

University Classroom Committee Report To the Provost

2010 – 2011

Committee members

Martina Bode, *Department of Mathematics, WCAS*

Ronald R. Braeutigam, *Office of the Provost*

Stephen H. Carr, *Office of the Dean, McCormick School of Engineering*

Susanna Calkins, *Searle Center for Teaching Excellence*

Gabrielle Daniels, *Associated Student Government*

Leigh Ann Dreves, *Office of the Registrar*

Kendra Foss, *Office of the Registrar*

Melissa A. Macauley, *Department of History, WCAS*

Rick G. Morris, *Office of the Dean, School of Communication*

Ronald Nayler, *Facilities Management (co-chair)*

Jean E. Shedd, *Office of the Provost (co-chair)*

Robert L. Taylor, *Academic and Research Technologies, Information Technology*

Joel Trammell, *Office of the Dean, Weinberg College of Arts & Sciences*

Paul B. Weller, *Planning, Facilities Management*

Ken Woo, *School of Continuing Studies*

November 2011

**UNIVERSITY CLASSROOM COMMITTEE
REPORT
2010 – 2011**

Executive Summary

- The annual budget allocation for physical improvements to University classrooms for FY2011 is \$500,000. The Classroom Committee had previously approved allocating \$250,000 from FY2010 and \$250,000 from FY2011 funding for a major renovation of Ryan Auditorium. With \$2,800 of unspent funds from FY 2009 and \$65,000 of unspent funds from FY 2010, the total available funds for FY 2011 were \$817,800.
- Of the \$817,800, \$500,000 was spent on the Ryan Auditorium renovation. The remainder funded smart classroom improvements and upgrades in classroom furniture, upholstery, equipment, and carpeting across campus.
- As of Fall 2011, NUIT Academic and Research Technologies (A&RT) is supporting 115 general-purpose, technology-enhanced classrooms on the Evanston Campus, compared to 113 in the fall of 2010. This brings the number of laptop-based technology-enhanced classrooms to 81 and resident computer-based classrooms to 34.
- Given the increase of wireless-enabled classrooms and the growing role of wireless and mobile technologies in the classroom, the committee created guidelines designed to help instructors think through their classroom wireless policies.
- During 2010-2011, the University's room scheduling program, R25, was upgraded to include a user interface called 25LIVE, dubbed Room And Event System (RES). RES was purchased to facilitate matching space needs to available locations and to make scheduling data accessible across academic and administrative units while allowing departments to retain individual control of their room schedules. Efforts are underway to educate schools and departments about RES, and encourage them to adopt it for scheduling departmental spaces. X25, a reporting tool that pulls data from RES, was purchased at the same time and will be used beginning in the Winter 2012 to track all utilization of spaces that have records in RES.

Use of the FY2011 Budget Allocation

The Classroom Committee receives an annual budget allocation of \$500,000 to support improvement to the physical condition of the University's general-purpose (Registrar-scheduled) classrooms. During FY2011, there was \$817,800 available in funding for project work (\$500,000; plus an additional \$315,000 from unspent FY2010 funding [\$250,000 of which was previously allocated for the Ryan Auditorium project]; and \$2,800 from unspent FY2009 funds).

In FY2010, the Committee endorsed allocating \$250,000 from FY2010 funding and \$250,000 from FY2011 funding for a major renovation of Ryan Auditorium to include new seating, flooring and replacement of general room lighting. This work was completed in time for the beginning of classes in Fall 2011.

Projects approved for FY2011 are shown below; costs listed are a close estimation, but subject to some variation as work is completed and actual costs become known. It is likely that approximately \$20,000 will remain unspent. Work on FY2011 Classroom projects commenced during spring break 2011, and continued during summer and fall 2011.

- 1) Ryan Auditorium, in the Technological Institute: replace main floor seating, replace general room lighting, replace light switches, flooring, acoustical panels at the back of the room, replace vinyl panels on the doors, reupholster balcony seating and replace the strip aisle lights on the main floor keeping the original housing and power feeds. Seating count was reduced to 422 seats on the main floor from the original 436 seats because 9 wheelchair spaces were needed per the building code/ADA. Total capacity is 588 (was 602). Power outlets were added to every seat in 10 rows of the middle section, 110 seats. Main room light fixtures are induction lamps, which promise a 50,000 hour life (8-10 years per bulb change) and use 1/3 the wattage of the metal halide lamps. The new lighting controls, located backstage on the wall next to the podium, feature 4 different scenes (max to min light levels), that will control all the main room lights: new induction 2x2's, roundels, new wall sconces and under-balcony fluorescent fixtures. General room lighting was also programmed to turn off from 12:20am to 6:30am every day, unless there is a room reservation and the electric shop is notified to turn the lights on. Cost: \$500,000 (\$250,000 from FY2011; \$250,000 from FY2010)
- 2) Physical improvements were made to 19 general purpose classrooms, preparatory to refreshing of the teaching technology by Academic & Research Technologies, in Annenberg G15 & G21, Frances Searle 2-407, Kresge 4-335, 4-420, 4-425, 4-435, 4-440, 4-445, Tech LR2, LR3, L150, L158, L160, L170, M120, M166, University Hall 101 and 112. Preparatory work tasks varied by room, but included work to relocate electrical outlets, provide more data, move or replace projection screens, provide security cables and podium locks, patch carpet under fixed

- podiums that were replaced and reswitch lights. New AV equipment (except for document cameras, where needed) was purchased by a centrally-funded project for Academic & Research Technologies. Cost: \$100,000
- 3) Provided document cameras to Tech LR4 & LR5. Document cameras were provided for all classrooms receiving technology upgrades that did not already have them, and for all classrooms in Kresge that did not have them. There were a total of 23 document cameras purchased from available FY2009 Laptop Upgrade funds, which will close out this project. Classroom Committee funding was used to cover whatever could not be paid for from Laptop Upgrade funding. Laptop account: \$32,000; FY2011 Classroom Committee account: \$20,000
 - 4) Replaced carpet in Tech classrooms LG52, LG62, LG66, LG68, LG72, LG76 & MG28 and in Parkes 212, 213, 214, 215, 222, 223, 224. This is year 1 of a 4-year effort to replace carpet in smaller general-purpose classrooms and move them to a recurring 10- year replacement cycle. Budget: \$30,000
 - 5) Provided smart equipment to Lunt 103 & 104. Cost: approximately \$75,000 – paid by FY2009 Laptop Upgrade project
 - 6) Improved University Library seminar rooms by installing 6’ screens in 10 seminar rooms and providing an additional chalkboard or marker board in 9 seminar rooms. No boards were added to the Rand McNally map room. Budget: \$15,000
 - 7) Reupholstered Owen Coon Forum seating (600 theater seats and 12 guest chairs in front of room). Cost: \$65,000
 - 8) Upgrade Owen Coon Forum exit lighting: completion scheduled for winter break, 2011-12. Cost: \$45,000
 - 9) Provided remote electronic access control (Millenium key fob) to Tech L150. Budget: \$6,000
 - 10) Harris L04/L05: replace corner “trays” with similar sized freestanding tables & provide 12 more stacking chairs. This will be installed early morning, during the school year. Budget: \$3,000

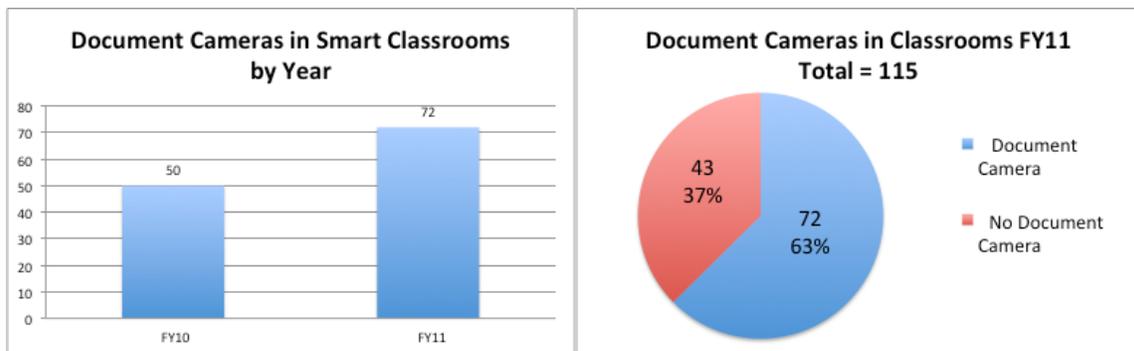
Please see Appendix I for a list of all FY 2011 approved projects.

Status of Technology-Enhanced Classrooms

Document Camera Additions

Document cameras were added to 22 technology-enhanced classrooms as part of the upgrade and improvement to existing rooms, which brings the total number of Registrar-scheduled classrooms with document cameras to 72. Document cameras were added to Annenberg (G15, G21), Francis Searle (2407), Kresge (4335, 4420, 4425, 4435, 4440, 4445), Lunt (103, 104), Technology Institute (L150, L158, L160, L170, LR2, LR3, M120, M166), and University Hall (101, 112).

Two additional document cameras were purchased to serve as backup units. With these additions, more than half of the Registrar-scheduled classrooms (63%) are outfitted with this popular and frequently requested tool.



Hardware Refresh in Existing Technology-Enhanced Classrooms

Fifteen laptop and four resident computer model technology-enhanced classrooms were upgraded this year. These classrooms include Annenberg (G15, G21), Francis Searle (2407), Kresge (4335, 4420, 4425, 4435, 4440, 4445), Technology Institute (L150, L158, L160, L170, LR2, LR3, M120, M166), and University Hall (101, 112). The table below lists each upgraded classroom and features.

Smart Classroom Hardware Refreshes in FY11														
		Podium	HD input	Document Camera	DVD player	Swiveling Touch Panel	21" Touch Screen	Blu-Ray player	Annotation	Digital audio	Lecture Capture	Wide Screen	1080p Projector	
Annenberg	G15	x	x	x	x		x	x	x	x		x	x	
	G21	x	x	x	x		x	x	x	x		x	x	
Frances Searle	2407	x	x	x	x	x								
Kresge	4335	x	x	x	x	x								
	4420	x	x	x	x	x								
	4425	x	x	x	x	x								
	4435	x	x	x	x	x								
	4440	x	x	x	x	x								
	4445	x	x	x	x	x								
Lunt Hall	103	x	x	x	x	x								
	104	x	x	x	x	x								
Technological Institute	L150	x	x	x	x	x								
	L158	x	x	x	x	x								
	L160	x	x	x	x	x								
	L170	x	x	x	x	x								
	LR2	x	x	x	x		x	x	x	x	x			
	LR3	x	x	x	x		x	x	x	x	x			
	M120	x	x	x	x	x								
	M166	x	x	x	x	x								
University Hall	101	x	x	x	x	x								
	112	x	x	x	x	x								

New Smart Classrooms Added in FY 2011

Lunt 103 and 104 were upgraded to a standard laptop-model classroom. These technology-enhanced classrooms now include:

- Mobile podium
- Touch panel on a rotating pedestal
- VGA and HD laptop connectivity
- DVD player
- Document camera

Resident Computer Updates and Replacements

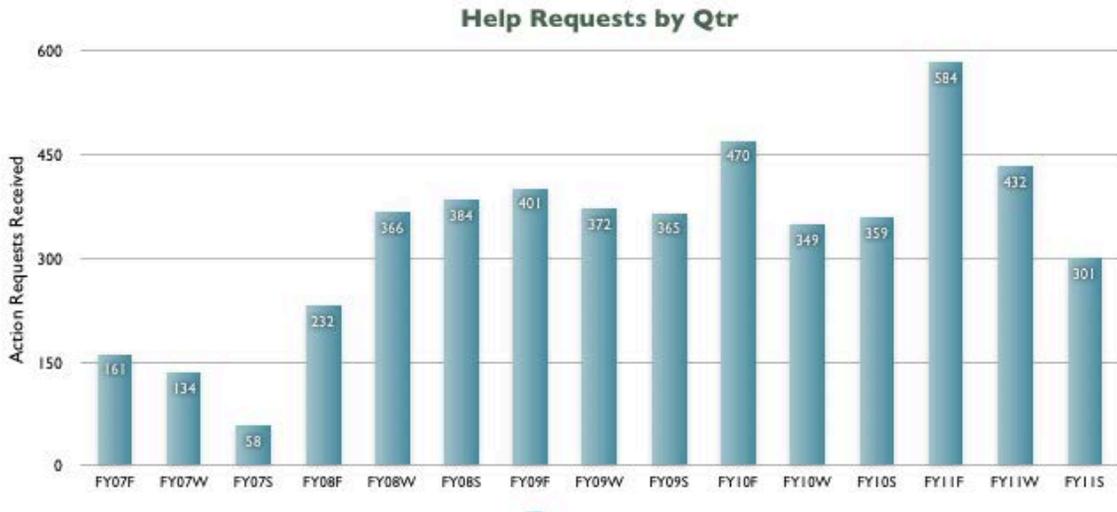
Fifteen of the thirty-four classrooms with resident computers were replaced with the latest Apple Mac Mini model. All classrooms with resident computers are now configured to dual boot to Apple's OS 10.7 (Lion) or Windows 7.

Wireless Access Points

During the summer of FY 2011 wireless access points were added to technology-enhanced classrooms in the Technological Institute (LR4, LR5) and Parkes (212, 213, 214, 215).

Classroom Support Help Requests

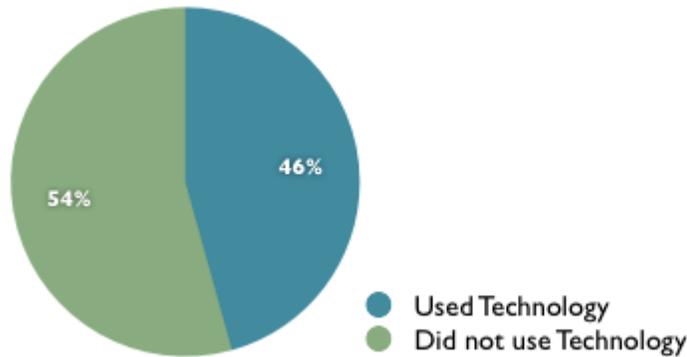
Since 2007 A&RT has tracked requests for service in supported Registrar scheduled locations. The primary source of incoming requests is the 7-ROOM help line. In Spring (FY11Q3) a new tracking tool was put on line. Eleven percent of action requests in FY 2011 were generated by proactive rounds reporting and 58% of action requests were resolved within one hour.



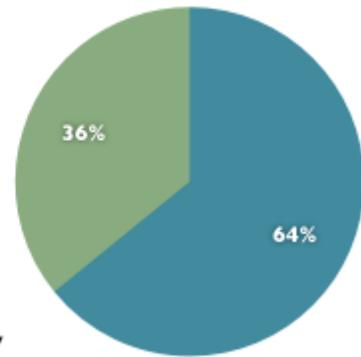
Classroom Technology Usage

By correlating scheduling information with the data logs generated by the network-based management and monitoring system, we are now able to extract usable hard data on classroom technology use. This information was previously only ascertained by survey results. While a slim majority of individual class sessions do not use technology a clear majority (64%) of the courses do.

Class sessions using technology



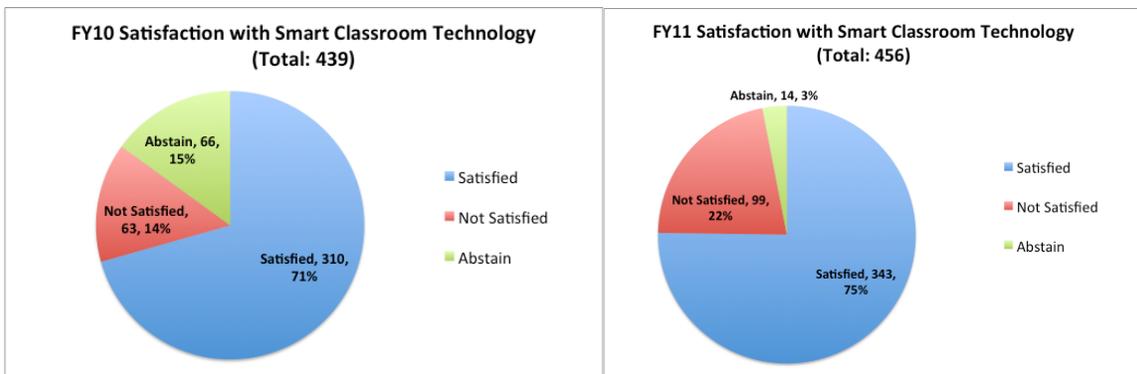
Courses using technology



Surveying Faculty on their Technology-Enhanced Classroom Experience

Every quarter, A&RT surveys faculty registered to teach in technology-enhanced classrooms, requesting feedback about their classroom experience. The survey data provide metrics to assess the operational quality of these classrooms. This feedback also helps the Classroom Committee track faculty usage patterns and the demand for new technology enhancements.

In FY11, 465 out of 517 faculty who returned surveys responded that they had used smart classroom technology. Comparatively, in FY10, 439 of 451 faculty who returned surveys said they had used smart classroom technology. Seventy-five percent of the faculty using equipment in a technology-enhanced classroom indicated they were "satisfied" or "very satisfied" with existing equipment. This is statistically consistent for the past three years.



The few common concerns expressed by faculty who were “less than satisfied” with their experience include: a frustration with a lack of a resident computer in the classroom where he or she was assigned to teach, and with both the presence and the absence of wireless in the classroom. This year there were fewer requests to add connectors or “pull-out” cables at the podium to accommodate the various digital laptop connectors (i.e. DVI, HDMI, DisplayPort, Mini DisplayPort) as we begin to add more option to refreshed technology-enhanced classrooms.

Survey data indicate that the usage rate of laptop computers in a room with a resident computer is nearly 64 percent, similar to usage rates reported last year. This information indicates that a significant number of faculty continue to use a laptop even when scheduled in a room with a resident computer.

Survey data for FY 2011 also indicate that 47 percent of our faculty used Macintosh laptops in technology-enhanced classrooms increasing for the fourth consecutive year.

Wireless Roundtable: In April 2011, Professor Michael Smutko, Charles Deering McCormick Distinguished Lecturer from the Department of Physics and Astronomy, led a University Teaching Roundtable on the effect of a wireless enabled classroom on student learning (“Do Electronics Help – or Harm – Students’ Learning in Lecture.”) He shared preliminary findings from research that he and Sara Broaders (Psychology) conducted, which indicated that wireless-enabled classrooms could have a negative effect on student learning in large lecture courses. The 15 roundtable participants discussed challenges of teaching in a wireless-enabled classroom, and raised questions about best practices. Mike’s talk helped prompt the committee to create guidelines for teaching in a wireless classroom.

Wireless Guidelines for Instructors

The rapid growth of wireless-enabled classrooms and mobile technologies poses unique challenges and opportunities for student learning and engagement. Reflecting on the role that wireless will play—or not play—in the classroom is important to effectively managing a wireless enabled classroom environment. This year, the committee created guidelines for instructors, available online through NUIT and the Searle Center’s website, designed to help instructors to think through their wireless policy (see Appendix II).

Lecture Capture

NUIT’s Lecture Capture service continued in FY 2011 as a means to augment the classroom learning experience. Recorded lectures are posted to the Blackboard Course Management System.

FSM Scientific Basis of Medicine	401
Chemistry 101,102,103 sequence	118
Introduction to Russian Literature	17
NUvention	76
Physiology	37
Buffet Center	13
Segal Design Institute	7
SESP	9

Others	25
TOTAL	703

In FY 2011 the total number of A&RT lecture captures increased by over 20%, serving a wide range of departments across the University.

As part of the evaluation of the Chemistry courses that were recorded, students were surveyed on their experience with lecture capture services. The survey feedback from the Chemistry series again showed an overwhelmingly positive response and considerable success in use of this service.

Recommendations for Lecture Capture Working Group

The Teaching Methodology/Technology subcommittee also made recommendations for the lecture capture working group that the Classroom Committee is currently developing:

- a. Involve faculty from all the schools on the committee
- b. Conduct a peer institution survey
- c. Conduct a broad study of student use
- d. Review the successful models at the School of Continuing Studies
- e. Create support structures and training for faculty
- f. Create guidelines or agreement templates in regard to the intellectual rights of content
- g. Seek advice from Office of General Counsel in regard to student confidentiality (students appearing in videos)
- h. Create guidelines (similar to 'Teaching in a Wireless Classroom') to help faculty reflect on best practices in teaching and learning

Videoconferencing

The Tech L251 technology-enhanced classroom was upgraded and completed for the Fall 2010 quarter. Videoconferencing services were added to this room to better support One Northwestern initiative activities.

Of the 31 videoconferences held in Tech L251 between September 2010 and July 2011, the majority have been from two faculty, Ken Paller, WCAS Psychology (Cognitive Brain Mapping Group) and Peter Kaye, School of Continuing Studies (Econ 310), which have connected with a Chicago campus videoconference room to simultaneously combine students from both campuses.

Teaching, Learning, and Technology (TLT) Program

In collaboration with Academic and Research Technologies (A&RT), the University Library, and the Searle Center for Teaching Excellence, the Teaching, Learning, and Technology (TLT) program is designed to help faculty integrate the tools of technology into their teaching. Faculty, staff, post-docs and graduate students were invited to attend. The workshops included: Teaching with Social Media, Using BBoogle to Promote Collaboration, Using Concept Maps to Enhance Learning, Engaging Students with

Clickers, Alternatives to the Research Project, and a two-part series titled Using Student Videos to Promote Collaboration and Engagement. Next year, the Searle Center plans to offer workshops that better meet the needs of NU's community, to address emerging technologies and improve overall attendance.

Classroom Utilization

During the 2010-2011 Academic Year, the Utilization Subcommittee has focused on:

- Impact of scheduling guidelines and policies for Registrar classrooms;
- Upgrade to RES scheduling software (including X25) and its potential to:
 - 1) Make available more information about the availability of departmentally scheduled seminar/conference rooms,
 - 2) Capture a broader range of activities scheduled in Registrar/departmental classrooms,
 - 3) Better understand the interplay between rooms scheduled through the Registrar and rooms scheduled through the departments;
- Utilization in relation to classroom size and location, and developing recommendations to selectively decrease or increase the size (seat capacity and square footage) of classroom spaces based on past patterns of usage;
- Development of more information about current classroom utilization in Kresge/Crowe to inform the planning of the Kresge renovation.

With regard to this last item, efforts are underway to include departmentally scheduled classrooms in Kresge/Crowe into the Registrar's Room and Event Scheduling system (RES). Efforts to understand the need and size of classrooms as part of Kresge's planning process will continue into the 2011-2012 academic year.

New Classrooms & Decreases in Class Offerings

Harris Hall

Harris Hall was reopened for classes in Winter Quarter of 2011, and now has five classrooms scheduled by the Registrar, compared to eight classrooms before the renovation. Two classrooms seat 24 students (Rms. L04 and L05); two have 32 seats (Rms. L06 and L28); one tiered classroom has 82 seats (Rm. L07); and the largest classroom has a capacity of 225 students (Rm. 107). Harris's average classroom utilization for its first two Quarters back in service was 67.3%. Compared to 2007-08 (the last year it was in full service before the renovation), utilization increased 1.4%. Average seat utilization for all three Quarters of 2007-08 was 44.2% compared to 47.5% for the Winter and Spring Quarters of 2011. Given efforts to more appropriately size Harris's classrooms for Evanston's south campus, this 3.3% increase in seat utilization reflects some improvement, though less than might have been anticipated. Academic Year 2011-12 will be Harris's first full year of use including a Fall Quarter, which typically has the highest levels of utilization.

Elder Hall

Two new classrooms scheduled by the Registrar have been made available in Elder Hall as part of its ongoing renovation. Elder's two classrooms, one with 20 seats (Rm. 30)

and the second with 25 seats (Rm. 32), came online Spring Quarter of 2011 with 20.6% room utilization.

Lower Utilization

Reintroduction of Harris's classrooms and addition of Elder's classrooms came with a 3.6% decrease in classroom utilization during Academic Year 2010-11 (62.6%) compared to 2009-10 (59.0%). In addition to the extra capacity, 249 fewer classes were offered in 2010-11 compared to 2009-10 (3524 vs. 3773, or roughly a 7% drop). In recent years, class offerings have declined from 3828 courses in the 2007-08 (Note: average classroom utilization in 2007-08 was 63.1%). While the reasons for this are unclear, some courses are only offered on a schedule that cycles over a period of years, which may be contributing to this trend. It may also reflect reduced offerings related to spending cuts brought on by the economic downturn.

Guidelines & Scheduling Tools

Revision of Scheduling Guidelines

While scheduling guidelines adopted in 2008-09 did much to more evenly distribute classroom utilization during "prime" hours of the day (previously, 10 am to Noon, and 1 pm to 3 pm), average usage during the lunch hour (Noon to 1 pm) compared to 2009-10 dropped 6.8% from 70.8% in 2009-10 to 64.0% in 2010-11. This decline in lunch hour utilization accompanied the increase in the Registrar's classroom inventory (new Harris and Elder classrooms) and the decrease in the number of classes offered, which together meant that timeslots during "prime hours" were more available. Hence there was less incentive to schedule during the lunch hour since the preference for "prime hours" has not been less intense. Over the last year or so, departments were more frequently allowed 16% to 17% compliance instead of the 14% guideline because of an insufficient number of larger classrooms. Departments could be in compliance with the guidelines, though without the Registrar's Office able to find rooms for larger classes. The recommendation posed to the Classroom Committee was to separate large classes (55 to 600) from small/average classes (up to 54) for compliance. The recommendation also revised "prime" hours of the day allowing no more than 14% of a department's offerings across each of the 5 timeslots: 10 am, 11 am, 12 pm, 1 pm, and 2 pm. These recommendations were adopted for the 2011-12 Academic Year, and the Classroom Utilization Committee will monitor whether this has helped to more evenly distribute classroom utilization over the typical weekday.

Two aspects of utilization the revised guidelines did not address:

- Extremely low utilization between 8 to 9 am (averaging 7.9%, and down 1.1% from 2010-11);
- Low utilization between 3 to 5 pm (48.0% between 3 to 4 pm, and 45.1% between 4 to 5 pm).

A significant amount of Registrar teaching space remains idle for three hours during the day across Quarters. This still represents a considerable space resource that is always available, yet underused.

RES & Implementation of the X25 Scheduling/Reporting Tool

As classroom utilization analysis plays an ever-greater role in the planning of the University's facilities, the Utilization Subcommittee has emphasized the limitations of available data. Of the hundreds of classrooms, seminar rooms and other spaces where courses and meetings and events occur on the Evanston campus, only a fraction have been scheduled through Registrar's Office. Diverse scheduling arrangements seen across departments include: hand-written ledgers, Meeting Maker, Microsoft Outlook, unique software creations, and ad hoc use of spaces. Collection and collation of information from disparate sources is very difficult and time consuming to create a database useful for analysis. Without a broader set of data, it is impossible to have an accurate understanding of how well the University's space resources are used in relation its needs.

During the last Academic Year, the Registrar's scheduling system was upgraded from R25 to 25LIVE, which has been rolled out via the internet as RES (Room and Event Scheduling) for Northwestern's community. Efforts are underway to educate schools and departments about RES, and to encourage them to adopt it for scheduling departmental spaces. This web-accessed scheduling tool allows departments to retain control of their room schedules, and makes scheduling data accessible across academic and administrative units for greater ease in finding available rooms. This new tool for better matching needs to spaces and locations is not just limited to course scheduling; it allows for the scheduling of events such as meetings, colloquia, presentations, tutorials, etc. The University also purchased X25 with this upgrade. X25 is a reporting tool that is specific to space reporting/utilization and RES. X25 will be operational during Winter 2012 and will be used from that point on to pull all utilization numbers for spaces that are recorded in RES.

Planning For Kresge Renovation

Analysis of Evanston's classrooms in relation to capacity and seat utilization has identified a number of spaces with historical efficiency problems. Kresge Hall, in particular, stands out with a number of rooms for which the maximum and average enrollment in any term falls far short of capacity. On the other hand, there are also a number of rooms in Kresge Hall that are occasionally used beyond their intended capacity. Kresge's renovation provides an opportunity to create a better mix of classroom sizes to make better use of space and improve availability of rooms to meet needs in this campus location. The planning for this renovation will be underway into the next calendar year, and Kresge's classroom inventory will continue to be a particular focus for the Classroom Utilization Committee.

Goals for FY2012

- Develop a schedule for replacement of carpet; blinds; lighting; furniture, and repainting of general-purpose classrooms, since many installations will pass the 10-year mark in summer 2011.
- Assess appropriate level of support for laptop use in classrooms.
- Assess impact of installation of Wifi in lecture halls on teaching (year one of three-year pilot program, approved for FY2012 funding following a request by Undergraduate Priorities Budget Committee). Initial group of classrooms in which Wifi was installed included Tech LR4 and LR5, and Parkes 212, 213, 214, 215.
- Work with Academic and Research Technologies to identify needs, demand, benefits and costs of installing lecture capture technology in classrooms.
- More clearly integrate TLT workshops and other programs with the emerging technologies that NU supports to enhance faculty teaching and student learning in NU classrooms.
- Focus on development of recommendations for re-sizing Kresge Hall classrooms to attain optimal utilization of space. As part of the renovation study currently underway, the Utilization Subcommittee will also need to consider the impact of taking Kresge off-line for renovations, along with options for handling this classroom need until the renovations are completed.
- Improve scheduling of school and department teaching spaces. Encourage schools to think more deliberately about scheduling the spaces they administer. Provide meaningful data to the schools through the reporting capabilities in X25 software to help them make needed decisions about scheduling, and encourage wider adoption of the Room and Event Scheduling (RES) program managed by the Office of the Registrar.
- Determine how better to connect with University initiatives, specifically strategic planning and assessment processes, especially as those initiatives relate to teaching and learning in NU classrooms.
- Explore with NUIT new ways to develop better coordination in support of teaching and learning in the University.

Appendices

- I. FY2011 Approved and Completed Projects
- II. Wireless Guidelines for Instructors
- III. Report of the Subcommittee on Classroom Utilization

Appendix I
FY2011 Approved Projects

	Reason for Improvement	Room(s)	Capacity	Sq Ft	Description	Estimated Cost	Running total
1	Provide FM prep work (data, power, screens, low voltage pathways, reswitch lights as needed) for AR&T rework of 19 classrooms. AR&T is funded for AV work and its install.	Annenberg G15, G21, Frances Searle 2407, Kresge 4335, 4420, 4425, 4435, 4440, 4445, Tech LR2, LR3, L150, L158, L160, L170, M120, M166, Univ. Hall 101, 112			similar project was completed from FY2010 funds to support AR&T summer 2010. Budget 4k each for the smaller rooms (loose furniture) x 15 rooms = \$60,000 and 10k for the 4 auditoria. FM & AR&T have just started walk-throughs for the first 6 rooms.	\$100,000	\$100,000
1A	FY09 Smart Classroom Upgrades account: provide more document cameras				(15) for laptop classrooms in #1, 2 AR&T stock for replacement use & 2 to 4 more for Kresge classrooms . This will close out FY2009 Smart Classroom Upgrades account.	na	na
1B	Add document cameras with available FY2010 or FY2011 Classroom Renovation funding	Tech LR4 & LR5			provide document cameras, shelf attachment & installation	\$20,000	\$120,000
2	FY2011 part 2/2 funding for Tech L165 AUD (approved 2/2010)	Ryan Auditorium, LR1	602	8,918	Approved for summer 2011, est. 500k (50% FY2010; 50% FY2011): replace main floor 436 theater seats; reupholster balcony; replace flooring, replace general room lighting, improve exit light.	\$250,000	\$370,000
3	starting FY2011- approved: JA to provide schedule for replacement on 6 year cycle for Feb 17, 2011 meeting	replace carpet: Parkes 212, 213, 214, 215, 222, 223, 224, Tech ground floor classrooms			replace carpet in 10-12 rooms per year with heavier duty material based on schedule and need. Recurring cost until all 55(+/-) rooms with <u>loose seating</u> are completed over 6 years. Note: Kresge carpet will be part of renovation & Harris Hall has new carpet; so overall group of classrooms is smaller the 82 originally quoted.	\$30,000	\$400,000
4	provide millenium	Tech L150			Provide electronic access for Tech L150; completed spring break.	\$6,000	\$406,000
5	provide laptop set-up	Lunt 104	33	480	completed spring break	na	na
6	provide laptop set-up	Lunt 103	33	480	completed spring break	na	na
7	add addl. markerboard or chalkboard to all seminar rooms approved 11/9/10	Library 3322, 3370, 3622, 3670, 3722 4622 4670 4722 4770 5322 5722 5746	15 ea.	270 ea.	5 rooms to have chalkboards; 4 to receive markerboards (no board in 3622, the Rand McNally room; 4770 & 5746 are currently not in use as seminar rooms)	\$8,500	\$414,500

8	add pull down screen	Library 3322, 3370, 3622, 3670, 3722 4622 4670 4722 4770 5322 5722 5746	15 ea.	270 ea.	completed spring break (4770 & 5746 are currently not in use as seminar rooms)	\$6,500	\$421,000
9	reupholster thinning upholstery; approved 11-9-10	Leverone Auditorium	600	6,575	reupholster seats, need 3-4 weeks from graduation to Kellogg orientation; bids due Friday, 2-4-11.	\$65,000	\$486,000
10	current exit lighting too dim.	Leverone Aud.	600	6,575	upgrade existing exit aisle; add KI product lighting to existing chairs to improve lighting	\$45,000	\$531,000
11	per calls to FM to put rooms back for classes from nighttime and weekend events *requires approval	Harris L04 & L05			order freestanding corner tables instead of using the rounded add on pieces in the seminar rooms. When different groups rearrange the furniture in L04 & L05, these rounded corner pieces are not put back and parts have been lost. In addition we should order some 12 extra seminar chairs as there appears to be a high need for them for events and overflow seating.	\$4,000	\$535,000

Appendix II: Wireless Guidelines for Instructors

Managing Wireless in the Classroom: Guidelines for Instructors

The rapid growth of wireless-enabled classrooms and mobile technologies poses unique challenges and opportunities for student learning and engagement. Reflecting on the role that wireless will play—or not play—in your classroom is important to effectively managing a wireless enabled classroom environment.

Options for managing wireless in the classroom

- 1) **Do not allow wireless technology**—(Effectively bans laptops, smart phones, tablets, mp3 players, etc.)
- 2) **Adopt a “hybrid” policy:**
 - a. Allow wireless technology only at certain times—either on certain days or at certain points of class. You may wish to use a “lids up” or “lids down” signal.
--OR--
 - b. Create “wireless” and/ or “no wireless” zones: Allow students who wish to use laptops and tablets to sit in a designated “wireless” section of the classroom to decrease distractions to the other students.
- 3) **Integrate wireless technology into the learning experience**

Suggestions for making a wireless agreement with your students:

No matter which option you adopt, you may find it helpful to:

- **Clearly communicate your wireless choice to your students**
 - ❖ Include a statement in your syllabus that clarifies: (a) how wireless may or not be used in your classroom, (b) your expectations concerning wireless, (c) any punishments for violations (e.g. loss of participation points), and (d) your reasons for your choice
 - ❖ Discuss your wireless choice with your students
- **Discuss technology etiquette.**
 - ❖ Help students differentiate between respectful/professional and disrespectful/unprofessional uses of wireless in the class.
 - ❖ Respectful uses might include completing class work requiring computers; searching for class related items; taking notes on instructor PowerPoints; correspondence with other students for collaborative work; texting or tweeting as requested by instructor.

Disrespectful uses may include any activity not related to class (e.g. texting, skypeing, emailing, facebook, tweeting, surfing the internet, downloading materials, etc.)

- **Consider exceptions to your policy.**

- ❖ Students with disabilities may have special needs requiring access to technological aids. You may wish to allow your class to have greater electronic usage to avoid singling out individual students.

Example of wireless policy:

Mobile Communications Policy: You are welcome to use a laptop computer in class to take notes, if you wish. Mobile devices should have the ringer turned off and be placed in pockets or backpacks. You may not make or receive phone calls, surf the web, email, send or receive text messages, or otherwise use your mobile communications devices for non-classroom use during class. Such practices are both disrespectful and distracting to other students. Please note: violating this policy may be detrimental to your class participation grade. In addition, for exams you will not be permitted to use your laptop or mobile device as a calculator, so you should ensure that you have a simple, non-networked calculator for your use on exams.¹

Strategies for using wireless technology to promote active learning and student engagement:

- ❖ Provide opportunities for students (working individually or in small groups) to access on-line databases, search engines, and relevant websites to research topics in class
 - ❖ Use wireless response systems (“clickers”) or Twitter to assess student learning
 - ❖ Use collaborative programs (e.g. Google documents) during class for students to share notes, ideas, questions and solutions
 - ❖ Incorporate social networking components like wikis, blogs, and message boards into discussions.
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Other resources:

- ❖ The Searle Center for Teaching Excellence has a series of links dedicated to technology in the classroom (<http://www.northwestern.edu/searle/resources/teaching-strategies-and-materials.html#tab6>). The Searle Center, in collaboration with Academic and Research Technologies and the University Library, also offers workshops on enhancing teaching with technology.

¹ This policy is adapted from a syllabus statement created by L.Lynne Kiesling, Department of Economics, with her permission

- ❖ Vanderbilt University's Center for Teaching has excellent [suggestions for developing a policy](http://cft.vanderbilt.edu/teaching-guides/technology/wireless/) and further information (<http://cft.vanderbilt.edu/teaching-guides/technology/wireless/>)

APPENDIX III

Below is the summary of information for the Fall, Winter and Spring Quarters, which is shown in greater detail in attached charts and spreadsheets, and compared with classroom utilization data from previous years.

Daily Utilization for all Classrooms scheduled by Registrar: Comparison of Fall, Winter and Spring Quarters 1999 to 2011

Utilization based on rooms scheduled for Fall, Winter & Spring (2010-11): average of 59.0% 9 to 5 daily;

Comparison: utilization between 1999 to 2011 dropped from 65% ('99-00), down to 59% ('02-03), down to 57% ('03-04), down to 55.5% ('04-05), but subsequently increased to 57.4% ('05-06), up to 60.8% ('06-07), up to 63.1% ('07-08), up to 63.3% ('08-09), up to 63.2% ('09-10), and decreased to 59.0% last year.

Compared to previous years based on rooms scheduled 9 to 5 daily ('99-00 vs. '02-03 vs. '03-04 vs. '04-05 vs. '05-06 vs. '06-07 vs. '07-08 vs. '08-09 vs. '09-10 vs. '10-11):

Fall Utilization: dropped from 66% to 61% to 58.1% to 57.8%, increased to 59.3 to 63.2% to 64.1%, dropped to 63.3%, increased to 64.5%, and dropped to 62.0% in Fall '10.

Winter Utilization: dropped from 65% to 60% to 52%, increased to 58%, decreased to 57.5%, increased to 61.9%, to 63.9%, to 66.8%, decreased to 66.6%, and dropped to 60.2% in Winter '11.

Spring Utilization: dropped from 65% to 56% to 54% to 51%, increased to 55.5% to 57.3% to 61.3%, decreased to 59.8%, to 58.3%, and decreased to 54.8% in Spring '11.

For 2010-11 classroom utilization was highest during the Fall and Winter Quarters. Relative to trends and previous years, utilization for all quarters decreased. The Winter decrease (-6.4%) was the biggest change. Spring utilization fell 3.5%, and Fall utilization dropped 1.0%. Overall, classroom utilization decreased 3.6% compared to '09-10.

Based on data over the last decade, Academic Year 2010-11 still shows improved distribution of classroom utilization throughout the day. For the 2010-11 Academic Year, like most years, Fall had the highest utilization and Spring the lowest.

Daily Utilization for "Smart" Classrooms scheduled by Registrar:

Comparison of Smart Classrooms with "non-smart" rooms was not performed this year, since all but four Registrar Classrooms (Lunt Hall 101, 102, 103 and 104) have received "smart" upgrades.

Room Utilization by Building 9 to 5 daily:

In buildings with multiple classrooms scheduled by the Registrar, Kresge and University Hall and 555 Clark are the three building locations with the highest overall utilization: Kresge at 74.9% (compared to 78.6% in '09-10); University Hall at 71.4% (compared to 70% in '09-10); and 555 Clark at 68.3% (compared to 75.8% in '09-10). Of the years for which we have data, Kresge has consistently been the building with the highest utilization. Of buildings with only one classroom scheduled by the Registrar, utilization increased in Coon Auditorium {Lev. Aud} to 72.5% (up from 60.8% in '09-10 and 25.4% in '08-09) and Swift Hall Lecture Room 107 at 71.4% (up from 70% in '09-10). Utilization in Pancoe Auditorium decreased to 64.6% (from 65% in '10-11).

University Library, which has classrooms primarily with less than 20 seats, dropped for the third year in a row to 15.6% (compared to 25.6% in '09-10, 26.6% in '08-09, 31.3% in '07-08, 25% in '06-07, 23.3% in '05-06, 21% in '04-05).

Based on Size of Room Scheduled: Up to 20 seats; 21 to 80 seats; 80 to 120 seats:

	'99-00	'02-03	'03-04	'04-05	'05-06	'06-07	'07-08	'08-09	'09-10	'10-11
Up to 20:	52%	46%	43%	39%	45%	46%	48%	47%	49%	42.3%
21 to 80:	65%	62%	60%	61%	66%	67%	66%	67%	68%	66.5%
81 and larger:	62%	64%	61%	56%	64%	65%	63%	66%	70%	68.9%

Compared to Academic Year '09-10, utilization dropped in all size categories, but fell the most in classrooms of the smallest size (down 6.7%).

Seat Utilization based on the Size of Scheduled Classrooms:

Seat utilization represents the percentage of seats occupied when a room is used. While average seat utilization for rooms scheduled from 9 to 5 daily peaked in '03-04, seat utilization has typically been low. Classrooms with up to 20 seats (located in the Library) consistently have had the highest seat utilization.

	'99-00	'02-03	'03-04	'04-05	'05-06	'06-07	'07-08	'08-09	'09-10	'10-11
Up to 20:	61%	57%	65%	66%	64%	64%	66%	64%	62%	59.1%
21 to 80:	47%	45%	53%	49%	45%	47%	48%	49%	50%	47.9%
81 to 120:	48%	51%	56%	53%	44%	46%	45%	46%	48%	49.9%
120 and larger:	39%	39%	44%	43%	40%	41%	43%	44%	42%	41.7%
Average	45%	47%	54%	53%	48%	50%	51%	51%	51%	49.6%

For any classroom potentially targeted for a decrease in the number of seats, seat utilization specific to the classroom needs to be considered, along with options for shifting some scheduled courses into classrooms with a larger number of seats.

Enrollment Utilization for Fall, Winter and Spring Quarters:

Requested maximum enrollments compared to actual enrollments for courses scheduled 9 to 5 daily:

	'02-03	'03-04	'04-05	'05-06	'06-07	'07-08	'08-09	'09-10	'10-11
Fall:	74%	79%	77%	73%	79%	73%	74%	79%	81.5%
Winter:	70%	75%	71%	75%	79%	70%	73%	76%	75.7%
Spring:	51%	74%	72%	74%	76%	72%	75%	78%	86.6%
Average:	65%	76%	73%	74%	78%	72%	74%	78%	81.4%

Standard vs. Non-Standard Scheduling

During the last several years a University policy encouraged standard scheduling roughly between 9 to 2 daily for courses that used classrooms scheduled by the Registrar. Starting in '02-03, the impact was an increase in the percentage of courses conforming to standard scheduling. Standard vs. non-standard scheduling as defined by 4 types established in '02-03 began to decline after the second year of the policy, and was not enough to encourage a more even distribution of usage across the day. As a consequence new classroom scheduling guidelines were implemented during Academic Year 2008-09 that constrained the number of each department's classes scheduled during "prime hours" (10 am to 12 noon, and 2 to 4 pm). With this change, the percentage of classes adhering to standard scheduling guidelines increased 3% over the first year and 2% in '09-10. In the last year it increased slightly again (+0.2%). Standard scheduling for the '10-11 Academic Year had increased 3.4% over the 7-year average. The policy has again been revised, and these changes will be implemented during the '11-12 Academic Year.