

LMC Technology Renovation Plan

Below are descriptions for Technology Renovation Projects at Los Medanos College's Pittsburg and Brentwood locations. Each project is designed to replace all computers (labs, instructor stations, faculty, staff, etc.) in an area. Having all computers in an area of the same "vintage" will enable instructors to use computers that have the same capability as the instructional computers when developing curriculum that will be supported by the student labs and taught using the instructor stations in Smart classrooms.

Computer counts, cost and time estimates are all based on the best information currently available. Renovating the equipment in Smart classrooms (other than the computer) is not included in these projects since the requirements and functions of the equipment used for these classrooms is being re-evaluated. Printers are also not included in the estimates since printing resources are also being re-evaluated.

In general, areas with the oldest computers are scheduled to occur first. The five projects can be used as a template for upgrading computers on a 5-year replacement cycle. If a 5-year cycle is implemented, it is likely that a new operating system will be installed in each area with each cycle. This being the case, a new image will need to be created, tested and deployed for each location during each cycle. The estimated amount of staff time required for each project will also be required during the next replacement cycle.

Time cost and staffing estimates for the replacement of each area are given. The first (and larger) estimate is for development, testing and deployment of the image. The second estimate is for the unpacking and placing of the actual hardware. While the placement of the hardware can be performed by lower skilled workers such as student assistants, the creation and testing of the images requires a higher level of expertise. The creation of the images should not be outsourced.

In some instances, the same image will be used in multiple areas. In other instances, multiple images will be required for a single area. The time estimates indicate that there are significant amounts of staff time needed to facilitate the renovation projects.

These projects do not include either instructional or non-instructional computers that will be replaced during the Student Services Remodel Project (Assessment Center, DSPS, Financial Aid student lab, etc.). Also not included are estimates to upgrade non-computer equipment in instructor stations or the back-end server infrastructure that supports both instructional and non-instructional computing across the campus.

Important notes:

- **All instructional computer replacements must be scheduled between semesters. Modifying a lab any time after the start of the semester is disruptive to students and instructors.**
- **Current IT&S staffing levels are not sufficient to implement these projects as they will require significant staff resources on a continued basis. Each project will require between .2 and .3 FTE if only one project is implemented per year. If multiple projects are implemented in a single year, the requirements are cumulative.**
- **All technology-related purchases must go through an established approval process that involves department chairs, deans and IT&S.**

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- Sufficient software licenses are required for all instructional computers. Licenses for software must be purchased by IT&S and all licensing information and installation media retained by IT&S.
- On-going funding for hardware, software and staffing must be identified to implement the continuous refresh cycle.
- In all cases, all computers replaced by these projects will be surrendered to the IT&S Department for re-purposing, used for replacement parts or disposed of as surplus or e-waste. This will be the case regardless of original funding source for the computers.

The following is a summary table for all of the projects:

Project	Number of Instructional Computers	Approximate Cost of Instructional Computers	Person-Hours Required for Installing Instructional Computers	Number of Non-Instructional Computers	Approximate Cost of Non-Instructional Computers	Person-Hours Required for Installing Non-Instructional Computers
1	153	\$112,000	379	71	\$53,000	170
2	164	\$120,000	314	49	\$44,000	123
3	148	\$109,000	413	50	\$37,000	125
4	135	\$99,000	417	48	\$43,000	120
5	159	\$154,000	492	48	\$43,000	120
Totals	759	\$594,000	2015	266	\$220,000	658

Project 1 – Math Building/ESL Lab/VocTech/Student Life/Administrative Services

The Math Building has three rooms with over 30 computer workstations and five additional classrooms with Smart stations for instruction. In addition, there are 2 computers in a testing area (MA-106) that are identical to those in the student lab in the next room (MA-107). Currently all instructional computers in the Math Building have essentially the same software configuration with the exceptions being an additional calculator emulator installed on the instructor computers on the podium computers and NetSupport installed on the instructor computers in MA-202 and 203. There are also 15 student computers in the ESL Lab in CC2-281. The table, below lists the rooms and computer counts for instructional computers in these areas. The estimated cost for replacing the computers (without monitors) is approximately \$112,000.

Replacing the computers in the ESL Lab will require purchasing software to support the ESL Program since the currently installed software does not run on operating systems newer than Windows XP. A cost estimate for the ESL Lab software is not available at this time and is not included in the cost estimate for this project.

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Room(s)	# Instructional Computers	Estimated Person-Hours Required for Image Development and Deployment	Estimated Person-Hours for Hardware Installation
MA-106 (testing)	2	61	1
MA-107 (student lab)	35	16 ¹	5
MA-202 (classroom)	41	16 ¹	5
MA-203 (student lab/classroom)	41	16 ¹	5
MA-204 through MA-208 Instructor Stations	5	8 ¹	1
ESL Lab (student lab)	15	80	2
VocTech	10	100 ²	2
MU3-704, 705, 706	4	60	1
Student Life	4	4 ¹	1
Total	157	361	23

¹ Deployment using image developed for MA-106

² Multiple images are required in this area

The non-instructional computers in the Math Building are primarily for faculty. The faculty housed in the Math Building currently include members of the Math, Behavioral Science and Speech. In addition, there are two offices for classified staff and the Umoja Scholars office. There are a total of 30 non-instructional computers in the Math Building. In the VocTech area, there are five non-instructional computers. In Music, there are five non-instructional computers. In Student Life, there are 3 non-instructional computers. For the administrative areas, there are 6 computers in Business Services, 5 in Central Services, 16 in Buildings & Grounds/Receiving/Facilities and one in Custodial.

Replacing these 71 computers (without monitors) will cost approximately \$53,000. To set up and configure these 71 computers will require approximately 170 person-hours.

In addition, there are four to five additional computers that are used for SARS check-in stations and print release stations that are connected to the Pay-for-print system. These computers can be updated with re-purposed computers.

Project 2 – Library/CC2 Instructor Stations/PTEC/PE

Like the Math Building, the Library has three rooms with over 30 computers. The table, below lists the rooms and computer counts for instructional computers in the Library Building. The rooms with an asterisk are currently used as classrooms for the Business Department. It is expected that, by the time these computers are scheduled to be installed, these rooms will be again utilized for Library purposes.

There are seven instructor podiums with computers in the 2nd floor of the College Complex and one in MU-710. The instructor station computers in CC2-228 and 229 will be replaced at the time that the ETEC computers are replaced.

PTEC has a single computer lab with 31 workstations.

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The cost estimate for replacing the computers (without monitors) in this project is approximately \$120,000.

Room(s)	# Instructional Computers	Estimated Person-Hours Required for Image Development and Deployment	Estimated Person-Hours for Hardware Installation
L-124 (Commons)	51	72	9
L-200 (student lab)	9	4 ³	1
L-213 (classroom)*	33	8 ³	5
L-214 (student lab/classroom)*	31	8 ³	4
Instructor Stations in CC1-120, CC2-212,214,221,223,226,238,296 & MU3-710	9	68	8
CC3-319 (PTEC)	31	68	4
Total	164	288	26

³ The image created for L-124 will be deployed to these rooms.

The non-instructional computers in the Library are for librarians, library support staff and IT&S. There is also one additional computer in the podium in the Community Room (L-109). There are a total of 23 non-instructional computers in the Library.

The 2nd floor of the College Complex houses instructors for World Languages, Social Sciences, ESL, Philosophy, ETEC, Travel, PTEC (3rd floor non-instructional computers included here), and Business (after completion of SS remodel). The English non-instructional computers will be addressed in project 3. In the indicated areas, there are 16 non-instructional computers. There are 10 non-instructional computers in the PE area.

Replacing the 49 non-instructional computers (without monitors) in the areas noted will cost approximately \$44,000. To set up and configure the non-instructional computers in this area will require approximately 123 person-hours.

In addition, there are several computers in the Library that are used for print release stations that are connected to the Pay-for-print system. These computers can be updated with re-purposed computers.

Project 3 – English/Science

Project 3 includes the English Lab (33 computers) and the Science Building labs and classrooms. The Science Building contains two labs – Life Sciences and MESA. Also in the Science Building is a “portable” lab for Physical Sciences consisting of 23 laptops. All of the images in the Science Building are more complex than most and require additional time to create and test. The approximate cost for purchasing replacement computers for these areas is \$109,000.

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Room(s)	# Instructional Computers	Estimated Person-Hours Required for Image Development and Deployment	Estimated Person-Hours for Hardware Installation
CC2-281 English Lab	33	68	5
Instructor Stations in SC-102, 104, 126, 127, 129, 130, 131, 132, 133, 136, 225, 226, 227, 228, 229, 230, 234, 235, 237	19	68	12
SC-103	40	70	6
SC-202	25	88	4
Physical Science Laptops	23	88	4
Total	148	382	31

There are 13 non-instructional computers in the English area and 37 non-instructional computers in the Science Building. Between the two areas, there are 50 non-instructional computers. It is estimated that these computers will cost approximately \$37,000 and require 125 person-hours to install.

Like most locations, there are computers to support SARS check-in and the Pay-for-print system that will be replaced using re-purposed computers.

Project 4 –Brentwood/Business/Honors/Child Development

Project four focuses on replacing instructional computers at the Brentwood Center, the Business Department classrooms and Honors. In Brentwood, there are two student labs with a total of 41 computers and seven classrooms with instructor podiums. The Business Department in Pittsburg has two classrooms with a total of 74 computers and an additional classroom with an instructor podium. Honors has eight student workstations.

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Room(s)	# Instructional Computers	Estimated Person-Hours Required for Image Development and Deployment	Estimated Person-Hours for Hardware Installation
Instructor stations in BWC-3, 6, 10,11,14,15,16	7	64	5
BWC-3	3	4 ⁴	1
BWC-9 (student lab)	33	92	5
BWC-15 (student lab)	8	64	2
CC2-232 Business Classroom	41	92	6
CC2-235 Business Classroom	33	8 ⁵	5
Instructor Station CC2-238	1	1 ⁵	1
Honors	8	64	1
Child Development	1	1 ⁶	1
Totals	135	390	27

⁴The computers in BWC-3 will use the same image as the instructor stations in Brentwood

⁵The computers in CC2-235 and the instructor station in CC2-238 will use the image created for CC2-232

⁶This computer will use a standard image

In Brentwood there are 25 non-instructional computers. The Business Department area has 6 non-instructional computers, 2 in honors, and 15 in Child Development. The approximate cost for replacing these 33 non-instructional computers is \$35,000. The time required for configuration and installation is estimated to be 120 person-hours.

There are computers to support SARS check-in and the Pay-for-print system at both locations that will be replaced using re-purposed computers

Project 5 – Art/Journalism/Core/Nursing/EMT/ETEC

The areas in Project 5 have, relatively speaking, the most recently purchased computers on campus. There are two large labs in this project – the 2nd floor of the Core Building and the Graphics Lab – and several smaller labs. In addition, there are numerous instructor stations in these areas.

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Room(s)	# Instructional Computers	Estimated Person-Hours Required for Image Development and Deployment	Estimated Person-Hours for Hardware Installation
CO-1, 2, 3 (classrooms)	3	61	3
CO-200	55	12 ⁸	8
CO-300	8	68	4
Instructor stations in CC3-307, 309, 316, 317	4 ⁷	62	4
CC3-301 (Journalism Lab)	14 ⁷	68	2
CC3-214 (Graphics Lab)	34 ⁷	16	5
CC3-323 (Drama)	1	6	1
CC2-228 (ETEC classroom)	1	60	1
CC2-229 (ETEC lab)	16	8	2
ETEC Portable	4	4	1
Nursing Lab	15	88	2
Instructor stations in CC3-336, 340, 360, 363	4	4	4
Totals	159	457	35

⁷ Computers in this area are iMacs and Mac Minis

⁸ The same image used in the Core instructor stations will be used in the CO-200 lab

Project 5 includes several areas with numerous non-instructional computers. They are:

- Core (2nd & 3rd floor staff computers, OOI and Marketing) – 21 computers
- Journalism – 1 computer
- Art – 4 computers
- ETEC Portable - 1 computer
- Nursing/EMT – 19 computers
- Drama – 2 computers

The estimated cost of replacing these 48 non-instructional computers is estimated at \$43,000 with an estimated requirement of 120 person-hours for installation.