

February 19, 2007

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TO: Antonio Moreira, Vice Provost for Academic Affairs  
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FR: Steve Anderson, Manager, Classroom Technology, OIT  
Jim Donlan, Director, Facilities Management  
Al Frankel, Asst. Dir., Scheduling and Registration, Academic Services  
John Fritz, Director, Instructional Technology & New Media, OIT  
Dave Hollander, Acting Registrar, Academic Services  
Joe Rexing, Assoc. Dir., Campus Architect, Facilities Management

RE: Classroom Technology Strategic Plan & FY08 Request

Tony & Jack,

Per unanimous approval at the 12/12/06 Provost's Classroom Committee, we are attaching a strategic plan for classroom technology at UMBC.

While the attached plan lays out a broad, three-year strategy and budget to equip all registrar-controlled classrooms with fixed presentation technology by FY11, please consider this memo as a more detailed request for the first year of the plan by upgrading 13 Sondheim classrooms in FY08 at a total project cost of \$80,150.

A few issues and opportunities:

1. Per the Classroom Committee's request on 12/12 and a recommendation in the plan itself (see p. 5), we met as a "working group" on 1/25/07 and 2/2/07 to identify specific costs for electrical prep work to support technology upgrade of any UMBC classrooms. The result? FM staff estimate the per room electrical cost to be \$1k (or \$2k if outsourced), or \$14-28k per fiscal year, based on the plan's recommendation to equip 14 rooms each in FY08 and FY09 and 12 rooms in FY10 (40 rooms total).
2. In addition, we identified 13 rooms in Sondheim (107-114, 207-209 and 409) as being the most logical first block of rooms to be upgraded in FY08 for the following reasons:
  - a. OIT is on pace to make 7,282 mobile technology cart deliveries in Academic Year (AY) 2006-07. Of these deliveries, 70 percent have been or will be for classrooms with 20-49 seats, 37 percent of which represent 11 rooms in Sondheim; ACIV has six rooms representing the next largest 20-49 seat delivery "block" at 20 percent. Upgrading Sondheim will dramatically decrease OIT's mobile technology demand (and reliance on PT student staff to support it).

- b. Two other Sondheim rooms (003 and 409) represent only five percent of the next largest delivery block (50-79 seats), but FM staff recommend "block" classroom upgrades to reduce their own or outsourced contractor costs if spread across many campus buildings. The attached plan also calls for upgrading two rooms greater than 50 seats each fiscal year.
3. Three Sondheim rooms (107, 114 and 414) fall below FM's "Fair Condition" room code "showing average wear" . . . and anticipated "replacement in less than 10 years." The work group struggled on this point because it showed how building life cycle replacement (25-30 years) contrasted sharply with technology life cycle replacement (4-6 years). Should the campus invest presentation technology funds in rooms that are below acceptable use and require new "finishes" (e.g., paint, floors, walls, etc.) to make the rooms themselves presentable? The work group would welcome additional renovation funds to bring one of these three rooms up to "fair condition" so the campus can stay on pace to complete 14 rooms in FY08, but recognizes this request is outside the scope of the class tech plan.
4. If possible, the Sondheim classroom technology upgrade should occur in the six-week Summer Session II. This assures use of FY08 funding and makes for more efficient subcontracting by Facilities Management. Also, Summer Session II usually isn't as full as the first, which would make it easier to take Sondheim "off line" to complete the classroom upgrades. Alternately, we could spread implementation across the FY08 Summer (9 classrooms) AND Winter sessions (4 classrooms).
5. Pending campus support for the plan and this proposed FY08 Sondheim upgrade, the work group felt the Office of Summer, Winter and Special Programs should be notified at once to plan class schedules accordingly.
6. FM staff requested knowing the FY09 class tech upgrade plan as soon as possible so FM can align its own budget for facilities renewal and repair, which might help avoid falling behind the plan's recommended schedule (point #3 above). Additionally, AS staff requested looking at a wider distribution of classroom technology funds across multiple buildings in FY09. But the work group also acknowledged it would like to assess the impact of the FY08 Sondheim upgrades on OIT support demands and AS scheduling needs before finalizing an FY09 plan. We would like Classroom Committee input on this assessment as well.
7. While the attached plan calls for \$113,700 in additional campus funding to upgrade 14 classrooms in FY08 (see page 4), OIT is prepared to provide all labor for the Sondheim upgrade (\$42k), and reduce the planned FY08 upgrade by one room to 13 total (\$4,550) for a total equipment cost of \$67,150. Combined with FM's estimate of \$1k electrical work per room (\$13k) the total project cost would be \$80,150.

If you have any questions or need more information, please let us know.

**UMBC Classroom Technology Strategic Plan**  
**(A Proposal for Campus Review and Discussion)**

**Prepared by**

**John Fritz, Director**  
**Instructional Technology & New Media, OIT**

**&**

**Steven Anderson**  
**Manager, Classroom Technology, OIT**

**December 4, 2006**

## Proposal

Currently, UMBC uses 144 rooms on campus for some form of instruction. The Registrar controls approximately 73 "general purpose" (GP) classrooms (33 with fixed presentation technology). Departments control 71 "other" rooms (49 with fixed technology).

Starting in FY08 and ending in FY10, the Office of Information Technology (OIT) proposes to install and maintain fixed presentation technology in the 40 remaining, university-controlled classrooms at a total cost of \$421,944. Also, starting in FY08, annual maintenance would cost \$20,800 and reach 41,600 by the start of FY11 when all UMBC classrooms have fixed presentation technology.

**For this project, OIT requests \$322,000 in additional university funding for installation. In return, OIT will convert \$65,000 in current PT student L&A funds into and an additional FT staff position, and cover the \$41,600 in ongoing annual maintenance from its current Audio-Visual Services operating budget.**

## Background

Since FY04, OIT has pursued a piece-meal approach to fixed classroom technology installations, basically trying to install 10 to 12 rooms per year out of existing operating funds. Yet, currently with fixed presentation technology in 45 percent of UMBC's 73 classrooms (slightly below the 46 percent national average for our doctoral institution peer group<sup>1</sup>), requests for mobile technology deliveries have not decreased, and are actually rising.

Currently, OIT pays 18-20 part-time students an average of \$7 per hour to push mobile technology carts into rooms not equipped with fixed technology, which translates into \$65,000 annually for Labor & Assistance (L&A). While the student assistants are very busy for 15-20 minutes each hour during class changes, they are not very busy during the remaining 40 minutes when classes are in session. They generally can't commit to more than 5-10 hour shifts each week (which requires hiring, training and paying several of them to cover the daily class schedule). They also don't have the requisite training, experience and (in some cases) interest to maintain fixed technology classrooms.

Finally, the current room scheduling process for each semester is paper-based and manually intensive for both Academic Services and UMBC academic departments. As a result there is little time during the academic year for analysis beyond meeting basic course seating demand with available room capacity. Consequently, some faculty who don't use technology are assigned to fixed technology rooms they don't use while OIT continues to pay students to push mobile carts to faculty who use presentation technology more frequently.

OIT and Academic Services have worked together to identify faculty who use technology more frequently, before room assignments are made. But this is an ad hoc process that does not scale well to efficiently meet the demand OIT has seen in recent years. And to revamp the scheduling process now may be a temporary solution until we know better how PeopleSoft Student Administration handles course, room and student data.

For a number of reasons, OIT recommends pursuing fixed installation to efficiently and effectively meet growing faculty and student classroom technology needs.

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<sup>1</sup> See EDUCAUSE Core Data Survey at [http://www.educause.edu/1\\_2\\_Details/1325](http://www.educause.edu/1_2_Details/1325).



## Current Classroom Type & Inventory (# of Registrar-controlled classrooms)

TYPE I (14) Basic: General Purpose classroom w/transparency projector, screen & net jack;

TYPE II (24) Basic + TV/VCR;

TYPE III (2) Low-range (LR): Basic + data/video projector, comp/video/audio inputs, controller;

TYPE IV (25) Mid-range: LR + VCR/DVD player (**proposed minimum for all classrooms**);

TYPE V (8) Lecture Hall: Data/video projector, PC, comp/video/audio inputs/outputs, controller;

TYPE VI (10) Computer Lab: Data/video projector, PC, comp inputs, controller, student PCs.

## Installation Plan (40 total installs: 14 each in FY08 & FY09; 12 in FY10)

### Personnel

- Total labor costs for 40 classroom installs = \$120,000
  - Consulting: projectors, speakers, wiring installs @ \$2,000 (\$80,000)
  - OIT staff: build/mount control panels @ \$1,000 (\$40,000)
    - Labor cost per install = \$25/hour (UMBC) or \$50/hour (consulting).
- It takes one person three days to permanently fixture a classroom.
  - Most classrooms are "off line" 4 weeks in winter (i.e., 6 classroom installs); 10 weeks in summer (i.e., 16 classroom installs).
  - Separate "electrical prep" work would need to be done before installations.

### Operating

- Total equipment costs for 40 classroom installs = \$202,000
  - Average cost per classroom with 50 or less seats (30) = \$4,550 (\$136,500)
  - Average cost per classroom with 50 or more seats (10) = \$6,550 (\$65,500)
    - Requires more advanced projector for acceptable display.
  - Does NOT include a computer; faculty would need their own laptops.

## Maintenance (based on average of 12 classroom upgrades per year)

### Personnel

- Recommended FT staffing average = 1 person for every 10 fixed tech classrooms
  - OIT current staffing
    - 6 FT staff, including one electrical engineer; OIT would need one new engineer in last year of project (FY10).
    - 18 PT students to push mobile tech carts; OIT would shift to two (2) 20 hour/week GA's in FY09 & apply \$65k L&A to FT position in FY10.

### Operating\*

Assuming a 6-year, life-cycle replacement (including 3-year warranty for new equipment), OIT would annually refresh 1/6<sup>th</sup> of the 73 fixed tech classrooms starting in FY11. This averages to approx. 12 classrooms (10 small rooms; 2 lecture halls) per year or \$41,600:

- Projectors @ \$1,000 each (small room) or \$3,000 (lecture halls) = \$10,000 – 16,000
- Lamps @ \$400 for 2k hours (small room); 1k hours (lecture hall) = \$4,000 – 5,600
- Annual license for remote monitoring and control system = \$10,000
- Campus-wide loss from theft, accidents = \$10,000

As a result, phased-in maintenance can be determined by working backwards from full implementation in the start of FY11:

- FY11: 73 rooms = 100 percent (or \$41,600)
- FY10: 61 rooms = 84 percent (or \$34,944)
- FY09: 49 rooms = 67 percent (or \$27,872)
- FY08: 37 rooms = 50 percent (or \$20,800)

**Upgrade Scenario #1: Type IV (Mid-Range: room < 50 = \$4,550; room > 50 = \$6,550)**

	<b>FY08</b>	<b>FY09</b>	<b>FY10</b>	<b>FY11</b>	<b>TOTAL</b>
<b>Capital</b>					
<i>New Equipment Installs</i>	71,700	71,700	58,600	0	202,000
• <i>Related Consulting</i>	28,000	28,000	24,000	0	80,000
• <i>Related OIT Labor</i>	14,000	14,000	12,000	0	40,000
Sub Total	113,700	113,700	94,600	0	322,000
<b>Personnel</b>					
<i>FT Staff</i>	0	0	65,000	65,000	130,000
Sub Total	0	0	65,000	65,000	130,000
<b>Maintenance</b>					
<i>Operating*</i>	20,800	27,872	34,944	41,600	125,216
Less L&A Savings	-10,000	-20,000	0	0	-30,000
Sub Total	10,800	7,872	34,944	41,600	95,216
<b>Total</b>	<b>124,500</b>	<b>121,572</b>	<b>194,544</b>	<b>106,600</b>	<b>547,216</b>

**Upgrade Scenario #2: Type III (Basic Plus: room < 50 = \$4,036; room > 50 = \$6,036)**

	<b>FY08</b>	<b>FY09</b>	<b>FY10</b>	<b>FY11</b>	<b>TOTAL</b>
<b>Capital</b>					
<i>New Equipment Installs</i>	64,504	64,504	52,432	0	181,440
• <i>Related Consulting</i>	28,000	28,000	24,000	0	80,000
• <i>Related OIT Labor</i>	14,000	14,000	12,000	0	40,000
Sub Total	106,504	106,504	88,432	0	301,440
<b>Personnel</b>					
<i>FT Staff</i>	0	0	65,000	65,000	130,000
Sub Total	0	0	65,000	65,000	130,000
<b>Maintenance</b>					
<i>Operating*</i>	20,800	27,872	34,944	41,600	125,216
Less L&A Savings	-10,000	-20,000	0	0	-30,000
Sub Total	10,800	7,872	34,944	41,600	95,216
<b>Total</b>	<b>117,304</b>	<b>114,376</b>	<b>188,376</b>	<b>101,600</b>	<b>521,656</b>

**Issues & Opportunities**

- Upgrade Scenario #1 (stand-alone control units) can support a variety of faculty technology comfort levels, but costs on average \$500 more per classroom to install.
- Upgrade Scenario #2 (wall-mounted AV inputs only) is cheaper, but assumes more faculty can meet their DVD, CD and video playback needs with a laptop, and means to digitize videotape and photography in advance.
- Given "commodity" cost of most projectors, OIT favors replacement vs. repair for maintenance. However, costs could go up as standardization goes down if installation is spread over too many years.



- Some of the 33 current rooms with fixed presentation technology will need to be refreshed before we reach campus-wide implementation in FY11. Once all UMBC classrooms have fixed technology, OIT will need to refresh approx. 12 rooms per year.
- This plan assumes that any additional classrooms in new buildings will include costs for installation, labor and maintenance using similar replacement costs above.
- This plan does NOT currently address technology installation or maintenance of classrooms controlled by departments. OIT can either consult with departments on their fixed technology installation and maintenance needs and/or loan OIT's current mobile technology carts for permanent room assignment.
- This plan relies more (not less) on faculty having their own laptops. Over the years, some instructors have become reliant on a built-in computer in OIT's mobile technology carts (not just the data projector). But this initiative must be coordinated with the annual Computer Replacement Initiative (CRI) to make sure faculty have the equipment they need to complement a fixed presentation technology classroom infrastructure.
- Based on past installation efforts, OIT has learned that Facilities Management needs to be consulted early for advanced electrical preparation of the classroom sites. Access to classrooms is limited during regular semesters, so winter and summer breaks are the prime time for installation.
- According to the most recent EDUCAUSE annual campus computing survey, only 46 percent of classrooms have fixed presentation technology at doctoral institutions vs. 50 percent amongst all institutions ([http://www.educause.edu/1\\_2\\_Details/1325](http://www.educause.edu/1_2_Details/1325)). This may be because smaller, liberal arts colleges have fewer rooms to convert to fixed technology.
- While one may reasonably ask why UMBC should move toward 100 percent fixed classroom technology, consider the following: The EDUCAUSE data is nearly two years old now, and most schools of UMBC's size are trying to move toward 100 percent coverage because demand is growing. And like UMBC, other schools are finding the challenges of efficiently scheduling existing tech rooms (while supporting mobile technology deliveries) to be daunting. We are neither fish nor fowl (completely mobile or fixed) and we're paying for this inefficiency.
- Granted, AV Services will have to become more technically sophisticated (and staffed) to support all classrooms with fixed technology. But the AV staff may also be freer to promote, document and explain what UMBC classrooms have, to hopefully increase faculty adoption as well as efficient, effective use of the technology. The AV staff is intrigued by the idea of more formal, systematic training. They have a lot of expertise, and if they weren't so busy trying to herd students delivering mobile carts while also patching a growing inventory of fixed technology classrooms, they would have time (and desire) to share their knowledge.
- In addition to training, OIT would like to support faculty AND students by providing more "practice space" in existing training labs. Short of the touch panel screens found only in the lecture halls, OIT would like to equip ECS 025 (and maybe the International Media Center's "seminar room" in ACIV 219) to become fully operational training rooms that mirror the kind of technology faculty AND students will find throughout the campus (control units and/or AV wall inputs, document cameras and maybe the CPS in-class, audience response "clickers" Biology Professor Phil Sokolove and others use).

TYPE I (14) Basic: General Purpose classroom w/transparency projector, screen & net jack

TYPE II (24) Basic + TV/VCR

TYPE III (2) Low-range (LR): Basic + data/video projector, comp/video/audio inputs, controller

TYPE IV (25) Mid-range: LR + VCR/DVD player (**proposed minimum for all classrooms**)

TYPE V (8\*) Lecture Hall: Data/video projector, PC, comp/video/audio inputs/outputs, controller

TYPE VI (10) Computer Lab: Data/video projector, PC, comp inputs, controller, student PCs.

Note: # of Registrar-controlled rooms in ( ) parentheses.

\* LH 1 included in Type IV count due to installed technology

### Appendices/Tabs

A: All Classrooms

B: Registrar-controlled Classrooms

C: Classrooms by Type

D: Classroom Types Per "Owner"

E: Cost to Upgrade a Classroom to Type III (Low-Range) or Type IV (Mid-Range)

F: Total Upgrade Project Costs



Owner	Building	Room	Capacity	Type	LastUpdate	Feature	count
Registrar	ACIV	6	45	II			1
Registrar	ACIV	7	15	II			1
Registrar	ACIV	10	15	II			1
Registrar	ACIV	11	45	II			1
Registrar	ACIV	13	50	IV	2006		1
Registrar	ACIV	14	50	IV	2006		1
Registrar	ACIV	15	50	IV	2006		1
EDUC	ACIV	1st		SP		curriculum lab	1
Registrar	ACIV	108	25	II			1
EDUC	ACIV	121	30	II			1
Registrar	ACIV	145	65	II			1
Registrar	ACIV	150	65	II			1
Registrar	ACIV	151	65	II			1
Registrar	ACIV	207	25	IV	2006		1
EDUC	ACIV	208		II			1
Registrar	ACIV	210	30	II			1
OIT	ACIV	219	25	SP		PC LAB - Language	1
Registrar	ACIV	305	40	II			1
OIT	ACIV	219E	25	IV		PC	1
EDUC	ACIV	422		III	2005	seminar	1
EDUC	ACIV	426		II		Conference	1
HIST	ADMN	711	20	IV	2006		1
HIST	ADMN	729	20	I			1
PRES	ADMN	1001	15	I			1
PRES	ADMN	1013	15	IV	2006		1
BIOL	BS	4		IV	2002		1
Registrar	BS	120	72	IV			1
CHEM	CHEM	120		IV	2004	PC	1
CHEM	CHEM	256	0	IV	2004		1
CHEM	CHEM	272	0	IV	2004		1
OIT	ENG	21		VI		no projector	1
OIT	ENG	22		SP		distance learning	1
OIT	ENG	23		SP		distance learning	1
OIT	ENG	25		SP		Faculty/staff PC training	1
OIT	ENG	104		VI	2006		1
OIT	ENG	122		VI	2006		1
OIT	ENG	333		VI	2006		1
OIT	ENG	336		VI	2006	MAC	1
OIT	ENG	104A		VI	2006		1
OIT	ENG	122A		VI	2006		1
OIT	ENG	5B		VI		primary user ART	1
OIT	FA	1		VI	1999	primary user ENGL	1
OIT	FA	2		VI	1999	primary user ENGL	1
Registrar	FA	6	60	II		2 SLIDE P	1
MUSI	FA	11	60	II			1
Registrar	FA	15	55	II			1
Registrar	FA	18	55	II		2 SLIDE Proj	1
MUSI	FA	118		SP		Music recital hall	1
Registrar	FA	215	81	IV		2 SLIDE Proj	1
Registrar	FA	306	141	IV		2 SLIDE Proj	1
DANC	FA	317		SP		Dance studio	1
THTR	FA	318		SP		Theater practice room	1
MUSI	FA	331		SP		Music instruction	1
ENGL	FA	440		II			1
ANCS	FA	450		II			1
MUSI	FA	508		SP		Music recording studio	1
HONR	FA	529		II			1

Owner	Building	Room	Capacity	Type	LastUpdate	Feature	count
Registrar	FA	530	24	II			1
CSEE	ITE	210		VI	2003	CompLab	1
Registrar	ITE	227	55	IV	2003	PC	1
Registrar	ITE	229	55	IV	2003	PC	1
Registrar	ITE	231	55	IV	2003	PC	1
Registrar	ITE	233	55	IV	2003	PC	1
Registrar	ITE	237	30	IV	2003		1
ENGR	ITE	238		VI	2003	CompLab	1
Registrar	ITE	239	30	IV	2003		1
CSEE	ITE	240		VI	2003	CompLab	1
Registrar	ITE	241	30	IV	2003		1
COE	ITE	243		VI	2003	CompLab	1
CSEE	ITE	375		VI	2003	CompLab	1
IS	ITE	406	30	III	2003	PC	1
PRES	ITE	456		IV	2003		1
IS	ITE	458		VI	2003	CompLab	1
IS	ITE	459	40	IV	2003	Seminar	1
IS	ITE	467		VI	2003	CompLab	1
IS	ITE	468		VI	2003	CompLab	1
IS	ITE	469		VI	2003	CompLab	1
IRC	ITE	101A		IV	2003		1
IRC	ITE	109A		IV	2003		1
IRC	ITE	110c		IV	2003		1
IRC	ITE	110c2		IV	2003		1
COE	ITE	217B		IV	2003	Seminar	1
COE	ITE	325B	25	IV	2003	Conference	1
IS	ITE	404A	18	III	2003		1
Registrar	LH	1	211	IV	2001		1
Registrar	LH	2	349	V	2004		1
Registrar	LH	3	196	V	2006		1
Registrar	LH	4	170	V	1999		1
Registrar	LH	5	294	V	2005		1
Registrar	LH	6	134	V	2004		1
Registrar	LH	7	252	V	2003		1
Registrar	LH	8	125	V	2003		1
Registrar	LH	9	138	V	2004		1
OIT	LIB	37		VI			1
Registrar	MP	8	36	II			1
Registrar	MP	10	36	II			1
Registrar	MP	12	36	II			1
Registrar	MP	101	64	II			1
Registrar	MP	102	32	II			1
Registrar	MP	103	64	II			1
Registrar	MP	104	64	II			1
Registrar	MP	105	32	II			1
Registrar	MP	106	64	II			1
PSYC	MP	322		III		Conference	1
MATH	MP	401		I			1
Registrar	MP	012A	18	II			1
Registrar	PHYS	107	24	III	1999	VHS	1
Registrar	PHYS	201	38	III	2001		1
PHYS	PHYS	401	44	III	1999	VHS	1
SHRV	PUP	107		IV	2004		1
SOCY	PUP	203		IV	2004		1
SOCY	PUP	204		IV	2004		1
Registrar	PUP	206	50	IV	2004	PC	1
Registrar	PUP	208	50	IV	2004	PC	1

[illegible]



Owner	Building	Room	Capacity	Type	LastUpdate	Feature	\$Upgrade to TypeIV(internal)	\$Upgrade to Type IV(external)
Registrar	SH	3	72 I				6,550	\$8,550
Registrar	SH	107	36 I				4,550	\$6,550
Registrar	SH	108	40 I				4,550	\$6,550
Registrar	SH	109	40 I				4,550	\$6,550
Registrar	SH	110	40 I				4,550	\$6,550
Registrar	SH	111	40 I				4,550	\$6,550
Registrar	SH	112	45 I				4,550	\$6,550
Registrar	SH	113	40 I				4,550	\$6,550
Registrar	SH	114	40 I				4,550	\$6,550
Registrar	SH	207	36 I				4,550	\$6,550
Registrar	SH	208	40 I				4,550	\$6,550
Registrar	SH	209	40 I				4,550	\$6,550
Registrar	SH	210	16 I				4,550	\$6,550
Registrar	SH	409	72 I				4,550	\$6,550
				I Count	14			
Registrar	ACIV	6	45 II				4,550	\$6,550
Registrar	ACIV	7	15 II				4,550	\$6,550
Registrar	ACIV	10	15 II				4,550	\$6,550
Registrar	ACIV	11	45 II				4,550	\$6,550
Registrar	ACIV	108	25 II				4,550	\$6,550
Registrar	ACIV	145	65 II				6,550	\$8,550
Registrar	ACIV	150	65 II				6,550	\$8,550
Registrar	ACIV	151	65 II				6,550	\$8,550
Registrar	ACIV	210	30 II				4,550	\$6,550
Registrar	ACIV	305	40 II				4,550	\$6,550
Registrar	FA	6	60 II			2 SLIDE P	4,550	\$6,550
Registrar	FA	15	55 II				4,550	\$6,550
Registrar	FA	18	55 II			2 SLIDE Proj	4,550	\$6,550
Registrar	FA	530	24 II				4,550	\$6,550
Registrar	MP	8	36 II				4,550	\$6,550
Registrar	MP	10	36 II				4,550	\$6,550
Registrar	MP	12	36 II				4,550	\$6,550
Registrar	MP	101	64 II				6,550	\$8,550
Registrar	MP	102	32 II				4,550	\$6,550
Registrar	MP	103	64 II				6,550	\$8,550
Registrar	MP	104	64 II				6,550	\$8,550
Registrar	MP	105	32 II				4,550	\$6,550
Registrar	MP	106	64 II				6,550	\$8,550
Registrar	MP	012A	18 II				6,550	\$8,550
				II Count	24			
Registrar	PHYS	107	24 III			1999 VHS	\$2,452	\$258,354
Registrar	PHYS	201	40 III			2001	\$3,234	
							Not recommended	Becoming office space

Owner	Building	Room	Capacity III Count	Type	LastUpdate	Feature	\$Upgrade to TypeIV(internal)	\$Upgrade to Type IV(external)
Locations below this line have been installed to at least Level IV, some need projector replacement sooner than others								
Registrar	ACIV	13	55 IV		2006			
Registrar	ACIV	14	55 IV		2006			
Registrar	ACIV	15	55 IV		2006			
Registrar	ACIV	207	30 IV		2006			
Registrar	BS	120	80 IV		2006			
Registrar	FA	215	100 IV		2000 2 SLIDE Proj			
Registrar	FA	306	141 IV		2000 2 SLIDE Proj			
Registrar	ITE	227	45 IV		2003 PC			
Registrar	ITE	229	20 IV		2003 PC			
Registrar	ITE	231	40 IV		2003 PC			
Registrar	ITE	233	25 IV		2003 PC			
Registrar	ITE	237	12 IV		2003			
Registrar	ITE	239	25 IV		2003			
Registrar	ITE	241	40 IV		2003			
Registrar	LH	1	183 IV		2001			
Registrar	PUP	206	50 IV		2004 PC			
Registrar	PUP	208	50 IV		2004 PC			
Registrar	SH	101	80 IV		2005			
Registrar	SH	103	80 IV		2005			
Registrar	SH	105	80 IV		2005			
Registrar	SH	202	40 IV		2006			
Registrar	SH	203	40 IV		2006			
Registrar	SH	204	40 IV		2006			
Registrar	SH	205	45 IV		2006			
Registrar	SH	206	45 IV		2006			
			IV Count	25				
Registrar	LH	2	342 V		2004			
Registrar	LH	3	200 V		2006			
Registrar	LH	4	201 V		1999			
Registrar	LH	5	287 V		2005			
Registrar	LH	6	140 V		2004			
Registrar	LH	7	250 V		2003			
Registrar	LH	8	125 V		2003			
Registrar	LH	9	125 V		2004			
			V Count	8				
			Grand Cou	73				

\$5,687

Owner	Building	Room	Capacity	Type	LastUpdate	Feature
HIST	ADMN	729	20	I		
MATH	MP	401		I		
PRES	ADMN	1001	15	I		
PSYC	SH	406	40	I		
PSYC	SH	414	50	I		
Registrar	SH	3	72	I		
Registrar	SH	107	36	I		
Registrar	SH	108	40	I		
Registrar	SH	109	40	I		
Registrar	SH	110	40	I		
Registrar	SH	111	40	I		
Registrar	SH	112	45	I		
Registrar	SH	113	40	I		
Registrar	SH	114	40	I		
Registrar	SH	207	36	I		
Registrar	SH	208	40	I		
Registrar	SH	209	40	I		
Registrar	SH	210	16	I		
Registrar	SH	409	72	I		
			<b>I Count</b>		<b>19</b>	
ANCS	FA	450		II		
EDUC	ACIV	121	30	II		
EDUC	ACIV	208		II		
EDUC	ACIV	426		II		Conference
ENGL	FA	440		II		
HONR	FA	529		II		
MUSI	FA	11	60	II		
Registrar	ACIV	6	45	II		
Registrar	ACIV	7	15	II		
Registrar	ACIV	10	15	II		
Registrar	ACIV	11	45	II		
Registrar	ACIV	108	25	II		
Registrar	ACIV	145	65	II		
Registrar	ACIV	150	65	II		
Registrar	ACIV	151	65	II		
Registrar	ACIV	210	30	II		
Registrar	ACIV	305	40	II		
Registrar	FA	6	60	II		2 SLIDE P
Registrar	FA	15	55	II		
Registrar	FA	18	55	II		2 SLIDE Proj
Registrar	FA	530	24	II		
Registrar	MP	8	36	II		
Registrar	MP	10	36	II		
Registrar	MP	12	36	II		
Registrar	MP	101	64	II		
Registrar	MP	102	32	II		
Registrar	MP	103	64	II		
Registrar	MP	104	64	II		
Registrar	MP	105	32	II		
Registrar	MP	106	64	II		
Registrar	MP	012A	18	II		
			<b>II Count</b>		<b>31</b>	



Owner	Building	Room	Capacity	Type	LastUpdate	Feature
EDUC	ACIV	422		III	2005	seminar
IS	ITE	406	30	III	2003	PC
IS	ITE	404A	18	III	2003	
PHYS	PHYS	401	44	III	1999	VHS
PSYC	MP	322		III		Conference
Registrar	PHYS	107	24	III	1999	VHS
Registrar	PHYS	201	38	III	2001	
III Count				7		
BIOL	BS	4		IV	2002	
CHEM	CHEM	120		IV	2004	PC
CHEM	CHEM	256	0	IV	2004	
CHEM	CHEM	272	0	IV	2004	
COE	ITE	217B		IV	2003	Seminar
COE	ITE	325B	25	IV	2003	Conference
ECON	PUP	367	25	IV	2004	
HIST	ADMN	711	20	IV	2006	
IRC	ITE	101A		IV	2003	
IRC	ITE	109A		IV	2003	
IRC	ITE	110c		IV	2003	
IRC	ITE	110c2		IV	2003	
IS	ITE	459	40	IV	2003	Seminar
MIPAR	PUP	451	20	IV	2004	
OIT	ACIV	219E	25	IV		PC
POLICYSCI	PUP	438	25	IV	2004	
POLISCI	PUP	354		IV	2004	
PRES	ADMN	1013	15	IV	2006	
PRES	ITE	456		IV	2003	
Registrar	ACIV	13	50	IV	2006	
Registrar	ACIV	14	50	IV	2006	
Registrar	ACIV	15	50	IV	2006	
Registrar	ACIV	207	25	IV	2006	
Registrar	BS	120	72	IV		
Registrar	FA	215	81	IV		2 SLIDE Proj
Registrar	FA	306	141	IV		2 SLIDE Proj
Registrar	ITE	227	55	IV	2003	PC
Registrar	ITE	229	55	IV	2003	PC
Registrar	ITE	231	55	IV	2003	PC
Registrar	ITE	233	55	IV	2003	PC
Registrar	ITE	237	30	IV	2003	
Registrar	ITE	239	30	IV	2003	
Registrar	ITE	241	30	IV	2003	
Registrar	LH	1	211	IV	2001	
Registrar	PUP	206	50	IV	2004	PC
Registrar	PUP	208	50	IV	2004	PC
Registrar	SH	101	80	IV	2005	
Registrar	SH	103	80	IV	2005	
Registrar	SH	105	80	IV	2005	
Registrar	SH	202	40	IV	2006	
Registrar	SH	203	40	IV	2006	
Registrar	SH	204	40	IV	2006	
Registrar	SH	205	40	IV	2006	
Registrar	SH	206	40	IV	2006	

Owner	Building	Room	Capacity	Type	LastUpdate	Feature
SHRV	PUP	107		IV	2004	
SOCY	PUP	203		IV	2004	
SOCY	PUP	204		IV	2004	
IV Count				47		
DANC	FA	317		SP		Dance studio
EDUC	ACIV	1st		SP		curriculum lab
MUSI	FA	118		SP		Music recital hall
MUSI	FA	331		SP		Music instruction
MUSI	FA	508		SP		Music recording studio
OIT	ACIV	219	25	SP		PC LAB - Language
OIT	ENG	22		SP		distance learning
OIT	ENG	23		SP		distance learning
OIT	ENG	25		SP		Faculty/staff PC training
THTR	FA	318		SP		Theater practice room
SP Count				10		
Registrar	LH	2	349 V		2004	
Registrar	LH	3	196 V		2006	
Registrar	LH	4	170 V		1999	
Registrar	LH	5	294 V		2005	
Registrar	LH	6	134 V		2004	
Registrar	LH	7	252 V		2003	
Registrar	LH	8	125 V		2003	
Registrar	LH	9	138 V		2004	
V Count				8		
COE	ITE	243		VI	2003	CompLab
CSEE	ITE	210		VI	2003	CompLab
CSEE	ITE	240		VI	2003	CompLab
CSEE	ITE	375		VI	2003	CompLab
ECON	PUP	360		VI	2004	CompLab
ENGR	ITE	238		VI	2003	CompLab
IS	ITE	458		VI	2003	CompLab
IS	ITE	467		VI	2003	CompLab
IS	ITE	468		VI	2003	CompLab
IS	ITE	469		VI	2003	CompLab
OIT	ENG	21		VI		no projector
OIT	ENG	104		VI	2006	
OIT	ENG	122		VI	2006	
OIT	ENG	333		VI	2006	
OIT	ENG	336		VI	2006	MAC
OIT	ENG	104A		VI	2006	
OIT	ENG	122A		VI	2006	
OIT	ENG	5B		VI		primary user ART
OIT	FA	1		VI	1999	primary user ENGL
OIT	FA	2		VI	1999	primary user ENGL
OIT	LIB	37		VI		
POLICYSCI	PUP	440		VI	2004	CompLab
VI Count				22		
Grand Cou				144		

Summary	Owner	Building	Room	Capacity	Type	LastUpdate	Feature
1 Type II	<b>ANCS</b>	FA	450		II		
1 Type IV	<b>BIOL</b>	BS	4		IV	2002	
3 Type IV	<b>CHEM</b>	CHEM	120		IV	2004	PC
	CHEM	CHEM	256	0	IV	2004	
	CHEM	CHEM	272	0	IV	2004	
2 Type IV	<b>COE</b>	ITE	217B		IV	2003	Seminar
5 Type VI	COE	ITE	325B	25	IV	2003	Conference
	COE	ITE	243		VI	2003	CompLab
	ENGR	ITE	238		VI	2003	CompLab
	CSEE	ITE	210		VI	2003	CompLab
	CSEE	ITE	240		VI	2003	CompLab
	CSEE	ITE	375		VI	2003	CompLab
1 Type SP	<b>DANC</b>	FA	317		SP		Dance studio
1 Type IV	<b>ECON</b>	PUP	367	25	IV	2004	
1 Type VI	ECON	PUP	360		VI	2004	CompLab
3 Type II	<b>EDUC</b>	ACIV	121	30	II		
1 Type III	EDUC	ACIV	208		II		
1 Type SP	EDUC	ACIV	426		II		conference
	EDUC	ACIV	422		III		seminar
							curriculum
	EDUC	ACIV	1st		SP		ab
1 Type II	<b>ENGL</b>	FA	440		II		
1 Type I	<b>HIST</b>	ADMN	729	20	I		
1 Type IV	HIST	ADMN	711	20	IV	2006	
1 Type II	<b>HONR</b>	FA	529		II		
4 Type IV	<b>IRC</b>	ITE	101A		IV	2003	
	IRC	ITE	109A		IV	2003	
	IRC	ITE	110c		IV	2003	
	IRC	ITE	110c2		IV	2003	
2 Type III	<b>IS</b>	ITE	406	30	III	2003	PC
1 Type IV	IS	ITE	404A	18	III	2003	
4 Type VI	IS	ITE	459	40	IV	2003	Seminar
	IS	ITE	458		VI	2003	CompLab
	IS	ITE	467		VI	2003	CompLab
	IS	ITE	468		VI	2003	CompLab
	IS	ITE	469		VI	2003	CompLab
1 Type I	<b>MATH</b>	MP	401		I		
1 Type IV	<b>MIPAR</b>	PUP	451	20	IV	2004	
1 Type II	<b>MUSI</b>	FA	11	60	II		
							Music recital
3 Type SP	MUSI	FA	118		SP		hall
	MUSI	FA	331		SP		Music instruction
							Music recording
	MUSI	FA	508		SP		studio
1 Type III	<b>OIT</b>	ACIV	219E	25	IV		PC
1 Type IV	OIT	ENG	21		VI		no projector
11 Type VI	OIT	ENG	104		VI	2006	
3 Type SP	OIT	ENG	122		VI	2006	
	OIT	ENG	333		VI	2006	
	OIT	ENG	336		VI	2006	MAC



Summary	Owner	Building	Room	Capacity	Type	LastUpdate	Feature
	OIT	ENG	104A		VI	2006	
	OIT	ENG	122A		VI	2006	
	OIT	ENG	5B		VI		primary user
	OIT	FA	1		VI	1999	ART
	OIT	FA	2		VI	1999	primary user
	OIT	LIB	37		VI		ENGL
	OIT	ENG	22		SP		primary user
	OIT	ENG	23		SP		ENGL
	OIT	ENG	25		SP		distance
	OIT	ACIV	219	25	SP		learning
1 Type III	<b>PHYS</b>	PHYS	401	44	III	1999	learning
1 Type IV	<b>POLICYSCI</b>	PUP	438	25	IV	2004	distance
1 Type VI	<b>POLICYSCI</b>	PUP	440		VI	2004	learning
1 Type IV	<b>POLISCI</b>	PUP	354		IV	2004	Faculty/staff
1 Type I	<b>PRES</b>	ADMN	1001	15	I		Pctraining
2 Type IV	<b>PRES</b>	ADMN	1013	15	IV	2006	PC LAB -
	<b>PRES</b>	ITE	456		IV	2003	Language
2 Type I	<b>PSYC</b>	SH	406	40	I		
1 Type III	<b>PSYC</b>	SH	414	50	I		
	<b>PSYC</b>	MP	322		III		Conference
1 Type IV	<b>SHRV</b>	PUP	107		IV	2004	
2 Type IV	<b>SOCY</b>	PUP	203		IV	2004	
	<b>SOCY</b>	PUP	204		IV	2004	
1 Type SP	<b>THTR</b>	FA	318		SP		Theater
							practice
							oom

## From Type (I or II) to Type IV - small room

System ID: 461 System Name: System 122 IP CM		Description		Part#		MSRP		Extended Est. Street Pl Est.		<= 50 seats		50-100 seat	
Qty	Model	Description		Part#		MSRP		Extended Est. Street Pl Est.		<= 50 seats		50-100 seat	
1	SI 3CT LP	Full-Range Ceiling Speaker with 4" Low Profile Back Can and Transformer: Pair		42-103-03		\$280.00		\$280.00		\$182.00		\$182.00	
1	MLC 104 IP Plus	MediaLink™ Controller with IP Link@: Black		60-818-02		\$1,090.00		\$1,090.00		\$708.50		\$708.50	
1	MPA 122	22 Watt Two Channel Integrated Mini Power Amplifier		60-668-01		\$300.00		\$300.00		\$195.00		\$195.00	
1	WPB 202	Two-Gang Wall Plate with Computer, S-Video, Composite Video, and Stereo Audio Connectors; RJ 45 (CAT 6) Connectors: White		60-783-21		\$116.00		\$116.00		\$75.40		\$75.40	
1	SPK 18 cable-25'	Pre-cut Speaker Cable: 25' (7.6 m)		26-627-25		\$20.00		\$20.00		\$13.00		\$13.00	
1	PCM 240	Projector Drop Ceiling Mount: 1.5" NPT Adapter Plate, White		60-772-03		\$150.00		\$150.00		\$97.50		\$97.50	
1	UPB 25	Universal Projector Mounting Bracket: White		60-773-03		\$250.00		\$250.00		\$162.50		\$162.50	
1	PMP 6	Projector Mount Poles: 6" (15 cm), 1.5 NPT, White		70-511-13		\$32.00		\$32.00		\$20.80		\$20.80	
1	MLC IR/RS-232-35'	Projector Communication Cable - Plenum: One Projector Communication Cable Power, Switcher Communications and MPA Volume Control Cable - Plenum: One Power, Switcher, MPA, 35' (10.6 m)		26-621-35		\$66.00		\$66.00		\$42.90		\$42.90	
1	MLC PW/RS-232/VC-35'	Modular 2-Gang Mud Ring: White		26-626-35		\$38.00		\$38.00		\$24.70		\$24.70	
1	MR 200	Two Pre-terminated Cables for WPB 202 Wall Plate to Display or Switcher - Plenum: 35' (10.6 m)		70-519-23		\$22.00		\$22.00		\$14.30		\$14.30	
1	WPBC 202-35'	Low Profile Two-Product Projector Mounting Kit: Black		42-095-35		\$350.00		\$350.00		\$227.50		\$227.50	
1	PMK 250	3.5 mm Mini Stereo Male to 2 RCA Male, 6' (1.8 m)		70-526-02		\$70.00		\$70.00		\$45.50		\$45.50	
1	IN9107	white projector enclosure		IN9107		\$10.00		\$10.00		\$6.50		\$6.50	
1	security device	mid-grade DVD/VHS deck								\$200.00		\$200.00	
1	DVD/VHS deck	Middle Atlantic Sectional Rack Mount								\$130.00		\$130.00	
1	DWR-10-17	Middle Atlantic Rack Mount utility drawer								\$205.00		\$205.00	
1	UD2	Middle Atlantic Clamping Rackmount for DVD/VHS								\$74.00		\$74.00	
1		blank rack panels								\$60.00		\$60.00	
3		Basic data projector								\$45.00		\$45.00	
1	Data Projector	internal UMBC - network install costs								\$1,000		\$3,000	
1	Network	internal UMBC - electrical install costs								\$250		\$250	
1	Electric	miscellaneous parts								\$700		\$700	
1	Miscellaneous	AV Services - install up to 10 projectors/summer								\$70		\$70	
1	install	External vendor - projector, speakers, wiring								\$4,550		\$6,550	
subtotal										\$2,000		\$2,000	
Total										\$6,550.10		\$8,550.10	

**Upgrade Scenario #1: Type IV (Mid-Range: room < 50 = \$4,550; room > 50 = \$6,550)**

	<b>FY08</b>	<b>FY09</b>	<b>FY10</b>	<b>FY11</b>	<b>TOTAL</b>
<b>Capital</b>					
<i>New Equipment Installs</i>	71,700	71,700	58,600	0	202,000
· <i>Related Consulting</i>	28,000	28,000	24,000	0	80,000
· <i>Related OIT Labor</i>	14,000	14,000	12,000	0	40,000
Sub Total	113,700	113,700	94,600	0	322,000
<b>Personnel</b>					
<i>FT Staff</i>	0	0	65,000	65,000	130,000
Sub Total	0	0	65,000	65,000	130,000
<b>Maintenance</b>					
<i>Operating*</i>	20,800	27,872	34,944	41,600	125,216
Less L&A Savings	-10,000	-20,000	0	0	-30,000
Sub Total	10,800	7,872	34,944	41,600	95,216
<b>Total</b>	<b>124,500</b>	<b>121,572</b>	<b>194,544</b>	<b>106,600</b>	<b>547,216</b>

**Upgrade Scenario #2: Type III (Basic Plus: room < 50 = \$4,036; room > 50 = \$6,036)**

	<b>FY08</b>	<b>FY09</b>	<b>FY10</b>	<b>FY11</b>	<b>TOTAL</b>
<b>Capital</b>					
<i>New Equipment Installs</i>	64,504	64,504	52,432	0	181,440
· <i>Related Consulting</i>	28,000	28,000	24,000	0	80,000
· <i>Related OIT Labor</i>	14,000	14,000	12,000	0	40,000
Sub Total	106,504	106,504	88,432	0	301,440
<b>Personnel</b>					
<i>FT Staff</i>	0	0	65,000	65,000	130,000
Sub Total	0	0	65,000	65,000	130,000
<b>Maintenance</b>					
<i>Operating*</i>	20,800	27,872	34,944	41,600	125,216
Less L&A Savings	-10,000	-20,000	0	0	-30,000
Sub Total	10,800	7,872	34,944	41,600	95,216
<b>Total</b>	<b>117,304</b>	<b>114,376</b>	<b>188,376</b>	<b>101,600</b>	<b>521,656</b>