



# Appendix

Working with Academic Leaders to Improve  
Space Utilization Supplemental Materials



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# Rowan University's Space Allocation Guidelines and Request Form

## Rowan University Space Allocation Guidelines

While it is recognized that the assignment and utilization of space (i.e., office, classroom, storage, performance) falls within the responsibility of the administration of the University, it is also recognized that the key stakeholders at the University should be consulted and have input into the ultimate decision on space utilization. No department, unit or division "owns" space. However, space is a University resource and the assignment and utilization of space, as determined by the administration, is based on programmatic need and on what is in the best interests of the University, particularly as it pertains to the academic mission.

### Space Planning and Management Process

Key to the University's space planning and management process is the creation and maintenance of an accurate space inventory, audit/surveys, utilization/need assessment and departmental space assignments database. The number, type, and condition of University spaces help inform Capital and Facilities planning and prioritization for the allocation of University resources

### Requests for University Space

Space will be assigned, reassigned and reconfigured based on short- and long-term plans of the University, objective criteria, justifiable needs and an established process. Evaluation criteria include, but are not limited to:

- Established area and use space standards
- Needs assessment
- University priorities
- Flexibility
- Changing needs in curricula
- Alternative solutions
- Shared use
- Need for consolidation of resources

Other factors that could inform decisions and guided by this policy, include:

1. *Changes to the assignment, reassignment and reconfiguration of space.*  
Space assignments, reassignments and reconfiguration of space may change in order to achieve optimal utilization and respond to the current and emerging needs of the University.
2. *Assignment and reassignment of occupied space.*  
In most instances, the ability to assign and reassign occupied space is delegated to each of the Deans and Vice Presidents for their respective departments and programs to address the space needs of their respective units.
3. *Vacated, unassigned, new and reconfigured space.*  
Determination of the need for and authorization of the assignment and use of unoccupied, vacated, new and reconfigured University space will be made and authorized by the Executive Space Planning Committee

# Rowan University's Space Allocation Guidelines and Request Form (cont.)

## Process for making requests to add/modify space

Members of the University community should make their initial inquiries regarding space utilization to the Office of Campus Planning, which resides within the Division of Facilities and Operations. Its staff manages and maintains an accurate space inventory of university facilities and other data necessary for the planning, assessment, evaluation and allocation of University space. The office assesses and evaluates requests for space assignments, reassignments, changes and reconfiguration and is responsible for implementing an established process for the same. It ultimately presents its assessments and evaluations, as needed, to the Executive Space Planning Committee for their final determination and review and approval.

## Executive Space Planning Committee

Official requests for/about space must be made through department/division heads to the Office of Campus Planning, which will prepare a report for the Executive Space Planning Committee. Its members include: Vice President of Facilities and Operations (who will serve as convener), The President's Chief of Staff, Provost, Vice President for Student Affairs, University Senate President, Registrar and Director of Conferences & University Scheduling. The Executive Space Planning committee may request the counsel of other staff to appropriately vet requests that are being made.

## ***Space Request Form attached***

## ***Instructions:***

Fill out the form and attach any additional information as necessary. When filling out the form use the tab key or mouse cursor to move to the next field. If you require assistance with the following form, please contact the Office of Space Management at [spaceplanning@rowan.edu](mailto:spaceplanning@rowan.edu) or 856-256-4647.

# Rowan University's Space Allocation Guidelines and Request Form (cont.)



## SPACE REQUEST FORM

The Executive Space Allocation Committee oversees the assignment and utilization of space owned or leased by Rowan University. The purpose of this form is to provide information necessary for evaluation of space requests.

|                              |                       |
|------------------------------|-----------------------|
| <b>For Internal Use Only</b> | Application No: _____ |
| Received by: _____           | Date: _____           |
| Reviewed by: _____           | Date: _____           |
| Director: _____              | Date: _____           |

### INSTRUCTIONS:

**Please Note:**

- Prior to individuals submitting any requests for space, it should be vetted with their supervisors/unit heads to ensure that they are in agreement with moving forward.
- Your application will not be processed unless an inventory, including purpose and/or occupancy of all the space currently being used by your department is complete/and or updated and provided to the office of Campus Planning.
- Any rooms that will be vacated to accommodate this request will become a part of the inventory of available space and secured by Division of Facilities and Operations until it is reoccupied.
- Complete the form and attach any additional information as necessary. If you have any questions, require assistance or need clarification, please contact the Office of Campus Planning at [spaceplanning@rowan.edu](mailto:spaceplanning@rowan.edu) or 856-256-4647.

### CONTACT INFORMATION

Name:

Department:

Email:

Phone:

### OCCUPANT/USE INFORMATION

Use:

New Hire Yes:

Temporary Yes:

Name:

Full Time Yes:

Permanent Yes:

Title/Nature of work:

Part Time Yes:

# Rowan University's Space Allocation Guidelines and Request Form (cont.)

**Space will be used for: (please check)**

Instruction    
 Research/Grant    
 Administration    
 Storage   
 Public    
 Service    
 Auxiliary    
 Support

**REQUESTED DURATION**

Temporary      (Less than 2 years)      Yes:       No:   
 Permanent      (More than 2 years)      Yes:       No:

**ARE YOU REQUESTING A PARTICULAR SPACE?**      Not Applicable:       Yes:

**If Yes:**    Building Name/Number:      Room number:  
 From:      Building/Name/No.      Room #  
 To:      Building/Name/No.      Room #

- (A) Briefly describe why space is needed.
- (B) Describe any adjacency/proximity needs?
- (C) How often will space be used?
- (D) Address the implications to your program/service if your request space is not approved.
- (E) What attempts have been made to locate space within your current space allocation? *(e.g., Has underutilized space been assessed to solve this need or have shared space possibilities been explored?)*
- (F) Do you anticipate the number of people in your unit increasing within the next two years? Yes:  No:
- (G) If yes, please indicate reasons for anticipated growth and whether or not funding has been identified for those positions:
- (H) Are you seeking funding to support this request?    Yes:       No:       Unsure:
- (I) If yes, What Kind?
- (J) Is this space request based on research grant that has been funded or is anticipating funding?    Yes:    No:

|                             |    |                          |
|-----------------------------|----|--------------------------|
| <b>Anticipated Funding:</b> | \$ | <b>Date Anticipated:</b> |
| <b>Funded:</b>              | \$ | <b>Date Received:</b>    |
| <b>Grant:</b>               | \$ | <b>Date Received:</b>    |

- (K) If this space request is approved, will existing space be vacated? Yes:  No:   
If yes, please list building/room #'s:
- (L) If this space request is approved, does the requesting unit have sufficient funding in place to cover the move and/or renovation costs?    Yes:  No:   
If yes, please identify funding source:

# Rowan University's Space Allocation Guidelines and Request Form (cont.)

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## DEPARTMENTAL APPROVALS

REQUESTER (Print Name):

Signature:

Date:

TITLE:

SUPERVISOR (Print Name):

Signature:

Date:

TITLE:

DEAN/VICE PRESIDENT:

Signature:

Date:

PROVOST:

Date:

---

## Action Taken By Executive Space Planning Committee

**No Action**

**Approved**

**Not approved**

Print Name:

Signature:

Title:

Date:



# University of Alaska Fairbanks's Space Request Form



## Space Request Form

Existing space must be utilized as effectively as possible in order to support desired growth. Any activities that require additional space should be addressed first within a department's current allocation, then within the school or department. This form is to be used when the use of a space changes, even within a department. This request will be reviewed by the University Architect and Planner, and then directed to the **UAF Provost, Vice Chancellor for Administrative Service** and **Vice Chancellor for Research** for final review, comments, and recommendation. Please note, if you are requesting new space, acceptable and available space may take a while to identify.

| INFORMATION:                 |        |
|------------------------------|--------|
| Requestor (Primary Contact): |        |
| Dept./Unit/Center/School:    |        |
| Phone:                       | Email: |

|  |  |
|--|--|
| Type and Number of Spaces Requested :  |  |
| Building and Location:   |  |
| Will the Area Require Facility Modification (FacMod) ? <i>If yes, explain.</i> |  |

| SPACE NEEDS ASSESMENT:  |  |
|---|--|
| In what way is your current space inadequate for the identified need?   |  |
| Have temporary arrangements been made to use any of your existing space for the requested purpose? If so, please explain: |  |
| How long will the space be used for the requested purpose?  |  |
| What is the anticipated time-line for moving into the requested space?  |  |
| Briefly describe the intended use for this space.   |  |

# University of Alaska Fairbanks's Space Request Form (cont.)

|  |  |
|--|--|
| Are there any equipment requirements, special needs (electrical, ventilation, etc.), or other special circumstances associated with this Space Request?  |  |
| How will you pay for moving, and/or renovation costs of the requested space? <i>(If using grant/award money, please confirm that this is an approved use of the money and the maximum amount available).</i> |  |
| If this request is denied, what will be the consequences?  |  |
| Please attach floor plans and/or sketches and supporting documents for this request.   |  |

Upon completion of this form, all materials should be forwarded to the University Architect and Planner for due diligence review. A thorough analysis of this request and supplemental material will be reviewed with the requestor to discuss possible solutions. Final decisions will be made by the UAF Provost, the Vice Chancellor of Research, and Vice Chancellor of Administrative Services. All space requests and changes to current space must be inline with the Facilities Master Plan.

### Dean's/ Department Head's Comments:

|           |  |
|-----------|--|
| Comments: |  |
|-----------|--|

|   |                   |             |
|---|-------------------|-------------|
| This request has been reviewed and approved for submission by the Dean/Department Head: | Signature: _____  | Date: _____ |
|   | Print Name: _____ |             |

### APPROVAL PROCESS: OFFICIAL USE

### University Architect and Planner Due Diligence Review:

|           |  |
|-----------|--|
| Comments: |  |
|-----------|--|

|   |  |             |
|---|--|-------------|
| This request has been reviewed and approved for submission by the University Architect and Planner. | Signature: _____   | Date: _____ |
|   | <i>Jonathan Shambare, University Architect and Planner</i> |             |

# University of Alaska Fairbanks's Space Request Form (cont.)

| UAF Provost Comments:   |  |   |
|---|--|---|
| <input type="checkbox"/> Approved in Accordance with University Architects and Planner recommendations<br><input type="checkbox"/> Approved with Exceptions by the Provost (See comments below)<br><input type="checkbox"/> Denied (No additional action taken) |  |   |
| Exceptions / Comments:  |  |   |
| This request has been reviewed and approved for submission by the UAF Provost   |  | Signature: <u>Susan Henrichs, UAF Provost</u> Date: _____ |

| Vice Chancellor for Research Comments:  |  |  |
|---|--|--|
| <input type="checkbox"/> Approved in Accordance with University Architects and Planner recommendations<br><input type="checkbox"/> Approved with Exceptions by the Vice Chancellor for Administrative Services (See comments below)<br><input type="checkbox"/> Denied (No additional action taken) |  |  |
| Exceptions / Comments:  |  |  |
| This request has been reviewed and approved for submission by Vice Chancellor for Research  |  | Signature: <u>Mark Myers, Vice Chancellor for Research</u> Date: _____ |

| Vice Chancellor for Administrative Services Comments:  |  |   |
|--|--|---|
| <input type="checkbox"/> Approved in Accordance with University Architects and Planner recommendations<br><input type="checkbox"/> Approved with Exceptions by the Vice Chancellor for Research (See comments below)<br><input type="checkbox"/> Denied (No additional action taken) |  |   |
| Exceptions / Comments:   |  |   |
| This request has been reviewed and approved for submission by the Vice Chancellor for Administrative Services  |  | Signature: <u>Pat Pitney, Vice Chancellor for Administrative Services</u> Date: _____ |

# University of Maryland, Baltimore County's Space Request Form

## UMBC Space Request Form

### A. REQUESTOR INFORMATION

Printed Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Signature: \_\_\_\_\_  
 Room/Bldg: \_\_\_\_\_ Department/Program:   
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_ College/Unit: \_\_\_\_\_  
 E-mail: \_\_\_\_\_ Division: \_\_\_\_\_

### B. SPACE NEED

|   |   |  |
|---|---|--|
| <b>Duration of Space Need</b><br><input type="checkbox"/> Permanent<br><input type="checkbox"/> Temporary _____ months  | <b>Date Needed</b><br>_____   | <b>Building and Location</b><br><input type="text"/>   |
| <b>Purpose</b><br><input type="checkbox"/> New Hire<br><input type="checkbox"/> Program Expansion<br><input type="checkbox"/> Tied to grant or other funding<br><input type="checkbox"/> Other (describe)<br><input type="text"/> | <b>Space Type</b><br><i>Offices for (insert # of each)</i><br>_____ FT Faculty<br>_____ PT Faculty<br>_____ FT Manager<br>_____ PT Manager<br>_____ FT Professional, Non-manager<br>_____ PT Professional, Non-manager<br>_____ FT Administrative Assistant<br>_____ PT Administrative Assistant<br>_____ Graduate Research/Teaching Assistant<br>_____ Other | <b>Non-Offices (insert # of each)</b><br>_____ Research Lab<br>_____ Teaching Lab<br>_____ Office Workroom<br>_____ Conference Room<br>_____ Other |

<http://www.umbc.edu/policies/pdfs/GuidelinesForOfficeSpace.pdf>

#### Space Need Description

#### Planned Occupants

| Name | Position (e.g. faculty/staff/GA) | FT/PT | Title | Hrs/wk using space |
|------|----------------------------------|-------|-------|--------------------|
|      |                                  |       |       |                    |
|      |                                  |       |       |                    |
|      |                                  |       |       |                    |
|      |                                  |       |       |                    |
|      |                                  |       |       |                    |
|      |                                  |       |       |                    |
|      |                                  |       |       |                    |

#### Equipment/Furniture Needed for Proposed Space

| Description of Item | Quantity | Size | Existing | Purchase | Estimated Cost |
|---------------------|----------|------|----------|----------|----------------|
|                     |          |      |          |          |                |
|                     |          |      |          |          |                |
|                     |          |      |          |          |                |
|                     |          |      |          |          |                |
|                     |          |      |          |          |                |
|                     |          |      |          |          |                |

#### Special Requirements

|   |  |
|---|--|
| <input type="checkbox"/> Special Electric (describe) _____<br><input type="checkbox"/> Water<br><input type="checkbox"/> Gas<br><input type="checkbox"/> Phone<br><input type="checkbox"/> Special Heating/Cooling/Ventilation (describe) _____ | <input type="checkbox"/> Computer/Data<br><input type="checkbox"/> A/V<br><input type="checkbox"/> Specific ADA Accommodation _____<br><input type="checkbox"/> Other (describe)<br><input type="text"/> |
|---|--|

# University of Maryland, Baltimore County's Space Request Form (cont.)

## UMBC Space Request Form

### C. JUSTIFICATION OF SPACE NEED

In what way is your current space inadequate for the identified need?

Have temporary arrangements been made to use any of your existing space for the requested purpose? If so, please explain.

How does your request fit with the role and mission of the unit, school, college, division, and university?

What are the benefits (financial, programmatic, etc.) that will occur as a result of having your request granted?

If this request is denied, what will be the consequences?

Do you anticipate that renovation of the space is required for the proposed use? If so, please explain.

How will you pay for moving and/or renovation costs of the requested space?

If there are other considerations, please describe these below.

# University of Maryland, Baltimore County's Space Request Form (cont.)

## UMBC Space Request Form

### D. SUBMISSION & APPROVAL PROCESS

Policy References < <http://www.umbc.edu/policies/pdfs/UMBC%20Space%20Policy-VI-4.10.02.pdf>  
[http://www.umbc.edu/fm/facilities/documents/Spaceallocationrequestprocess\\_2012\\_5\\_16.pdf](http://www.umbc.edu/fm/facilities/documents/Spaceallocationrequestprocess_2012_5_16.pdf)

#### STEP 1 - Review and approval by the reporting Chair or Department Head

|                                       |              |      |
|---------------------------------------|--------------|------|
|                                       |              |      |
| Signature of Chair or Department Head | Printed Name | Date |

#### STEP 2 - Review and approval by the reporting Dean or Vice President

|                                     |              |      |
|-------------------------------------|--------------|------|
|                                     |              |      |
| Signature of Dean or Vice President | Printed Name | Date |

#### STEP 3 - Submit request to Chair of Space Management Committee

Submit completed and signed form along with any additional supporting documentation to:

Julianne Simpson, Assistant Director for Planning, Planning & Construction Services, Facilities Management  
 102H Facilities Management Building, 1000 Hilltop Circle, Baltimore, MD 21250  
 Email: jsimpson@umbc.edu FAX: 410-455-1476 Phone: 410-455-5958

#### STEP 4 - Chair of UMBC Space Management Committee obtains approvals to proceed

|                      |              |      |
|----------------------|--------------|------|
|                      |              |      |
| Signature of Provost | Printed Name | Date |

|  |              |      |
|--|--------------|------|
|  |              |      |
| Signature of Vice President for Administration & Finance | Printed Name | Date |

In lieu of signatures, approval emails are attached.

#### STEP 5 - Facilities Management reviews and prepares evaluation for UMBC Space Management Committee

Date Received: \_\_\_\_\_ Date Completed: \_\_\_\_\_  See attached documentation

#### STEP 6 - Requestor review

|                        |              |      |
|------------------------|--------------|------|
|                        |              |      |
| Signature of Requestor | Printed Name | Date |

Requestor approves proceeding as indicated here

|  |
|--|
|  |
|--|

#### STEP 7 - Review and recommendations made by UMBC Space Management Committee

|                    |              |      |
|--------------------|--------------|------|
|                    |              |      |
| Signature of Chair | Printed Name | Date |

Committee Recommendation

|  |
|--|
|  |
|--|

# University of Maryland, Baltimore County's Space Request Form (cont.)

## UMBC Space Request Form

**STEP 8 - Final Dispensation**

|  |  |  |
|--|--|--|
|  |  |  |
|--|--|--|

Signature of Provost

Printed Name

Date

**Dispensation**

|  |
|--|
|  |
|--|

# Pennsylvania State University's Top Ten Space Worries

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- 1. Sharing:** We forgot how to do this when we left kindergarten.
- 2. Classrooms:** We must have world-class instructional spaces to keep our enrollments strong and so we can invest to “save the world.” No one owns classroom spaces, but we have not yet invested in improvements or in changing the classroom environment from lecture to collaborative active learning quality of experience. Our general purpose classrooms now are 2.5% of all of our space.
- 3. Laboratories:** We have a very small inventory of class laboratories, half of which are assigned to research. Same as the above, we need to bring existing labs up to the quality of current discipline requirements. In addition, if we want to move from lecture and theory to “hands on,” real life experience, we need more discipline-specific laboratories.
- 4. Lack of Comprehensive Scheduling System:** Every college, unit, and department has some version of their own scheduling system, software, manual paper, spreadsheets, etc. No one knows any day what is happening comprehensively.
- 5. The Office:** If the tuition-paying public realized that more than 30% of our space is offices and less than 10% is our classrooms and class labs, they would be shocked. This is overhead—no matter how you spin it. Our entitlement to the “private office” is not conducive to all our rhetoric—teamwork, openness, collaboration, communications, accessibility, affordability, and on and on. If we are trying to prepare our students ready for the real world—maybe we should try to join it ourselves.

Source: Pennsylvania State University, State College, PA.



# Pennsylvania State University's Top Ten Space Worries (cont.)

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6. **Server Rooms:** The sudden proliferation of server rooms throughout our buildings is not sustainable. We have server huggers everywhere, and there is some insistence on having total control over the hardware even though it is unsecure, placed in rooms without the proper HVAC, located in a mechanical room without permission, blown circuits because of power problems, and on and on. And then the server huggers complain because the servers overheat, melt nearby plastic, get wet from a mechanical leak, etc.
7. **Staff/Expansion without Space:** We hire whether we have space or not, and then cry and make it a crisis for someone else to figure out. And of course they all need private offices, near their parking space, appointed very well and in central campus.
8. **Instruction/Research Conflict:** We insist on having our research labs right in the middle of campus on the main student thoroughfare and then wonder why those undergraduate students are allowed in the buildings. We put up signs taped on hallways and doors that undergraduate students should not enter – trespassers will be shot, and survivors, shot again. And we create lovely common spaces (for faculty only) and then whine when students want to use those spaces. We say we want the research labs available to students to garner interest – but we lie.
9. **Storage Management:** We have rooms, hallways, mechanical rooms, good space, outdoor sites, and trailers full of junk. We don't have a storage space problem, we have a junk management problem. (We started a free furniture program and have a storage contract with a local company that has lots of space.) If you really need to keep it— then pay for keeping it.
10. **Decisions:** If we reward bad behavior, expect the bad behavior to continue.

# Caltech's Classroom Utilization/Needs Report

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**Space Use at Caltech**  
**CLASSROOM UTILIZATION/NEEDS REPORT**  
California Institute of Technology

**Caltech**

November 2015

**Prepared by:**  
**Wayne Bottomley**  
**Design & Construction**  
**Caltech Facilities**

Source: California Institute of Technology, Pasadena, CA.

# Caltech's Classroom Utilization/Needs Report (cont.)

## CLASSROOM UTILIZATION/NEEDS REPORT

At the California Institute of Technology, there are 61 rooms currently coded as classrooms and instructional spaces. Of these 61, 18 (30%) have a capacity to accommodate 75 or more students and 43 (70%) are limited to fewer than 75 students. Class labs, conference rooms, offices and public spaces also serve as places of instruction. This report summarizes work done in 2012 to assess classroom utilization on campus.

### PRIMARY INSTRUCTIONAL SPACES

Reviewing the data patterns, 18 large classrooms and lecture halls, and 43 smaller rooms were identified as primary instructional spaces comprising over 53,000 asf (assignable square feet). An additional 12 conferences rooms and one class lab, all with significant use for scheduled instruction were also included in the overall review.

Looking at data from the Registrar's office from the 2011-12 Academic Year (AY2011-12), utilization statistics were computed based on the hours from 9 am to 5 pm Monday through Friday. The standard classroom utilization statistic, which measures the hours for which activity is scheduled in the room, shows that for the large classrooms, classes were scheduled 25% of the time during the daytime hours, and for the small and medium classrooms, classes were scheduled 29% of the time (see Table A). Over all of the classrooms and instructional spaces for AY2011-12, the percent of available daytime hours scheduled was 28%. Also observed is a 35% seat use capacity in large classrooms and 44% seat use capacity in small and medium classrooms (the average percentage of seating capacity occupied during scheduled instruction). What this means is that there is a mismatch between classroom size and the number of students enrolled in the sections resulting in considerable wasted space that could otherwise be assigned for more productive uses.

TABLE A  
Caltech Classroom Utilization Summary Statistics for AY 2011-12

|                                       | AVG CAPACITY | Weekly Daytime Seating Capacity | Observed Sum of Daytime Enrollment | PCT Enrollment Capacity Used | Weekly Class Hours Scheduled (9am-5pm) | PCT of Available Daytime Hours Scheduled | Seat Use Percent in Scheduled Classes | Weekly Hours with Over 50% Seat Use (9am-5pm) | Any Scheduled Classes after 5pm? |
|---------------------------------------|--------------|---------------------------------|------------------------------------|------------------------------|--|--|---------------------------------------|---|----------------------------------|
| <b>LARGE CLASSROOMS</b>               |              |                                 |                                    |                              |  |  |                                       |   |                                  |
| <b>3 QUARTER AVERAGE (AY 2011-12)</b> | 150          | 83,880                          | 7,189                              | 9%                           | 138                                    | 25%                                      | 35%                                   | 31  | 2 rooms                          |
| Fall 2011                             | 150          | 83,880                          | 6,954                              | 8%                           | 121                                    | 22%                                      | 38%                                   | 32  | 2 rooms                          |
| Winter 2012                           | 150          | 83,880                          | 7,530                              | 9%                           | 159                                    | 28%                                      | 32%                                   | 31  | 3 rooms                          |
| Spring 2012                           | 150          | 83,880                          | 7,084                              | 8%                           | 135                                    | 24%                                      | 35%                                   | 29  | 2 rooms                          |
| <b>SMALL AND MEDIUM CLASSROOMS</b>    |              |                                 |                                    |                              |  |  |                                       |   |                                  |
| <b>3 QUARTER AVERAGE (AY 2011-12)</b> | 38           | 69,133                          | 8,693                              | 13%                          | 539                                    | 29%                                      | 44%                                   | 170   | 14 rooms                         |
| Fall 2011                             | 39           | 68,760                          | 9,709                              | 14%                          | 538                                    | 29%                                      | 47%                                   | 192   | 17 rooms                         |
| Winter 2012                           | 37           | 69,320                          | 9,083                              | 13%                          | 561                                    | 30%                                      | 44%                                   | 168   | 17 rooms                         |
| Spring 2012                           | 37           | 69,320                          | 7,286                              | 11%                          | 517                                    | 28%                                      | 38%                                   | 168   | 9 rooms                          |

This review of the scheduling patterns shows considerable underutilization which indicates potential space available for other uses by the Institute. The question is, how much? Table B combines both the larger and smaller instructional spaces. These data show that the greatest scheduled use of instructional space occurs between 0900 (9 a.m.) and 1200 (12 noon) and between 1300 (1 p.m.) and 1600 (4 p.m.) on Thursdays. But even at peak times, all of the available instructional space is not in use.

TABLE B

| NUMBER OF ROOMS IN USE BY HOUR<br>ALL CLASSROOMS--AVERAGE WEEKLY SCHEDULING PATTERN<br>Academic Year 2011-12 |        |         |           |          |        |  |
|--|--------|---------|-----------|----------|--------|--|
| Total N=61   | Monday | Tuesday | Wednesday | Thursday | Friday |  |
| 0900-1000  | 13     | 17      | 12        | 22       | 12     |  |
| 1000-1100  | 19     | 28      | 18        | 32       | 14     |  |
| 1100-1200  | 19     | 22      | 19        | 26       | 14     |  |
| 1200-1300  | 6      | 4       | 6         | 5        | 3      |  |
| 1300-1400  | 20     | 24      | 20        | 32       | 13     |  |
| 1400-1500  | 20     | 30      | 22        | 35       | 11     |  |
| 1500-1600  | 22     | 21      | 19        | 28       | 12     |  |
| 1600-1700  | 5      | 7       | 9         | 6        | 2      |  |
| 1700-1800  | 4      | 3       | 3         | 3        | 1      |  |
| 1800-1900  | 2      | 0       | 2         | 2        | 0      |  |
| 1900-2000  | 8      | 8       | 8         | 6        | 0      |  |
| 2000-2100  | 6      | 8       | 5         | 4        | 0      |  |
| 2100-2200  | 4      | 4       | 3         | 2        | 0      |  |

# Caltech's Classroom Utilization/Needs Report (cont.)

## ESTIMATE OF CLASSROOM NEEDS

Looking at class section schedules offered over the past three years, course sections are arrayed by term with number of students registered for that section. If only one section is offered, but that one section is offered over multiple terms, the data are arrayed in a row. If more than one section is offered during the same term, a new row is created. Each row represents a need for one room for a class meeting on some repeating schedule during an academic term. For purposes of this discussion, we have created a new metric labeled as "room need units" or RNUs. If a course section averaged only 1 or 2 students per section, it was considered to not merit an RNU with the understanding that such a small section could easily meet in an office or lab or in a public space that would not require a scheduled classroom (there were 63 listings that fell into this category representing 118 individual sections).

Out of 1,421 RNUs (representing 3,517 individual class sections) identified over the past three years:

- 376 (26%) RNUs average 20 or more students
- 497 (35%) RNUs average 10-19 students
- 548 (39%) RNUs average 3-9 students
- 63 average 2 or fewer per section and conceivably don't require a specialized class meeting space other than an office or lab (although they may have been scheduled into classroom space in the past and/or may replicate larger sections).

These are then grouped according to the repeating pattern (does the section repeat each term or only every fall or every spring or does it occur only occasionally?). This allows us to estimate the classroom need (by size) for each discrete academic quarter based on the past three year's worth of data. We are making the assumption that regardless of the particular type of schedule used, each classroom should be able to easily accommodate at least 8 section meetings per week (four Monday-Wednesday-Friday and four Tuesday-Thursday), allowing for a reasonable degree of flexibility.

The RNUs are further grouped by size through a somewhat subjective determination based on observations of class section enrollments over the past three years. For this analysis, the ten room size groupings based on seating capacity are:

|          |        |       |       |       |
|----------|--------|-------|-------|-------|
| Over 150 | 75-150 | 60-74 | 50-59 | 40-49 |
| 30-39    | 20-29  | 13-19 | 6-12  | 3-5   |

This further presupposes that the Institute would be best served by placing a class section with a history of attracting between 20 and 29 students (on average) into a room that is sized for up to 30 students instead of in a room designed for up to 150 students. Three year's worth of historical data results are averaged and shown in table C below.

TABLE C

| Observed Room Need Units (RNUs)                |          |        |       |       |       |       |       |       |      |     |
|--|----------|--------|-------|-------|-------|-------|-------|-------|------|-----|
| Caltech Academic Years 2009-10 Through 2011-12 |          |        |       |       |       |       |       |       |      |     |
| Average Enrollment                             |          |        |       |       |       |       |       |       |      |     |
|  | OVER 150 | 75-150 | 60-74 | 50-59 | 40-49 | 30-39 | 20-29 | 13-19 | 6-12 | 3-5 |
| Avg. Fall Quarter RNUs                         | 7        | 9      | 8     | 8     | 15    | 27    | 71    | 111   | 171  | 68  |
| Avg. Winter Quarter RNUs                       | 4        | 8      | 6     | 3     | 10    | 32    | 86    | 122   | 229  | 78  |
| Avg. Spring Quarter RNUs                       | 0        | 13     | 5     | 11    | 9     | 19    | 56    | 104   | 224  | 89  |

With the assumption that one room could accommodate 8 sections per week, this translates into the following minimum classroom or instructional space needs:

TABLE D

| Minimum Classroom Needs                                      |          |        |       |       |       |       |       |       |      |     |
|--|----------|--------|-------|-------|-------|-------|-------|-------|------|-----|
| Based on Caltech RNUs Academic Years 2009-10 Through 2011-12 |          |        |       |       |       |       |       |       |      |     |
| Classroom Capacities   |          |        |       |       |       |       |       |       |      |     |
|  | OVER 150 | 75-150 | 60-74 | 50-59 | 40-49 | 30-39 | 20-29 | 13-19 | 6-12 | 3-5 |
| Fall Quarter   | 1        | 2      | 1     | 1     | 2     | 4     | 9     | 14    | 22   | 9   |
| Winter Quarter   | 1        | 1      | 1     | 1     | 2     | 4     | 11    | 16    | 29   | 10  |
| Spring Quarter   | 0        | 2      | 1     | 2     | 2     | 3     | 7     | 13    | 28   | 12  |

# Caltech's Classroom Utilization/Needs Report (cont.)

Now compare the need shown above (+1 room cushion in each of the categories--to allow for excess needs and fluctuations in demand), to the current Caltech inventory of classrooms, lecture halls and auditoria<sup>1</sup> In Table E (below). We also show the current inventory of departmentally-controlled conference rooms:

**TABLE E**

| Classroom Needs vs. Inventory                                |             |            |       |       |       |       |       |       |      |     |
|--|-------------|------------|-------|-------|-------|-------|-------|-------|------|-----|
| Based on Caltech RNUs Academic Years 2009-10 Through 2011-12 |             |            |       |       |       |       |       |       |      |     |
| Classroom Capacities   |             |            |       |       |       |       |       |       |      |     |
|  | OVER<br>150 | 75-<br>150 | 60-74 | 50-59 | 40-49 | 30-39 | 20-29 | 13-19 | 6-12 | 3-5 |
| <b>Classroom Needs (+1)</b>                                  | 2           | 3          | 2     | 3     | 3     | 5     | 12    | 17    | 30   | 13  |
| <b>2012 Classroom Inventory</b>                              | 5           | 13         | 4     | 4     | 7     | 9     | 12    | 6     | 3    | 0   |
| <b>2012 Departmental Conf Room Inventory</b>                 |             | 2          |       | 1     | 4     | 9     | 48    | 27    | 69   | 6   |

67% of Need

15% of inventory

These data show that there is a mismatch between the observed classroom needs and the observed classroom inventory. The current inventory features 5 rooms with capacities over 150, and 13 with capacities between 75 and 150 (18 rooms total). But the calculated need is actually for a total of 5 large rooms (including two extra rooms per category which serve as cushions to permit variations in scheduling). This means that if scheduled correctly, the campus has 13 large classrooms that could be used for other purposes. The cells highlighted in yellow all have classroom inventory exceeding computed need. The inventory is equal to computed need for rooms between 20 and 29. However, the inventory has only 9 rooms with capacities below 20 whereas the computed need (before adding a cushion of 1 room per size category) shows a demand for 57 such rooms. Cells highlighted in light orange show where demand exceeds supply. The result is that small classes are scheduled in rooms that are larger than needed, because that is the inventory available. This approach underutilizes space that could be more efficiently used for something else, and costs additional dollars, over what is necessary, for heating, cooling and maintenance.

Another way to look at this is that 67% of the calculated classroom needs<sup>2</sup> are for classrooms accommodating from 3-20 students, but this represents approximately 15% of the classroom inventory. Of the raw RNUs, almost 75% are for sections with fewer than 20 students so logically the demand is greatest for smaller classroom sections (under 20) according to data from the Registrar's Office.

There are a number of departmental conference rooms of the appropriate size that could conceivably accommodate smaller class sections (summarized in Table E (above)) by developing a central scheduling arrangement to permit use of these rooms.

**IMPLICATIONS:**

At present, Caltech has a 28% classroom utilization rate over the 61 available instructional spaces. If we were to keep the classroom demand constant but increase the utilization rate to approximately 50%, Caltech would require an inventory of 34 instructional classrooms. This would permit the Institute to free up 27 classrooms for re-assignment comprising roughly 23,500 asf (equivalent to the assignable space in the West Bridge Lab building).

If Caltech were to engage in a slightly more aggressive process of "right-sizing" instructional space, combined with increased use of a select number of smaller departmental conference rooms as scheduled instructional spaces, combined with policies and practices encouraging better space use, it is feasible that of the total of over 53,000 asf (assignable square feet) examined for this analysis, up to 31,000 asf could be made available for reprogramming throughout the campus (equivalent to the assignable space in the Annenberg Center).

There are, of course, multiple options that could be available for significant space reprogramming, but this does indicate that if an approach were to be undertaken in conjunction with establishment of effective policies and practices, the Institute could free up considerable additional space from the classroom inventory to benefit the academic and research programs of the Institute.

**Notes:**

1. Not including Beckman, Ramo, and Beckman Institute Auditoriums.
2. Each classroom need represents a maximum of 8 RNUs of the corresponding size plus 1 for any remainder plus 1 to allow for flexibility in demand.

# Space Management Talking Points

## Provost

The quantity and condition of our institution's physical space plays an important role in the success or failure of your strategic priorities. The cost to build new space diverts scarce resources away from academic initiatives, while the condition of space can impede and even prevent successful teaching, learning, or research on our campus. Help me better steward our institution's resources and drive your strategic priorities through these space management tactics.

| Space Management Initiative                                | Impact on Your Strategic Priorities   | Example Outcomes  |
|--|---|---|
| <p><b>Establish and Enforce Office Space Standards</b></p> | <ul style="list-style-type: none"> <li>• Transparent office standards help us ensure offices of the right size and configuration are assigned to the right people, and that we have offices available when we need them.</li> <li>• If we don't better protect office space, we could be forced to put faculty in substandard space, which might hurt hiring and retention. We also want to avoid new faculty arriving on campus and not having an office. It creates a bad first impression for the faculty member.</li> <li>• The cost of construction in our region is roughly \$____/sq. ft.<sup>1</sup> If we plan for slightly smaller offices, it would create additional room in the budget for modern lab and teaching spaces.</li> </ul>  | <ul style="list-style-type: none"> <li>• One regional public institution had to temporarily freeze faculty hiring because offices were already 104% subscribed.</li> <li>• One urban, private institution saved \$3M in new construction after 70 faculty members joined its shared office program.</li> <li>• One institution discovered that eliminating redundant office assignments could free up an additional 20% of its office space. At our institution that would mean ____ offices, the equivalent of a new _____ (well-known building on campus).</li> </ul>   |
| <p><b>Repurpose Underutilized Space</b></p>                | <ul style="list-style-type: none"> <li>• Our departments are hoarding space by holding onto empty offices and restricting access to their classrooms and conference spaces. We need those rooms to meet the space needs of strategic and academic priorities in a quick and cost effective way.</li> <li>• Faculty offices take up ____% of campus space, costing us \$_____ to heat and cool in 2014. As faculty and staff embrace new flexible work options, their offices sit empty or underutilized. We're paying to heat and cool empty offices; we could redeploy that space to support new or growing programs across campus.</li> <li>• The best way to reduce our carbon footprint is by reining in new construction and additional utilities costs. We can do this by embracing opportunities to meet our emerging space needs within our existing physical space.</li> </ul> | <ul style="list-style-type: none"> <li>• Only 10% of one large public institution's 800+ general assignment classrooms meet their utilization target of 67%.</li> <li>• The College of Liberal Arts at a large public institution will save \$3M in construction costs by redeploying 1.5% of its existing G&amp;E<sup>2</sup> space.</li> <li>• A large, mid-west institution installed light sensors in faculty offices to improve energy conservation. The offices were so rarely used that the sensors, which were estimated to recoup their initial investments in three years paid for themselves in under a year.</li> </ul> |

1) Blanks are provided for you to fill in institution-specific data points.  
2) General and education.

Source: Facilities Forum.

# Space Management Talking Points (cont.)

## Provost

| Space Management Initiative  | Impact on Your Strategic Priorities   | Example Outcomes   |
|--|---|--|
| <p><b>Increase Classroom Utilization Through Central Ownership and/or Centralized Scheduling</b></p> | <ul style="list-style-type: none"> <li>Increasing classroom utilization will help us meet the demand for instructional space using our existing resources.</li> <li>Centrally scheduled classrooms hold 44% more classes each semester than decentrally controlled classrooms.<sup>1</sup> We can meet our current demand for classrooms without building new by increasing the number of centrally scheduled classrooms, freeing up resources to invest in other priorities.</li> <li>Many state legislatures won't fund any new capital construction if classroom utilization is below a certain rate. We must ensure we qualify for state capital funding by meeting our state's minimum classroom utilization rate of ___%.</li> </ul>  | <ul style="list-style-type: none"> <li>Institutions with central scheduling have 17% less space overall than institutions without central scheduling.<sup>2</sup></li> <li>At one small private institution, decentrally scheduled labs are only scheduled to hold one lab per day to accommodate faculty teaching preferences, when they could hold multiple classes per day. This inefficiency unnecessarily increases the demand for new labs.</li> </ul>   |
| <p><b>Increase Course Scheduling During Off-Peak Hours</b></p>                                       | <ul style="list-style-type: none"> <li>Many of our students struggle to meet graduation requirements because of course overcrowding during peak-hours. This can delay their graduation, and add thousands of dollars to their student debt. By more evenly distributing courses throughout the teaching week, we can reduce the number of potential scheduling conflicts between 10am and 2pm Monday-Thursday.</li> <li>Poor course distribution increases wear and tear on our facilities and detracts from the student and faculty experience. Long lines, overcrowded parking lots, full buses, and increased traffic are common around lunchtime Monday-Thursday while our campus resembles a ghost town on Fridays. We can alleviate traffic and parking problems by varying student and faculty arrival and departure times.</li> </ul> | <ul style="list-style-type: none"> <li>According to a 2014 Noel Levitz survey, 50% of students enrolled at 4-year institutions are dissatisfied with their ability to register for required courses with few conflicts.<sup>3</sup></li> <li>One private research institution found they could accommodate a 19% increase in enrollment and take 22 of their 73 classrooms offline by requiring professors to teach 30% of courses outside preferred time periods or in adjacent buildings.</li> </ul> |

1) "Find the Hidden Space on Your High Density Campus," Sightlines, 2015.  
 2) "Review of Practice Report," UK Higher Education Space Management Project, 2005.  
 3) "2014 National Student Satisfaction and Priorities Report," Noel Levitz, 2014.

Source: Facilities Forum.

# Space Management Talking Points

## Deans

The quantity and condition of our institution's physical space plays an important role in the success or failure of your strategic priorities. The cost to build new space diverts scarce resources away from academic initiatives, while the condition of space can impede and even prevent successful teaching, learning, or research on our campus. Help me better steward our institution's resources and drive your strategic priorities through these space management tactics.

| Space Management Initiative                                | Impact on Your Strategic Priorities   | Example Outcomes  |
|--|---|---|
| <p><b>Establish and Enforce Office Space Standards</b></p> | <ul style="list-style-type: none"> <li>• Transparent office standards help us ensure offices of the right size and configuration are assigned to the right people, and that we have offices available when we need them. They also faculty are treated fairly and manage faculty expectations and demands.</li> <li>• If we don't better protect office space, we could be forced to put faculty in substandard space, which might hurt hiring and retention. We also want to avoid new faculty arriving on campus and not having an office. It creates a bad first impression for the faculty member.</li> <li>• The cost of construction in our region is roughly \$____/sq. ft.<sup>1</sup> If we plan for slightly smaller offices, it would create additional room in the budget for modern lab and teaching spaces.</li> <li>• At institutions that charge colleges for space by the square foot, unnecessarily large offices create unnecessary costs to the college.</li> </ul> | <ul style="list-style-type: none"> <li>• One regional public institution had to temporarily freeze faculty hiring because offices were already 104% subscribed.</li> <li>• One urban, private institution saved \$3M in new construction after 70 faculty members joined its shared office program.</li> <li>• One institution discovered that eliminating redundant office assignments could free up an additional 20% of its office space. At our institution that would mean ____ offices, the equivalent of a new _____ (well-known building on campus).</li> </ul>   |
| <p><b>Repurpose Underutilized Space</b></p>                | <ul style="list-style-type: none"> <li>• Your departments are hoarding space by holding onto empty offices and restricting access to their classrooms and conference spaces. We need those rooms to meet the space needs of strategic and academic priorities in a quick and cost effective way.</li> <li>• New space comes at a high cost to your college, especially if you will be charged for ongoing maintenance and operations of that space. Managing your existing space better minimizes the need for new space.</li> <li>• Even if you do not currently need more space, another college might have a space shortage. A culture of space sharing across colleges ensures that all institutional resources reach their maximum potential.</li> </ul>   | <ul style="list-style-type: none"> <li>• Only 10% of one large public institution's 800+ general assignment classrooms meet their utilization target of 67%.</li> <li>• The College of Liberal Arts at a large public institution will save \$3M in construction costs by redeploying 1.5% of its existing G&amp;E<sup>2</sup> space.</li> <li>• A large, mid-west institution installed light sensors in faculty offices to improve energy conservation. The offices were so rarely used that the sensors, which were estimated to recoup their initial investments in three years paid for themselves in under a year.</li> </ul> |

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Source: Facilities Forum.



# Space Management Talking Points (cont.)

## Deans

| Space Management Initiative  | Impact on Your Strategic Priorities  | Example Outcomes   |
|--|--|--|
| <p><b>Increase Classroom Utilization Through Central Ownership and/or Centralized Scheduling</b></p> | <ul style="list-style-type: none"> <li>Increasing classroom utilization will help us meet the demand for instructional space using our existing resources.</li> <li>Centrally scheduled classrooms hold 44% more classes each semester than decentrally controlled classrooms.<sup>1</sup> We can meet our current demand for classrooms without building new by increasing the number of centrally scheduled classrooms, freeing up resources to invest in other priorities.</li> <li>Many state legislatures won't fund any new capital construction if classroom utilization is below a certain rate. We must ensure we qualify for state capital funding by meeting our state's minimum classroom utilization rate of ____%.</li> </ul>  | <ul style="list-style-type: none"> <li>Institutions with central scheduling have 17% less space overall than institutions without central scheduling.<sup>2</sup></li> <li>Classroom utilization in decentrally held classrooms is 22% lower than in centralized classrooms at a large public research institution.</li> <li>At one small private institution, decentrally scheduled labs are only scheduled to hold one lab per day to accommodate faculty teaching preferences, when they could hold multiple classes per day. This inefficiency unnecessarily increases the demand for new labs.</li> </ul> |
| <p><b>Increase Course Scheduling During Off-Peak Hours</b></p>                                       | <ul style="list-style-type: none"> <li>Many of our students struggle to meet graduation requirements because of course overcrowding during peak-hours. This can considerably delay their graduation, and add thousands of dollars to their student debt. By more evenly distributing courses throughout the teaching week, we can reduce the number of potential scheduling conflicts between 10am and 2pm Monday-Thursday.</li> <li>Poor course distribution increases wear and tear on our facilities and detracts from the student and faculty experience. Long lines, overcrowded parking lots, full buses, and increased traffic are common around lunchtime Monday-Thursday while our campus resembles a ghost town on Fridays. We can alleviate traffic and parking problems by varying student and faculty arrival and departure times.</li> </ul> | <ul style="list-style-type: none"> <li>According to a 2014 Noel Levitz survey, 50% students enrolled at 4-year institutions are dissatisfied with their ability to register for required courses with few conflicts.<sup>3</sup></li> <li>One private research institution found they could accommodate a 19% increase in enrollment and take 22 of their 73 classrooms offline by requiring professors to teach 30% of courses outside preferred time periods or in adjacent buildings.</li> </ul>  |

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Source: Facilities Forum.

# Space Management Talking Points

## Departments and Faculty

The quantity and condition of our institution’s physical space plays an important role in the success or failure of your strategic priorities. The cost to build new space diverts scarce resources away from academic initiatives, while the condition of space can impede and even prevent successful teaching, learning, or research on our campus. Help me better steward our institution’s resources and drive your strategic priorities through these space management tactics.

| Space Management Initiative                                | Impact on Your Strategic Priorities  | Example Outcomes  |
|--|--|---|
| <p><b>Establish and Enforce Office Space Standards</b></p> | <p><b>Impact On Faculty:</b></p> <ul style="list-style-type: none"> <li>• Providing offices to part-time faculty members (graduate students, emeriti faculty, and adjunct instructors) limits the amount of office space available for new full-time faculty members.</li> <li>• While not avoidable in all circumstances, reclaiming second (or third) faculty offices where possible would free up space for new faculty. Furthermore, it is inequitable and does not make the best use of campus space in the service of our academic mission.</li> <li>• The cost of construction in our region is roughly \$____/sq. ft.<sup>1</sup> If we plan for slightly smaller offices, it would create additional room in the budget for modern lab and teaching spaces.</li> <li>• If we cannot provide private office space to full-time faculty members, we will have a difficult time recruiting and retaining the best possible faculty.</li> </ul> | <ul style="list-style-type: none"> <li>• One regional public institution had to temporarily freeze faculty hiring because offices were already 104% subscribed.</li> <li>• One institution discovered that eliminating redundant office assignments could free up an additional 20% of its office space. At our institution that would mean ____ offices, the equivalent of a new _____ (well-known building on campus).</li> </ul> |
| <p><b>Repurpose Underutilized Space</b></p>                | <p><b>Impact on Faculty:</b></p> <ul style="list-style-type: none"> <li>• An unused office is an underutilized office because it is not serving the research or instructional missions of the institution. Clearly communicating your specific, long-term growth plans helps ensure that your department’s office space is ready for you when you need it, but is also available for someone else’s temporary use when you don’t.</li> </ul>   | <ul style="list-style-type: none"> <li>• The cost to construct a new office on our campus is \$____. Fully utilizing our offices allows us to avoid wasting resources on unnecessary construction.</li> <li>• The cost to heat, cool, and maintain an empty office on our campus is roughly \$____ per semester. These resources could be used in other ways to better support the academic mission of our institution.</li> </ul>  |

1) Blanks are provided for you to fill in institution-specific data points.

Source: Facilities Forum.

# Space Management Talking Points (cont.)

## Departments and Faculty

| Space Management Initiative  | Impact on Your Strategic Priorities  | Example Outcomes   |
|--|--|--|
| <p><b>Increase Classroom Utilization Through Central Ownership and/or Centralized Scheduling</b></p> | <p><b>Impact on Students:</b></p> <ul style="list-style-type: none"> <li>Centrally scheduled classrooms allow for more courses to be taught in less space, increasing student access to courses, improving their educational experience, and reducing their time-to-graduation.</li> </ul>   | <ul style="list-style-type: none"> <li>Centrally scheduled classrooms hold 44% more classes per semester than decentrally controlled classrooms.<sup>1</sup></li> <li>Classroom utilization in decentrally held classrooms is 22% lower than in centralized classrooms at one mid-west public research institution.</li> </ul>   |
| <p><b>Increase Course Scheduling During Off-Peak Hours</b></p>                                       | <p><b>Impact on Faculty:</b></p> <ul style="list-style-type: none"> <li>Scheduling courses during peak hours and on peak days can create the illusion of a space shortage. It is one of the reasons that you are having so much trouble scheduling courses in classrooms near your office, or with the exact technology you like to use.</li> <li>Shifting your courses to off-peak hours makes it much easier for you to get the classroom spaces you like—and parking will certainly be easier.</li> </ul> <p><b>Impact on Students:</b></p> <ul style="list-style-type: none"> <li>Many of our students struggle to meet graduation requirements because of course overcrowding during peak-hours. This can considerably delay their graduation, and add thousands of dollars to their student debt.</li> <li>This problem hurts a particularly vulnerable segment of our student body—those students who work during the day to pay for college. They simply cannot get the courses they need to graduate and are at risk of non-completion.</li> <li>Shifting the time you teach a course by just a few hours can reduce the time-to-degree of many of our students. Shortening a student's time-to-degree increases the chances a student will graduate, and lowers the overall cost of education for that student—no small thing as the cost of education continues to rise.</li> </ul> | <ul style="list-style-type: none"> <li>According to a 2014 Noel Levitz survey, 50% students enrolled at 4-year institutions are dissatisfied with their ability to register for required courses with few conflicts.<sup>2</sup></li> <li>___% of our students graduate ___ semesters after their anticipated completion date and ___ semesters over the 6-year national average. Every additional semester could require a student to assume as much as \$___ in additional debt. In addition ___% of our students never complete their degrees.</li> <li>One private research institution found they could accommodate a 19% increase in enrollment and take 22 of their 73 classrooms offline when professors began teaching 30% of courses outside preferred time periods or in adjacent buildings.</li> </ul> |

1) "Find the Hidden Space on Your High Density Campus," Sightlines, 2015.  
 2) "2014 National Student Satisfaction and Priorities Report," Noel Levitz, 2014.

Source: Facilities Forum.

# Parsons School of Design's Shared Office Program Memo

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April 2015

To: Parsons Full-time Faculty  
Fr: Nadine Bourgeois, Dean, Academic Planning  
Re: Hotseat/Share Office Program

In the Fall 2007, the University introduced a pilot program through which faculty members were offered stipends to offset expenses associated with working off campus. The program was created to address changing needs and work styles of faculty, especially with regard to technology and communication, providing a more progressive approach to "office space." We also see this program as a long-term opportunity as we design new types of faculty space in the University Center that will help to define how we work more collaboratively as a university faculty. During this academic year, the sixth year of the program, almost 93 of our full-time faculty participated.

We just received permission from the university to continue this program for the 14-15 academic year.

Here are the two options available to faculty:

*"Hotseat Office" option.* Faculty members who elect to work primarily from a hot seat location on campus will receive a **one-time payment of \$500** (before taxes), and a **stipend of \$185 per bi-weekly paycheck** (before taxes). For faculty members who elect this option, Parsons will provide, wherever possible, faculty rooms will include open shared desk space with phone, lockable storage, access to a networked printer, and a campus phone number for voice mail access (if requested). Faculty members will be able to schedule conference rooms or other appropriate rooms for meetings and advising. Additionally, all full-time faculty members are provided a University laptop in the platform of their choosing (Mac or PC). Faculty who switch between the two plans will not be eligible for an additional one-time payment of \$500.

*"Shared Office: Three or more" option.* Faculty members who wish to retain a personally-assigned **shared office which houses three or more faculty members** on-campus will receive a **one-time payment of \$500** (before taxes), and a **stipend of \$115 per bi-weekly paycheck** (before taxes) to offset ongoing expenses. Shared offices will include personally-assigned desk, phone, shared printer and copier, and limited storage space for books or equipment (approximately six linear feet for books, and a small lockable cabinet). Faculty who chose this option will be able to schedule conference rooms when needed for private meetings. Additionally, all full-time faculty members are provided a University laptop in the platform of their choosing (Mac or PC). Faculty who switch between the two plans will not be eligible for an additional one-time payment of \$500.

Following are more details about the options. Faculty who switch between the two plans will not be eligible for an additional one-time payment of \$500.

**Please review these, consider your needs, and respond by June 2, 2015 regarding your preference.** For full-time faculty members who do not wish to change their current arrangement (private, hotseat or shared) for the coming year, no action is required.

# Parsons School of Design's Shared Office Program Memo (cont.)

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## ALTERNATIVE OFFICE PROGRAM FOR FULL-TIME FACULTY

### GENERAL

1. The Alternative Office Program is available to Parsons full-time faculty.
  - a. Faculty members who also hold senior administrative appointments (e.g., deans, associate deans) that necessitate their being present on the campus for a majority of their work hours will retain their current office options and are not eligible for the Alternative Office stipends even if they are presently in a shared office environment.
  - b. Faculty members who are currently assigned to private, on-campus offices and who do not elect one of the new options will retain their current office the coming academic year and no stipend will be provided unless they are presently in a two person now included in the plan.
2. The "Hotseat Office" option does **NOT** change the expectation that faculty members spend appropriate time on-campus for advising, attendance at departmental meetings, participation on committees, etc. *All faculty members should consult with their school deans to be sure expectations for on-campus presence are understood.*
3. In both scenarios, Parsons will provide the faculty member with a laptop computer (Mac or PC) if they have not already been assigned one.

### FINANCIAL

1. Stipends will be added to paychecks and will be taxed in accordance with applicable laws.
2. The University will not require any documentation from faculty members related to the expenses the stipends are intended to offset. It is each faculty member's responsibility to purchase his/her own equipment, establish and maintain service agreements, manage the use of the stipends, etc.
3. Faculty members are encouraged to consult with their tax advisors to understand the potential tax benefits, if any, associated with this program.
4. Stipends associated with the pilot program may be terminated at the University's discretion. The University reserves the right to alter or cancel the Alternative Office Program at any time. In the event of significant changes to the program, every effort will be made to alert faculty members with sufficient notice to plan for the change.

### PROCEDURES

1. Faculty members are asked to respond by **June 2, 2015** regarding their interest in participating in one of the Alternative Office Program options. **Responses should be sent by email to Nadine Bourgeois, [bourgeois@newschool.edu](mailto:bourgeois@newschool.edu).**
2. *Faculty members who do not respond by the deadline above* will be understood to continue with their current arrangement (private, hotseat or shared) for the coming year.
3. Questions or feedback about the program may be directed to Nadine Bourgeois at [bourgeois@newschool.edu](mailto:bourgeois@newschool.edu)

# Florida International University's Classroom Technology Options

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## Description of Classroom Technology Options and Ballpark Pricing

### Option 1: Standard Classroom- about 29k

- Teaching Console
- Projector & Screen
- DVD / VCR
- BluRay DVD
- Desktop Computer
- Touch-panel control system
- iClicker
- Document camera
- Interactive computer monitor
- Wireless presentation capability

### Option 2: Basic Course Capture- about 36k

- Teaching Console
- Crestron Capture HD (for recording content only)
- Projector & Screen
- DVD / VCR
- BluRay DVD
- Desktop Computer
- Touch-panel control system
- iClicker
- Document camera
- Interactive computer monitor
- Wireless presentation capability

### Option 3: Stand Alone Course Capture – about 50k

- Everything that is in option 1 "Standard Classroom" above
- Single camera with zoning capability (follows movements of the professor)
- Microphone Zone
- Confidence monitor
- Self recording capability

### Option 4: Stand Alone Distance Learning –about 120k

- Everything that is in option 1 and 2
- Polycom for video conference
- Flatpanels for "far-end" video
- Student microphones
- Student camera with zoning capability

### Option 5: Full Distance Learning- about 160k

- Everything in options 1,2, and 3
- Control room for operator

# Florida International University's Classroom Technology Options (cont.)

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Option 6: Teaching Auditorium (high capacity) – typically seats 60 or more – between 70k and 250k depending on the size of the room and priority of sound system and projector model

- Everything in option 1
- Large screen
- High lumens projector
- Sound reinforcement

Option 7: Basic Conference Room (not video conference capable)– Between 6k – 25k (depending on size)

- Presentation display (projection or flat panel TBD based on room depth)
- Tabletop connections
- Basic sound system

Option 8: Advanced Conference Room with Video Conference – Between 20k – 40k

- Everything in option 7
- Microphones
- Polycom for VC

Note: Cost estimates for technology packages are ballpark estimates and do include construction, power, and infrastructure needs.

# Washington University in St. Louis's Classroom Technology Specifications

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## 7. Classroom Technology

### 7.1 General

Washington University classroom technology is designed to be fully functional, easy to use and flexible. Much time and effort has been put into thinking about the teacher interface (the technology desk), classroom support and the maintenance of equipment to keep the technology functioning near 100% of the time. This section describes the *general requirements* as they relate to the audio-visual system in a standard University-managed classroom and auditorium. Currently, these technology standards are under review. Although these standards exist, they are a baseline to begin the conversation with our faculty about current and future needs they may have in a classroom. On many projects infrastructure is put into place to support future technology needs or to finish outfitting when funding becomes available.

### 7.2 Standard Multi-media System

#### Typical Classroom

- A standard multi-media system at Washington University has a data projector with a screen; a PC with monitor (with multiple USB ports); a table top touch-panel for control, laptop connectivity for both VGA and HDMI outputs, internet capability, a Blu-ray DVD player and audio input. Document cameras are available in select classrooms.

#### Specialty Equipment/Classrooms (as of 2014)

- Eight classrooms have SmartBoard interactive whiteboards.
- One classroom is an Active Learning Classroom.

#### Physical security for multimedia equipment

- Hasps installed by AV vendor for touch panel and DVD.
  - All hasps must be secured using Teaching Center's supplied glue.
- Projectors should use locking projector mounts to secure them to the pole attached to the ceiling.
- Computers should be secured using a Kensington type lock.
- Installer should use security screws for all rack equipment.

### 7.3 Control System

- Table Top Touch panel control system.
  - Crestron is standard and is the only acceptable control system for University-managed classrooms.
  - Remote monitoring & E-control are required (e.g. Fusion Room View & X-panel for Crestron).
  - Approximate size of Crestron touch panel is 5" for seminar rooms (which utilize flip top panels), 10" for classrooms and 12" – 15" for auditoriums.
    - No third party vendor will be accepted.
  - No touch panel combination monitor units allowed.
  - Touch-panel control system *program* must be designed in conjunction with and approved by The Teaching Center prior to the start of the installation. (See Appendix F: Sample Touch Panel control Program Page Flips.)



# Washington University in St. Louis's Classroom Technology Specifications (cont.)

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## 7.4 Standard Classroom System Components

Classrooms seating < 100 students

- PC Computer
  - USB ports are provided on the front of the computer (usually 4)
    - Ordered and installed by TTC technical staff
- Monitor
  - 19" - 22" LCD or LED flat panel
    - Ordered and installed by TTC
    - VESA-mount compliant
  - Vesa-mount
    - Ordered and installed by desk maker
    - Tilt-able
- Blu-ray DVD Player – region-free
- Extron Cable Cubby-500 S (square shape)
  - Ordered and installed by desk maker
  - Laptop cables (extending from the cable cubby)
    - VGA cable-6' length
      - VGA cables are standard for PC laptops, Mac laptops require a dongle provided by the user
    - HDMI cable-6' length
    - Audio (separate from VGA cable); ¼" phono plug,-6' length
    - Network cable-6' length
    - Power – duplex
- Document camera (optional)
  - Desk mounted document camera (CMOS image sensor technology)
  - Comes with own light source
  - Controllable with the AV touch-panel control system
  - Requires mounting in drawer in teaching station
- VCR's (optional)
  - VCR's are no longer a standard in University-managed classrooms.
- Display Equipment
- Data Projector
  - Minimum requirements
    - Specifications for 16 X 10 aspect ratio
    - WXGA (1920 X 1200)
    - 2000:1 contrast ratio minimum
    - Lumen requirements
      - Classrooms < 100 student seats -6000 lumens minimum
    - RS232 two-way communication with feedback.
  - Installation notes
    - Requires one dedicated 110-volt duplex outlet mounted flush to the ceiling.
    - Surge protection required-surge protector outlet (not plug in type).
    - Color of projector and piping must be same as ceiling (usually white) if at all possible.
- Interactive display (optional equipment, may be used in smaller classrooms instead of a data projector)
  - LED/LCD TV with or without overlay.
  - 80" +/- widescreen 16 X 10 aspect ratio
  - 32' maximum distance from interactive display to farthest seat.

# Washington University in St. Louis's Classroom Technology Specifications (cont.)

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- Top of touch-able part of screen no higher than 78"-80" from finished floor (same height as a raised chalkboard).
- Smaller displays can be used if they better fit the overall size of the room.
- Non-User Equipment
  - Switcher/scaler
  - Amplifier (for program audio)
    - Speaker type and placement determined by room size and acoustics
  - Power Conditioner
  - Computer Interface
  - UPS systems
    - 1000-1200 voltage amps
    - 10 min battery
      - Required for:
        - Touch panel processor
        - Computer
        - Digital whiteboard control and projector
    - Number of UPS systems dependent on amount of equipment.
  - Crestron Integration
    - Crestron DMPS-all in one is the digital matrix switcher, mic mixer, audio DSP, control system, and amplifier
  - Optional Microphone Sound System for Voice Amplification for classrooms > 75
    - Some classrooms that seat over 75 students may benefit from an additional Voice Amplification system so that microphones can be used in the classrooms.
    - The audio consultant, and TTC, will determine which classrooms > 75 will benefit from the addition of a Voice Amplification Sound System.
  - Assistive Listening Systems (ALS) may be added to classrooms and this option will be discussed at the beginning of each project.

## 7.5 Specialty Classroom System Components

An Active Learning Classroom is one type of specialty classroom that is being piloted at the University. The first Active Learning Classroom in the University-managed classroom pool, Eads 016, has been designed to foster interactive, flexible, student-centered learning experiences. It has been designed with grouped seating to foster interaction and engagement, and linear seating for test taking. It has a very high level of technology.

Although some of the multi-media system components are similar to a standard classroom, many other components are used to create each specialty classroom. Please consult with TTC closely when designing a specialty classroom.

## 7.6 Standard Auditorium System Components

Classrooms seating over >100 students

- Same as for standard classroom except for the following:
- Display Equipment
  - Data Projector
    - Minimum requirements
    - Specifications for 16 X 10 aspect ratio
    - WXGA (1920 X 1200)
    - 2000:1 contrast ratio minimum
    - Lumen requirements

Source: Washington University in St. Louis, St. Louis, MO.

# Washington University in St. Louis's Classroom Technology Specifications (cont.)

DRAFT

- Classroom > 100 -300+ student seats – 8,000+ lumens
      - Amount of lumens required also depends on how far away the projector is from the screen and if additional lenses are used
        - RS232 two-way communication with feedback.
    - Color: If projector is in a booth, color is not an issue; if it's in the classroom, color of projector and piping must be same as ceiling (usually white) if possible.
  - Non-user Equipment
    - Crestron 8 X 8 or 16 X 16 Digital Media matrix switcher (no substitutions for Crestron will be accepted)
      - Audio DSP, control system, distribution system and amplifier are separate components
      - Allows switching at desk rather than at the projector.
    - Amplifier (for program audio)
      - Speakers
        - Speaker type and placement determined by room size and acoustics
    - Power Conditioner
    - Computer Interface
    - UPS systems
      - 1000-1200 voltage amps
      - 10 min battery
      - Required for:
        - Touch panel processor
        - Computer
        - Switcher/scaler
          - Number of UPS systems dependent on amount of equipment
    - Control Booth
      - A control booth offers a convenient and sometimes necessary location from which to record classes, run multi-media, and house non-user equipment.
      - A control booth *may* have sliding glass windows so that the person inside can hear true house sound. This must be discussed with TTC.
      - A control booth is required for auditoriums > 300 seats
        - The booth should be no less than 60 SF (6' X 10') (size of McMillan Room G052 booth) but 96 SF (12' X 8") is preferred (size of Hillman Hall 060).
        - It is highly desired to be centered in the back of the classroom.
          - Access to the booth is preferred to be from outside the auditorium, however, if inside access fits the architectural scheme better it is allowed.
      - The booth houses
        - Non-user tech equipment (in a wheeled rack)
        - Audio recording connectors for external recording
        - Network and security cables
        - Extra microphones and accessories
        - Table top with videotaping location
        - Lutron control interface
        - May contain other Lutron lighting controls
        - May contain room data projector
        - May contain other peripheral equipment such as lecture capture devices
      - A control booth is optional but highly desirable for auditoriums <300 seats
        - If space is available the architects should include a booth in auditoriums

# Washington University in St. Louis's Classroom Technology Specifications (cont.)

DRAFT

- A booth should not take up valuable seating space if a minimum requirement of seating can only be met by not having a booth
- It is highly desirable to be centered in the back of the classroom.
  - This decision should be made in consultation with TTC.
    - If an auditorium does not have a booth, audio feeds and connectors are required on the back wall.
      - ¼" phono plug and XLR for audio feeds, both mic and line level
- A control booths interior should be painted a flat black paint
- Sample booth sizes
  - Rebstock 215 booth - 5'8" X 16' 7"
  - McMillan G052 booth - 5' X 9'
  - Brown Expansion Auditorium A (proposed) - 8' X 12'
  - Brown Expansion Auditorium B (proposed) - 12'8" X 9'
  - Simon 1 - 10' X 12'

## 7.7 Audio System for Voice

A typical sound reinforcement system for auditoriums or large classrooms consists of microphones, which convert sound energy into an electronic signal, [signal processors](#) which alter the signal characteristics, [amplifiers](#), which add power to the signal without otherwise changing its content, and loudspeakers, which convert the signal back into sound energy. In designing auditoriums and large classrooms the architect must take the room acoustics into account as needed for better sound control.

- Microphones
  - Wireless microphones are the preferred style of microphone for teaching.
    - Countryman mic heads are preferred over lavalier mic heads.
  - Each microphone system includes 1 receiver, 2 microphone heads, and 2 body packs (1 head and 1 body pack is for backup).
    - Number of wireless microphone systems:
      - For 75 > seats <100 – 1 microphone/receiver system using lapel heads.
      - For 100 > seats – 4 microphone/receiver system, 1 lapel, 1 countryman & 2 handheld wireless microphones
    - Wired – podiums only
      - Only in classrooms >100
      - One gooseneck, wired, microphone at podium
      - Back-up microphones are required and are kept in TTC.
  - Speakers
    - Speakers should be recessed within walls or incorporated in the ceilings at all times. In the instance that speaker performance will be inhibited by recessing, surface mounted speakers may be used after approval from TTC. All surface mounted speakers should have custom color finish to match adjacent surfaces.
    - Characteristics depend on classroom size and conditions.
    - Type – ceiling is preferred.
    - Location – so that audio is evenly dispersed over the student area and aisle ways and entering and exit areas.
    - Number - depends on room size; must be decided by audio expert.
    - Color to blend in with ceiling.
  - Audio outputs-for recording voice or program
    - Audio feed in the booth or the back of the classroom  $\geq 100$  seats

Source: Washington University in St. Louis, St. Louis, MO.

# Washington University in St. Louis's Classroom Technology Specifications (cont.)

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- ¼” phono plug and XLR for access to audio feed; both mic and line level
  - Used for taping/recording purposes.
  - Exact location to be determined by TTC.
- Future consideration must take into account audio capture devices and what kind of cable and connectors they accept. This needs to be discussed with TTC each time an auditorium is built.

## 7.8 Network, Security Lines and IS&T Faceplate

Network and security cable runs can be missed on drawings. In general, TTC IS&T (Network Services & Support) and the architects must check communication/network, audio-visual or electrical drawings to ensure cables runs for network and security are present & complete from classrooms back to head end closets. Check IS&T specs for the cable type and manufacturer for cable runs outside of the classroom. IS&T also places a specialty faceplate on the wall behind the teaching desk or podium. Please consult IS&T for the faceplate specifications and TTC for its exact location.

### Network, Security and Cable Lines

- Network lines-most equipment is network addressable
  - Classrooms 7-10
    - Installed computer, laptop, crestron controller and other
    - May require a network line at projector (check with TTC)
  - Auditoriums 10-15
    - Installed computer, laptop, crestron controller and other
      - Optional booth may require additional network lines
    - May require a network line at projector (check with TTC)
- Security Lines for electronic security
  - Classrooms and Auditoriums – 1 line
    - One electronic security line should be run from card access panel to the classroom to create a continuous loop to secure the following:
      - Teacher’s station-various components
      - Data projector
  - Wash U Communications typically terminates all electronic security lines.
- Cable lines for cable TV
  - Auditoriums only-1 line run from the desk/podium back to the telecommunications closet

## 7.9 Wireless Network in Classrooms

- Washington University has wireless networks in many locations throughout campus. At this time the policy of the Classroom Monitoring Committee is to NOT have wireless *active* in University-managed classrooms or auditoriums, however this policy is currently under revision. occupying the space.
  - The location, type and quantity of access points should be determined by IS&T.
  - The wireless access points must be accessible for future activation, occasional maintenance and upgrading.
- New construction and renovated classrooms are required to have wireless equipment installed in them. Renovated classrooms will have access points terminated but the wireless not activated unless it has been discussed with TTC. If installed, the wireless environment should be robust enough to cover all of the students



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