VCR, TV, sound system, DVD player, audio cassette, CD player, etc.
- **Level 3** classrooms are those rooms with level 2 technologies plus a video/data projection device and a teaching station with nearby controls for all A/V equipment and room lighting and sound systems.
- **Level 3+** classrooms include the classroom features of level 3 rooms plus a teaching station with an electronic touch screen for control of all A/V and room functions.

Although the Humanities lecture hall appears to be at an adequate level of technology, the existing technology equipment is already past the planned upgrade dates. None of the three lecture halls have received any major room improvements since the original building construction date.

This instructional technology improvement project will remodel the three rooms to a 3+ technology level. Instructional technology improvements will include video/data projection systems, audio playback systems, multi-media computer interfaces, VCRs, DVD/CD disc players, document cameras, and AV/lighting control systems. Off site remote A/V control will be incorporated into the A/V system as part of the classroom support functions. Improvements in the environment will address lighting, HVAC, acoustics, aesthetics, the instructor area and student seating.

The project schedule allows for the renovation of these three rooms over one consecutive spring semester and summer session only. Classroom scheduling limitations will not permit more than one large lecture hall removed from the pool of assignable classrooms (see project schedule – page 12). It is imperative that the rooms are ready for fall instruction, allowing adequate time for instructor training.

The project budget requested by the Classroom Renovation/Instructional Technology Improvement Program is in the amount of $2,372,000.

Appendix M-5

PROJECT SCOPE AND DESCRIPTION

This classroom renovation/instructional technology improvement project will remodel 6,609 ASF of general assignment lecture hall space on the University of Wisconsin-Madison campus. The three locations are: 1651 Humanities Building, 910 ASF (seating capacity 90), B-10 Ingraham Hall, 4,338 ASF (seating capacity 503) and 22 Ingraham Hall, 1,361 ASF (seating capacity 129).

This project will be designed and bid as a single project, ensuring clear communication and flow of necessary documentation. The project demolition and construction will be designed and bid as one package. Asbestos abatement will be managed through the UW-Madison Safety Department under a separate state contract and funded through the project. The project will also fund fixed lecture hall seating that will be specified and purchased by the UW-Madison Space Management Office under a separate state contract.

The remodeling of these lecture halls will improve the physical environment and instructional capabilities. The remodeling will include:

- Removal and proper disposal of asbestos containing materials
- Provision of appropriately sized and quiet HVAC system
- Improvement of lighting and electrical systems
- Addition of modern instructional technology and AV equipment
- Improvement of instructor area including the installation of an instructor station
- Replacement or refurbishment of student seating
- Improvement of room aesthetics and acoustics
- Meeting building code, accessibility, and health/safety requirements

Appendix M-5

GENERAL REQUIREMENTS

1. UNIVERSITY OF WISCONSIN CONTACTS

	Name	Telephone	Fax
System Administration			
Agency Representative	Greg Wanek	608-265-2122	608-262-5316
Madison Campus			
Campus Representative	Perminder Ahluwalia	608-263-3159	608-265-3139
Campus Bldg Comm Chair	Robert Todd	608-262-4414	608-262-6801
Campus Engineer	Doug Sabatke	608-263-3004	608-265-3139
Multi-media/Telecom Rep	Tom Wise	608-262-1584	608-262-6801

2. ZONING REQUIREMENTS

This project is an interior remodeling and will not change the use or alter the existing zoning classification of the building.

3. ENVIRONMENTAL IMPACT REQUIREMENTS

This project is of Type III Environmental significance and does not require an Environmental Impact Assessment.

4. HEALTH AND SAFETY CONSIDERATIONS

Asbestos removal (floor tile) is required in the following project locations:

1651 Humanities
B10 Ingraham Hall
22 Ingraham Hall

5. ELECTRICAL

Adequate power is available in the building.

Appendix M-5

SPACE TABULATION

1. GENERAL ASSIGNMENT CLASSROOM: 1651 Humanities Building

   LOCATION: 455 North Park Street, Madison, WI 53706

YEAR CONSTRUCTED	SEATING CAPACITY	ASF/ OCCUPANT	ASF/ ROOM	NO/ RMS
1966	90	10.12	910	1

   Original DFD Project #: 6405-14

   City Parcel#: 0709-232-0501-1

2. GENERAL ASSIGNMENT CLASSROOM: B10 Ingraham Hall, Mark H.

   LOCATION: 1155 Observatory Drive, Madison, WI 53706

YEAR CONSTRUCTED	SEATING CAPACITY	ASF/ OCCUPANT	ASF/ ROOM	NO/ RMS
1954	503	8.62	4,338	1

   Original DFD Project #: 4660

   City Parcel#: 0709-143-05

3. GENERAL ASSIGNMENT CLASSROOM: 22 Ingraham Hall, Mark H.

   LOCATION: 1155 Observatory Drive, Madison, WI 53706

YEAR CONSTRUCTED	SEATING CAPACITY	ASF/ OCCUPANT	ASF/ ROOM	NO/ RMS
1954	129	10.55	1,361	1

   Original DFD Project #: 4660

   City Parcel#: 0709-143-05

Appendix M-5

USER DESCRIPTION OF FUNCTIONS AND REQUIREMENTS

General assignment classrooms serve the instructional needs of virtually every school and college, especially undergraduate programs. The three lecture halls remodeled as part of this 2001-2003 Capital project are 1651 Humanities, B10 Ingraham Hall and 22 Ingraham Hall. They primarily serve the College of Letters and Science, the largest instructional unit on the University of Wisconsin-Madison campus.

In 2000, 93 classrooms on the UW-Madison campus were equipped with permanent video projection capabilities. 21 of the 78 rooms are level 2; 19 are level 3 and 12 are level 3+. These technology level categories are based on the March 2000 UW System's Classroom Survey for Instructional Technology Improvements. The following is a description of these categories:

- Level 1 classrooms are basic classrooms containing writing and projection surfaces, a standard overhead projector, lighting controls and room darkening, voice/data connections and a podium, cart, or lectern.

- Level 2 classrooms are those rooms with basic level 1 attributes plus traditional instructional technologies such as a VCR, TV, sound system, DVD player, audio cassette, CD player, etc.

- Level 3 classrooms are those rooms with level 2 technologies plus a video/data projection device and a teaching station with nearby controls for all A/V equipment and room lighting and sound systems.

- Level 3+ classrooms include the classroom features of level 3 rooms plus a teaching station with an electronic touch screen for control of all A/V and room functions.

The fourth annual Instructional Technology Use Survey was conducted during the Fall semester 2000 to determine equipment use in the 93 technology equipped classrooms. The survey requested information from 947 faculty and instructional staff on how room equipment met instructional needs and performance expectations. Four hundred and seventy five (475) surveys were completed and returned. The results indicate that technology is moderately to highly used at technology levels 2, 3 & 3+. This supports the need to upgrade other classrooms on campus with state-of-the-art instructional technology, particularly as the Campus moves on through the 21st Century.

In an effort to support the permanent installation of instructional technology on campus, the Teaching Academy has prepared a 1997 white paper entitled, "Perspectives on Instructional Technology" identifying the primary issues of concern to faculty. The paper presents strong arguments for the addition of multi-media classrooms in order to enhance traditional teaching. These enhancements, including computer, audio, and video, reflect the instructional capability of level 3and 3+ classrooms. This instructional technology improvement project will remodel the four lecture halls identified above from level 1 to level 3+ instructional technology, offering faculty and instructional staff increased options and capabilities for teaching.

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ROOM REQUIREMENTS

The room requirements outlined below apply to rooms 1651 Humanities Building, B10 Ingraham Hall and 22 Ingraham Hall unless specifically noted.

I. Building Codes
  A. General, Life, Safety
    a. Meet all building codes as required.
    b. Evaluate fire alarm system/connections. Update if necessary.
    c. Evaluate lecture hall seat spacing requirements. Prepare waiver if necessary.
  B. Accessibility
    a. Provide wheelchair seating spaces in the fixed seating area. Install a fixed table/desk at one (minimum) of the locations (preferably at the rear).
    b. Provide aisle seats without armrests at a rate of 1% of the total fixed seating capacity.
    c. Provide wheelchair access to the instructor area via a level floor surface or a ramp (maximum 1:12, carpeted).
    d. Raised instructor area steps should be finished with a protective edge treatment of contrasting color.

II. Lighting
  A. General
    a. Dim all fluorescent lighting with electronic dimming ballasts. Provide fluorescent luminaries with apparent color temperature of 4100 degree K.
    b. Provide complete lighting control function from the instructor station.
  B. House
    a. Replace existing linear fluorescent lighting system.
    b. Provide appropriate lighting for note taking both at full and dimmed foot candle levels. Ensure that lighting does not wash out a projected image.
    c. Switch lights in banks from the front (instructor area) to the rear.
    d. Provide emergency light during power outages, fed from emergency generator.
  C. Instructor Area/Platform
    a. Replace existing lighting system.
    b. Provide even illumination across the entire area. Avoid glare and hot spots.
    c. Provide fixtures that are dimmable.
    d. Provide illumination such that the instructor can lecture at select points on the platform area at the same time an image is being projected (without washing out the image). Switch fixtures in banks for flexibility.
  D. Instructor Station
    a. Illuminate the instructor simultaneously with a projected image (without washing out the image).
    b. Provide fixed lighting (this implies a semi-fixed instructor station).
    c. Provide fixtures that are dimmable for appropriate illumination on the instructor's face. Avoid glare and hot spots.
    d. Provide a light source on the instructor station for notes, etc.
  E. Lighting Controls
    a. Provide separate switching for house, instructor area/platform, and instructor station dimming systems.
    b. Provide up to 16 scene selectors (8 minimum for instructor use) with temporary override feature and the capability for raising or lowering light level from a pre-set scene. Locate the scene selectors near the instructor station.
    c. Integrate light controls with AV control system via an AV interface.
    d. Provide master on/off switches for house lighting at entrances/exits and the instructor station.

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III. Audiovisual Requirements

A. Audio System

a. Perform an acoustical analysis of room to determine appropriate audio system. Install system for both voice and program applications.

b. Install new integrated sound system for all audio inputs: wired and wireless microphone, VCR, TV and cable signals, computer, 16 mm (B-10 Ingraham) and DVD/CD/laser disc player, cassette deck.

c. Provide microphone connections as follows: 1 at instructor station, 2 at floor box or wall location.

d. Provide assistive listening system.

B. Network Services (Voice, Data, Video)

a. Relocate existing voice, data, and video services from front wall to instructor station.

b. Install voice and data services in the room for closed captioning as appropriate.

c. Provide adequate electrical and telecommunications conduit infrastructure for expansion.

d. Activate voice communication line for assistance telephone

e. Activate network services.

C. Video/Data Projection System

a. Install multi-scan video projection systems for displaying inputs from computers, laser disc, DVD player, document cameras, VCR, TV, TV camera, and cable signals via projector display device.

b. Install projector in appropriate location.

c. Install video/data projector lifts for each projector as necessary.

d. Provide a multi-scan or video monitor in the instructor station to simultaneously view all input signals.

e. Provide one VCR with tuner, housed in the instructor podium. Connect to campus video system.

f. Provide MAC and PC computer input connections for multiple computer-generated signals.

g. Provide permanent equipment rack in lockable enclosure.

h. Provide one document camera.

i. Provide one laser disc player (multi-format with bar code reader) and DVD player.

j. Provide connection panel and external connections for audio and video inputs at the instructor station.

k. Access to control system is password protected (two tracks--user and service/maintenance).

D. Audiovisual Equipment

a. Provide one 35mm slide projector with wireless control capability.

b. Provide a slide projector cabinet for one projector located at the rear of the room. Ensure that slides projected from the rear of the room are clearly and completely visible. The cabinet should be designed for storage and operation. Provide electrical power to this cabinet.

E. Chalkboards

a. Provide a sliding chalkboard system with a total minimum of 30 lineal feet (B-10 Ingraham) and a fixed chalkboard with a minimum of 20 lineal feet (22 Ingraham, Humanities). Weyel is the campus standard for movable units.

F. Projection Surfaces

a. Provide one or more permanent screen surface at the front of the room (B-10 Ingraham), and two side by side motorized screens (22 Ingraham, Humanities).

b. Provide screen controls on or near the instructor station as necessary.

IV. Audiovisual/light Controls

a. Provide an integrated, standardized AV/light control panel (programmable and expandable) with touch pad control. The panel controls the following: all lighting systems, audio system, 35mm slide projectors, and video/data inputs to video/data projectors. The control system should be capable of wireless control for select functions.

b. Locate AV/light control panel at the instructor station.

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V. HVAC System
- a. Upgrade supply and return systems.
- b. Design system to meet the following performance standards:
  - -to not exceed NC 30 noise level
  - -provide code complying CFM/person heating and cooling capabilities
  - -maintain 75 degrees F, 50% RH maximum in summer and 68-70 F, 20% RH minimum in winter

VI. Student Seating and Instructor Area

A. Student Seating
- a. Replace existing fixed seating with new fixed upholstered seating with tablet arm writing surface. Ensure proper sight lines. Seating capacity to decrease not more than 5%. Refurbishing of original seats may be necessary if projected capacity falls below 95% of original capacity. Install tablet arm chairs in accordance with specifications for the KI Piretti Auditorium 17500.
- b. Provide 10% left-handed tablets.
- c. Provide seating for persons with disabilities: aisle seats without armrests at a rate of 1% of the total fixed seating capacity, and the appropriate number of wheelchair seating spaces (minimum one with fixed table).
- d. Install a hard floor surface treatment (epoxy) or rubber tile floor underneath the fixed seating.

B. Instructor Area
- a. (Ingraham) Reduce stage/raised platform. Replace with a continuous two-step platform.
- b. Provide one floor box to podium for AV conduit.
- c. Provide a semi-fixed instructor station that is accessible to persons using wheelchairs.
- d. Provide instructor chair, movable stack chairs for panel discussions and two movable tables.

VII. Acoustics

A. General
- a. Perform an acoustical analysis of the room to determine the appropriate surface finishes on walls, floors, and ceiling.
- b. Carpet the aisles and instructor area.

VIII. Room Colors and Finishes
- a. Provide a pleasing, non-distracting spatial design and color scheme for each learning environment. All building materials and finishes should be durable and have a low maintenance factor. Bright or highly reflective wall finishes should be avoided. Although each room can be distinct, the design and color combinations should compliment the architectural spirit and colors used in adjacent spaces.

IX. Other
- A. Install new clocks and connect to campus bell system.
- B. Replace or refurbish exterior doors to match new finish (if asbestos is present).
- C. Replace door hardware conform to ADA guidelines.
- D. Provide coat hooks, as appropriate.
- E. Abate asbestos, as necessary.
- F. Floor mats, trash and recycling receptacles, and appropriate signage.

THESE ROOM REQUIREMENTS ARE SUBJECT TO CHANGE AND ALTERATION BY THE CLASSROOM PLANNING COMMITTEE AND/OR PROJECT BUILDING COMMITTEE DURING THE PLANNING AND DESIGN PROCESSES.

Appendix M-5

PROJECT BUDGET

1.	Construction Costs		
	a. 1651 Humanities Building	409,000	
	b. B10 Ingraham Hall	1,041,000	
	c. 22 Ingraham Hall	454 ,000	
	Total Construction		1,904,000
2.	Design & Supervision		
	a. A/E Design Fee	215,000	
	b. DFD Management	83,000	
	Total Design & Supervision		298,000
3.	Contingency		165,000
4.	Other Costs		
	a. Percent for Art	5,000	
	Total Other Costs		5,000
	Total Project Cost		**2,372,000**
5.	Funding Sources		
	Classroom Renovation/Instructional Technology Improvements		2,347,000
	Classroom Modernization Program		25,000

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PROJECT SCHEDULE

(For Lecture Halls 1651 Humanities, B10 Ingraham Hall and 22 Ingraham Hall)

BOR and SBC approval and authority to design, bid & construct	December 2001
Construction Documents Complete	May 2002
Receive Bids (Bid Date)	June 2002
Construction Contracts Signed	September 2002
Notice to Proceed	December 2002
Start Demolition/Abatement	January 2003
Start Construction	February 2003
Completion	July 2003
Occupancy	August 2003

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APPENDIX

A. Campus Map

B. Existing Building Floor Plans

C. Budget Worksheets

D. Fixed and Movable Equipment Lists

Appendix M-6

INSTRUCTIONS
2006 Classroom Survey

The survey form has been redeveloped in an effort to reduce the amount of effort required to accomplish the 2006 General Assignment Classroom (GAC) Assessment and Classroom Instructional Technology Survey Form as part of your Physical Development Plan.

Thus, the Classroom Survey is comprised of two parts. Part 1 will help assess and classify each GAC as either "Type A" or "Type B." Type A (functional) classrooms are intended to remain GAC and have a configuration identified as suitable for, or able to be modified to be suitable for, teaching/learning needs. Type B (substandard) classrooms are considered less suitable for one or more specific reasons. Part 2 of the Classroom Survey will help determine instructional technology and remodeling needs. This data will need to be reviewed for accuracy and updated periodically to facilitate campus planning. The survey form is set up to print out as two pages, one for each Part 1 (Columns A through I) and one for Part 2 (Columns A through C and Columns J through P).

The last page of these instructions is a summary of all the codes and abbreviations used in this survey.

Step 1: Review the Survey Form and Existing Data

Basic general assignment classroom (GAC) information from the 2000 GAC survey has been entered in the 2006 survey. These entries should be examined for accuracy and modified as necessary.

Step 2: Fill in the requested data using the codes described below.

Data entries in the survey form will show in a blue font on your computer screen; cells that are automatically calculated will be in black.

Step 3: Return the completed Survey Form to Terri Reda (treda@uwsa.edu) by **April 10, 2006**.

The following guidelines are organized by column group labels and clarify the categories of information requested.

A. BUILDING NAME

The full name of the facility, particularly if it has been named by a Board of Regents resolution.

B. BUILDING NUMBER

The complete, smart coded facility number (i.e. 285-0X-8888X) used in the Central Data Request and other facility records.

C. ROOM NUMBER

The campus assigned room number reflected in your facilities inventory.

D. ROOM DIMENSIONS

The length to width (aspect) ratio will automatically compute based on the dimensions you enter. Measurements for sloped ceiling heights should be taken from the front of the room; measurements for irregularly shaped classrooms should be taken from the mid-point for both length and width.

E. ROOM TYPE A or B

Classrooms should be evaluated to categorize the room as a Type A (functional) or a Type B (substandard) instructional space. Reasoning for identifying a space as a Type B may be based on a single issue or any combination of issues as identified below. Enter all appropriate codes and comments as necessary.

Room Type B Codes:

A = Using the 25 SF/student standard, classroom capacity is reduced to an unusable size
B = Poor aspect ratio
C = Insufficient ceiling height
D = Irregular classroom shape or poor configuration
E = Column or other sight-line interference
F = Inadequate exiting for existing room capacity
G = Inadequate access for those with disabilities
H = HVAC system deficiencies
I = Below-grade moisture or dampness problems
J = Noise or vibration from adjacent spaces
K = Room to be reassigned to a non-classroom function
L = Inadequate space available for instructor console
M = Other (please define)

F. ASF

This column is programmed to automatically compute the assignable square footage (ASF) based on your manual entries of the classroom's length and width under Column D. You can override this computed total (for irregularly shaped classrooms) by typing in a number.

G. ROOM CAPACITY

Manual entries should be made in the "existing" and "desired" columns. The two inner columns provide reference points for planning purposes in calculating desired capacity. The 20/ASF tabulates capacity for classrooms with tablet arm chairs or fixed seating; the 25/ASF calculates capacity for classrooms with a seating arrangement of tables and chairs.

H. ASF/STATION

This column is programmed to automatically compute the assignable square feet/station based on the Column F area (ASF) and the Column G "existing" and "desired" room capacity entries..

I. SEATING TYPE

Use the following letters to indicate the existing and desired classroom seating arrangement:

C = Classroom tables and chairs
F = Fixed Seating
M = Movable tablet armchair
T = Seminar tables and chairs

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J. & K. TECHNOLOGY LEVELS

Definitions:

Level 0:	Does not meet the minimal technology standards defined as Level 1.
Level 1:	Basic classroom containing chalkboard or markerboard; projection screen; overhead projector; lighting fixtures switched in groups; darkening shades; voice and data connections; podium, cart or lectern. These rooms are "portable ready," implying that any combination of portable equipment could be brought into the room.
Level 2:	Classroom with all the features of Level 1 plus traditional instructional technologies, such as a VCR, TV, sound system, DVD player, audio cassette, CD player, etc. Room lighting system shall be appropriate for note-taking during video presentations.
Level 3:	Classroom with all the features of Level 2 plus video/data projector and a teaching station with nearby access to controls for all A/V equipment, room lighting and room sound system.
Level 3+:	Classroom with all the features of Level 3, plus a teaching station with an electronic touch screen for control of all A/V and room functions.
Distance Learning:	Classroom equipped with two-way video system to support distance education.

Codes for Existing & Desired Technology Levels:

Enter the code(s) under the appropriate column to reflect the existing and desired levels of technology in the classroom. For some classrooms, entry of multiple codes may be necessary. (Various coding combinations are shown in the references at the top of the survey form).

- **F** = **Fixed Technology:** Classrooms where technology is fixed-in-place.
- **H** = **Hardwired Connection:** Wired network connectivity is available at each fixed seat or fixed table type student station.
- **P** = **Portable Technology:** Classrooms where portable technology is used.
- **W** = **Wireless Capability:** Classrooms where the classroom and the instructor have wireless access.
- **W+** = **Full Wireless Capability:** Classrooms where wireless access is available for full room capacity.

"**OK**" column codes:

- **A** = Existing technology is **adequate**.
- **R** = **Replace** technology at existing level. Under Column P, indicate approximate overall age of technology and why replacement is necessary.
- **U** = **Upgrade** equipment to a higher level of technology.

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L. REMODELING NEEDS (Column L)

If the physical appearance and classroom conditions (sight lines, HVAC, electrical, lighting, acoustics, accessibility, seating, etc.) are adequate, or if funding for remodeling has been authorized, place an "**X**" under "**OK**."

- **A** = **Convert to classroom:** A non-classroom space will be reassigned to a general assignment classroom.
- **B** = **Enlarge classroom:** Adjacent spaces will be combined with an existing general assignment classroom that may or may not increase the seating capacity of the classroom.
- **C** = **Size reduction:** General assignment classrooms will be reduced in size to accommodate smaller class sizes.
- **D** = **Reassign to non-classroom:** General assignment classrooms have been or will be reassigned to a non-general assignment classroom use.
- **E** = **Remodel existing:** Remodeling will occur within the existing boundaries of the general assignment classroom.

M. IMPLEMENTATION / FUNDING TIMEFRAME (Column M)

(95-97) (97-99) (99-01) (01-03) (03-05) (05-07) (07-09) (09-11) (11-13)

- **X** = Biennium when construction funding was received previously under this program.
- **F** = Biennium when construction funding should be sought under this program for classrooms where remodeling and/or technology improvements are necessary.
- **M** = Classroom updates should be funded as part of major building renovations identified in your 6-year plan. Use 'M' to indicate the biennium when classroom improvements were funded or are anticipated to be included within a major project.
- **P** = Biennium during which planning should occur for the remodeling in a lecture hall or a series of classrooms when the planning expertise required is anticipated to be beyond that of a typical classroom remodeling (i.e., to identify alternatives, programming, etc.). Construction would typically then occur during the subsequent biennium.

N. 2007-2009 Budget Information

For classroom projects requested for 2007-09, all construction cost estimates should be based upon the 2007-09 cost estimating guidelines provided by the Division of State Facilities. Equipment costs should also be current.

Remodeling Cost: This column should contain all construction costs, including remodeling, fixed seating, and HVAC, lighting, electrical, acoustical, and accessibility improvements.

Special Equipment: Special equipment should include the cost to purchase and install all fixed audio-visual equipment and controls and the costs of portable technology.

Movable Equipment: Movable equipment should include furniture and any other non-installed furnishings.

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O. 2007-09 FUNDING SOURCE(S)

An "**X**" should be placed under each funding source category that will provide full or partial funding to upgrade that particular general assignment classroom.

- **A. System Classroom/IT Funds:** Systemwide Classroom Renovation/Instructional Technology Improvements Program funding sought as part of the UW System Capital Budget.
- **B. Major Building Renovation:** Classroom renovation/technology updates funded as part of an identified major building renovation project.
- **C. Classroom Modernization Program:** Classroom Modernization Program funds are contained within the Operating Budget (Institutional Funds) annually allocated to each Institution for classroom remodeling (up to $30,000) and technology updates.
- **D. Other Institutional Funds:** These are operating funds that can be utilized at the discretion of each Chancellor.
- **E. Gifts/Grants:** Outside funding that is received from a donor or through a grant.

P. COMMENTS AND NOTES

Enter comments that will help clarify existing or planned classroom conditions, needs, and goals.

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CODES and ABBREVIATIONS KEY

ROOM TYPE A or B

A Using a 25/SF/student standard, classroom capacity is reduced to an unusable size
B Poor aspect ratio for length to width
C Insufficient ceiling height
D Irregular classroom shape or poor configuration
E Column or other sight-line interference
F Inadequate exiting for existing room capacity
G Inadequate access for those with disabilities
H HVAC system deficiencies
I Below-grade moisture or dampness problems
J Noise or vibration from adjacent spaces
K Room to be reassigned to a non-classroom function
L Inadequate space available at front of room for instructor console
M Other (please indicate)

SEATING TYPES

C Classroom Tables & Chairs
F Fixed Seating
M Movable Tablet Arm Chairs
T Seminar/Conference Tables & Chairs

TECHNOLOGY LEVELS

F Fixed Technology
H Hardwired Ports-All Stations
P Portable Technology
PH Portable/Hardwired
PW Portable/Wireless-Instructor
PW+ Portable/Wireless-All Stations
W Wireless-Instructor
W+ Wireless-All Stations

TECHNOLOGY LEVELS "OK"

A Existing technology is adequate
R Replace Equipment in Kind
U Upgrade Equipment Level

REMODELING NEEDS

A Convert to Classroom
B Enlarge Classroom
C Size Reduction
D Reassign to Non-Classroom
E Remodel Existing

FUNDING TIMEFRAME

F Construction funding requested
X Construction funding received
M Major Project Request
P Planning Request

FUNDING SOURCES

A Systemwide Classroom/IT
B Enumerated Project
C Classroom Modernization
D Other Institutional Funds
E Gifts and/or Grants

PROJECT BUDGET WORKSHEET

PROJECT TITLE:	ITIP Classroom Renovation			Date Prepared :	04/25/01
LOCATION :	B10 INGRAHAM			Prepared By :	Sabatke
OPTION NO. :				TOT PROJ COST EST:	$1,310,000
NEW BUILDING AREA					
ASF New Const	0			Est. Bid Date :	Nov-01
GSF New Const	0	0.00	(% Efficiency)	DFD Base; Jan. 99:	3450
				Projt'd ENR Index:	3820
REMODELING AREA				Escalation Factor:	1.11
GSF Remodeling	4,365				
GSF Total Bldg	0	0.00	(% Remodeling)	Est. Occup. Date :	Aug-02

NEW BUILDING SPACE/COST SUMMARY:

Space Category	ASF	Eff	GSF	$/GSF	Escal	Size Adj	Category Cost
	0	0.50	0	0	1.11	1.00	0
	0	1.00	0	0	1.11	1.00	0
	0	1.00	0	0	1.11	1.00	0
	0	0.70	0	0	1.11	1.00	0
	0	0.50	0	0	1.11	1.00	0
	0	1.00	0	0	1.11	1.00	0
	0	1.00	0	0	1.11	1.00	0
	0	1.00	0	0	1.11	1.00	0
	0	1.00	0	0	1.11	1.00	0
	0	0.00	0	0	1.11	1.00	0
	0	0.00	0	0	1.11	1.00	0
	0	0.00	0	0	1.11	1.00	0
	0	0.00	0	0	1.11	1.00	0
-	0	0.00	0	0	1.11	1.00	0
	0		0			Subtotal: $	0

REMODELING SPACE/COST SUMMARY:

Trade Category	Rmdl Sf	$/Rmdl SF	Escal	Size Adj	Trade Cost
General					
-Surface Treatment	0	$6.50	1.11	1.00	0
-Minor	0	$16.00	1.11	1.00	0
-Partial	0	$30.00	1.11	1.00	0
-Complete	4,365	$40.00	1.11	1.00	193,000
Plumbing					
-Minor	0	$4.50	1.11	1.00	0
-Partial	0	6.75	1.11	1.00	0
-Complete	0	9.25	1.11	1.00	0
-Special Laboratory Needs	0	$10.00	1.11	1.00	0
Heat/Vent					
-Minor	0	$7.50	1.11	1.00	0
-Partial	0	$14.00	1.11	1.00	0
-Complete	4,365	$19.00	1.11	1.00	92,000
Air Cond (Only)					
-Partial (Fan-Coil)	0	$8.00	1.11	1.00	0
-Complete (Existing AHU)	4,365	$11.50	1.11	1.00	56,000
Electric					
-Minor	0	$6.00	1.11	1.00	0
-Partial	0	$11.35	1.11	1.00	0
-Complete	4,365	$16.00	1.11	1.00	77,000
				Subtotal: $	418,000

SUBTOTAL BUILDING / REMODELING COST **>>>>>> $ 418,000**

PROJECT TITLE: ITIP Classroom Renovation

SUBTOTAL BUILDING / REMODELING COST (from page 1)		>>>>>> $	**418,000**
BUILDING CONSTRUCTION / REMODELING COST FACTORS:			
1. Special Foundations / Site Preparation		---------- $	15,000
- Demolition	15,000		
- Site Excavation	0		
- Pilings	0		
- Dewatering	0		
2. Special Design Features / Other Construction		---------- $	70,000
- Atrium / Solar Attic	0		
- Plaza	0		
- Special Exterior / Interior Finishes	0		
- Remove Architectural Barriers	25,000		
- Interface with Existing Building	0		
- Fire Exiting	0		
- Acoustical Treatment	45,000		
3. Built-in Architectural Equipment		---------- $	150000
- Food Service/Equipment	0		
- Dry/Cold Rooms	0		
- Fixed Seating	150,000		
- Loading Dock/Waste Handling	0		
- Signage (ADAAG)	0		
- Fixed Equipment	0		
- Relocate Equipment	0		
4. Special Mechanical / Electrical Systems		---------- $	180,000
- Master Clock	0		
- Intercom	0		
- Electronic / Surveillance	0		
- Lighting Controls & A/V Controls	100,000		
- Lighting Revisions	35,000		
- Heat Recovery/Refrigeration	0		
- Fire Protection	0		
- HVAC Units and Main Ducts	40,000		
- Demolition of existing AHU	5,000		
- Campus Automation System Extension	0		
- Testing and Balancing	0		
5. Building Complexity Cost Factors		---------- $	0
- Floor Loading/Structural Details	0		
- Irregular Shape / Story Height	0		
- Multi-Story Building	0		
- HVAC / Electric Loads	0		
SITE / UTILITY SERVICES COST FACTORS:			
1. Site Development		---------- $	0
- Roads / Walks / Curbs	0		
- Surface Parking	0		
- Storm Water System	0		
- Exterior Signage	0		
- Landscaping	0		
2. Utility Services		---------- $	10,000
- Piped Utilities	10,000		
- Water	0		
- Septic System	0		
- Gas	0		
- Steam	0		
- Grazing (fencing and water)	0		
- Electric	0		
TOTAL BUILDING / REMODELING COST		>>>>>>> >>>> $	**843,000**

PROJECT TITLE: ITIP Classroom Renovation

TOTAL BUILDING / REMODELING COST (from Page 2)				>>>> $	**843,000**
TOTAL PROJECT COST FACTORS:					
1. Time For Construction			0	---------- $	0
2. Site Conditions				---------- $	0
- Restricted Site / Limited Access	0.0%	843,000	0		
- Remote Location	0.0%	843,000	0		
- Occupied / Secure Site	0.0%	843,000	0		
3. Market Conditions				---------- $	0
- Location Factor	0.0%	843,000	0		
- Shortage Material / Labor	0.0%	843,000	0		
4. Telecommunications	3.0%	843,000	25,290	---------- $	25,000
5. Movable Equip. Allowance	1.0%	843,000	8,430	---------- $	8,000
6. Special Equipment				---------- $	155,000
- Audio System			30,000		
- Video System			100,000		
- Control panel			25,000		
7. Asbestos Abatement			10,000		10,000
TOTAL CONSTRUCTION COST				>>>>>>> >>>> $	**1,041,000**
DESIGN /FEES/ CONTINGENCY / ALLOWANCES:					
1. Design / Supervision				---------- $	116,000
- Architect / Engineer	10.0%	1,041,000	104,100		
- EIS Consultant	0.0%	1,041,000	0		
- A/V Consultant			0		
- Soil Borings			0		
- DILHR Fees, Printing			1,500		
- Testing & Balancing			10,000		
- Topographic Survey			0		
2. DFD Project Management	4.0%	1,145,100	45,804		46,000
3. Construction Contingency	10.0%	1,041,000	104,100	---------- $	104,000
4. Other Allowances				---------- $	0
5. Land Purchase			0	---------- $	0
6. Percent for the Arts	0.2%	1,307,000	2,614	---------- $	3,000
TOTAL PROJECT BUDGET ESTIMATE				>>>>>>> >>>> $	**1,310,000**

$0 /GSF: Bldg & Remodel. Cost (no site)
$238 /ASF: Constr. Cost (bldg & site)
$0 /GSF: Constr. Cost (bldg. & site)

$300 /ASF: Tot. Proj. Cost
$0 /GSF: Tot. Proj. Cost

NOTES:
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General Assignment Classroom Project Proposal Form: Classroom Modernization & Minor Remodeling Projects

Department Name _____
Contact Name & Phone # _____
Campus Mail Address _____

Area to be Remodeled: Room _____ Building _____

Please check all areas that apply or describe in the space provided.

Remodeling Requirements:

____Ceiling
____Electrical
____Floor Coverings
____Furniture
____Heating and Cooling
____Lighting (general and dimming)
____Walls
____Windows & Shades
____Other-describe: _____
_____
_____

Instructional Technology Requirements:

____Audio system – Program or Microphone
____Automated control system for IT equipment
____Electric projection screen
____Manual projection screen
____Video / Data projection system (video projector, VCR, DVD/CD player, document camera, etc.)
____Other-describe: _____

Return completed form to your Department Chairperson

Department Chairperson and Deans Approval Required:

Department Chairperson: _____ Date: _____

Dean: _____ Date: _____ Priority Number: _____

DEANS RETURN THIS FORM TO THE SPACE MANAGEMENT OFFICE – SUITE 807 WARF

Note: All maintenance and repair items should be reported to the Space Management Office at 262-4414.
Additional forms can be found at: **www.fpm.wisc.edu/smo/Forms.htm**