

Senate Committee on Information Technology and Media Services
2012—2013 Annual Report

Chair: Vincent Cicirello, Associate Professor of Computer Science

October 2012:

In October of 2012, the committee conducted its annual review and discussion of Computer Services' Institutional Information Technology Strategic Plan Project Portfolio (subsequently referred to as the "IT Project Portfolio"). The IT Project Portfolio is a prioritized portfolio of current, ongoing, and proposed future Technology projects and how they map into the College's 2010 Information Technology Strategic Plan. It is reviewed annually by the Senate Committee on Information Technology.

One previously unfunded project in the project portfolio particularly caught the committee's attention: "Annual upgrade and replacement of faculty and staff computers." The Ex Officio members of the committee, Jim McCarthy and Bob Heinrich, explained how in the past upgrades to faculty and staff computers have been funded through discretionary departmental and divisional funds, and that there was believed to be large numbers of older computers (5 or more years old) no longer under warranty still in use. This project from the IT Project Portfolio would provide an annual fund to assure that old and obsolete computers are replaced under a planned schedule.

It was decided to continue discussion of this issue at the November meeting where more specific data could be examined to see the extent of the problem.

November 2012:

In November 20102, there were two items under discussion:

- Bob Heinrich presented the committee with data on the age of faculty computers. The obsolescence was not quite as dire as believed (see October 2012). However, over 13% of faculty computers were, as of November 2012, **more than 5 years old**. Another 6% were exactly 5 years old. In total, over 19% of faculty computers were out of the warranty period, and likely no longer meeting the technology needs of faculty. The committee voted unanimously to recommend that the college initiate an annual dedicated fund to support a five year replacement cycle for faculty computers.

- Also in November, the Information Technology and Media Committee also “toured” new electronic classroom podium designs in lower H-wing and in the lower level of the library. This was a follow-up to the March 2012 survey of electronic classroom and podium use conducted by the Committee, and part of an ongoing effort to produce a set of design guidelines for future electronic classrooms.

February 2013:

In February 2013, the committee considered the following items:

- A faculty member contacted the committee chair about their e-mail inbox quota (was actively receiving daily warning messages). The committee investigated to see if this was a wide scale concern or an isolated case. A year or two ago there was a problem with e-mail inbox quotas for faculty (large numbers of faculty near the limit with daily warning messages, those who reached the limit potentially unable to send mail). The quotas were increased significantly (to 400MB). Some faculty (as of February 2013) had yet again approached the new limit. A closer investigation showed that nearly 50% (363 out of 763) were using 75% or more of their allocation. As a result, Computer Services in February 2013 increased all faculty mailbox sizes by another 50%.
- As a continuation of the March 2012 survey of electronic classroom and podium usage conducted by the committee, and the November 2012 tour of the new podium designs, the Committee began brainstorming for the development of a set of design guidelines for future electronic classrooms. The initial discussion lead to some preliminary guidelines (e.g., maximize whiteboard space, minimize obstructions, flexible presentation options, flexible/adaptable seating, entrance in the rear of the room where possible, etc). Decided to draft guideline document and discuss at April meeting.

March 2013:

In March 2013, Carra Hood was directed to the Info Tech Committee for assistance in exploring electronic options for offering the month-long Continuing Ed APA course. She had encountered some scheduling issues and was looking for some creative solutions. Originally directed to the committee to explore the possibility of some form of MOOC. E.g., to explore if this would be a potential candidate to offer as a MOOC as well as whether we'd be equipped and prepared to do

it. After discussing the content and structure of the course, it was determined that it would be infeasible to handle this as a MOOC (the “massiveness” of the modality wouldn’t allow for certain aspects).

April 2013:

Beginning over a year ago, the Information Technology and Media Services Committee has been exploring the design of a set of guidelines for use when designing and initiating new electronic classrooms and instructional spaces on campus. Last year, in March 2012, the committee took a first step by conducting a survey of faculty usage of electronic classrooms. In November 2012 of this academic year, the committee “toured” a few new podium designs in H-wing, the library, and G-wing. In February of 2013, we conducted some additional brainstorming. Everything was compiled and organized into the document, “**Design Guidelines for Electronic Classrooms**” (see attached). The intention of the document is as a guide for new or remodeled instructional spaces. It’s contents spans all aspects of the instructional space, including: podium design and positioning, instructor and student seating, baseline electronic classroom equipment, power, lighting, acoustics, audio systems, classroom entrances, projection, whiteboards, the classroom control system, etc. At the April 2013 meeting, the committee reviewed and fine-tuned a draft of the document. The final version of the “**Design Guidelines for Electronic Classrooms**” is attached to this report to the Senate as an Appendix.

Appendix

Design Guidelines for Electronic Classrooms

The Richard Stockton College of New Jersey

Last Updated 4/11/2013

General Guidelines

The College's 2010 strategic plan for information technology identified certain core values that need to be considered when building or acquiring technology resources. These values should be considered in the design of electronic classrooms. The plan states that we value:

- Innovation
- Fiscal resources
- Data Security
- A positive experience and accordingly:
 - Prefer lean and simple over robust and complex
 - Prefer a consistent user interface
 - Require training and support
 - Require reliability
- Assessment

Listed below are general guidelines for planning, designing and implementing electronic classrooms. These guidelines were informed by the narrative, goals and objectives of the college's technology plan.

- The effective use of technology needs to be our focus.
- Implementation must be conducted in a manner that is minimally disruptive.
- Utilize appropriate, emerging technology that is "tried and true".
- When practical, pilot projects should be used to determine costs, benefits and feasibility of emerging technology.
- Assist faculty to integrate technology into the classroom.
- Provide a baseline set of technology resources in all teaching and learning areas.
- Provide annual funding to sustain the technological infrastructure that supports the delivery of instruction (i.e., renewal and replacement of institution-wide technology resources, electronic classroom equipment and computer laboratory equipment).
- With participation from faculty, students and staff, periodically evaluate and recommend electronic classroom enhancements.

Specific Guidelines

The specific guidelines contained herein were developed from data gathered in a March 2012 survey of electronic classroom and podium use, helpful suggestions received from individuals that have used our facilities to deliver lectures and other presentations, and from experience gained in over 15 years of electronic classrooms use and in testing recent prototype designs. These guidelines are intended to guide the design and remodeling of classrooms and instructional spaces at The Richard Stockton College of New Jersey. These guidelines are not intended to serve as hard-fast requirements. Where possible, a flexible design that does not constrain faculty teaching style, their ability to freely move about a classroom to effectively engage students or conduct student participatory activities is desirable. In some cases, specific guidelines included in this document may in fact be mutually exclusive (e.g., optimal podium placement and requirement for maximum white board space). In such cases, the designer should attempt to accommodate each need while favoring any stipulated high priority need. Classroom designers should not depend upon these guidelines to fully specify classroom requirements and should meet with designated personnel from Academic Affairs and the Computer and Telecommunication Services and the Dean and designated faculty of a School that has a stake in the project for additional guidelines and specifications.

When a new building is constructed or a classroom undergoes renovation, the individual or architectural firm that is responsible for classroom design must consider:

1. Intended and potential use of the room
2. Instructors varied preferences and styles of lecturing
3. Student's comfort and ability to view, listen and participate in lectures and other classroom activities
4. Electronic classroom technology and interface controls
5. Equipment access, use and security
6. Optimal use of technology in light of items 1, 2, 3 and 5
7. Electronic classroom technical support.
8. The classrooms discussed under these guidelines are typical instructional and lecture spaces. Specialized facilities, such as laboratory classrooms, should be reviewed with the appropriate academic school and department to determine programmatic needs and parameters.

The College has worked closely with a millwork vendor to design and build custom podiums that meet our specifications for housing and securing equipment, cooling, interface, power, esthetic appearance, functionality and size for large lecture rooms, classrooms and seminar rooms. Refinements to custom designed podiums are made periodically. Recommendations for further refinement and enhancement are welcomed.

Podium Placement Preferences

The podium should be placed in the front of the room. In small rooms with one screen, the instructor's podium should ideally be located on the side opposite the doorways and placed off-center and to the

right or the left. In large rooms with two screens, the podium is ideally located opposite the doorways and centrally placed between the screens. (See also diagonal layout guideline under Room Orientation.) Lecterns should be oriented to allow instructors to maintain eye contact with students while using keyboards and allow students to see projected media from any location in the classroom. Listed below in order of concern and preference are the important factors that must be considered in placing the podium:

1. Student line-of-sight viewing of the video projection display or electronic smart board, and traditional black/white board.
2. Amount of black/white board space available for faculty use when the projection screen is lowered.
3. Instructor and student interactions (An instructor should be in the front of the room and located where she/he can comfortably interact with students while presenting lecture and discussion materials).

Instructor Seating

The instructor should be provided with seating at the podium that will enable an instructor of any height to easily view all students. The overall height of the podium plus the podium display screen should be taken into account.

Additionally, a movable table and seating should be provided in the front of the room that will permit an instructor to present materials away from the podium using wireless mouse, keyboard and/or presentation pointer.

Student Seating

Classrooms may require fixed or flexible (e.g., movable) seating. The College will specify the type of seating that is needed in a classroom. Classrooms where students will work in teams may require moveable tables and chairs. In rooms where additional whiteboards are placed on side or rear walls, students will need to reposition themselves to comfortably view the side or rear wall. Steelcase offers some innovative options that place the entire desk on casters to allow a student to easily adjust their seating to comfortably view different angles in a classroom. (See <http://360.steelcase.com/articles/innovation-enters-the-classroom-2/>)

Following are seating requirements that must be met regardless of seating type:

- Student seating should comfortably accommodate the largest and smallest persons.
- Each student must have an unobstructed view of the teaching wall
- There should be no obstructions (such as columns or posts) anywhere in the classroom.

- Work surface must be large enough to accommodate a notebook computer and text book.
- Seating should be durable and able to withstand student's moving and swiveling to view white boards
- ADA accessible seating in classrooms should comply with Stockton College Accessibility Standards.

Electronic Classroom Equipment

Classroom teaching technology must be reliable and “user friendly”. The institution has established a standard baseline of equipment for classrooms. Standardization provides faculty with a familiar teaching environment, improves troubleshooting, equipment replacement and maintenance by technical staff, reduces training time and costs for both the users and the support staff, and lowers equipment costs through volume purchasing.

The standard baseline of electronic classroom equipment includes the following:

- Computer
- Computer Video Display
- Integrated classroom lighting, projection screen and peripheral equipment display control
- Projection Screen
- Wired and wireless network connection
- Audio and Video Connectivity for tables and notebook computers
- Easily accessible flash drive interface
- Ceiling mounted projector
- Document Camera
- Wireless keyboard, mouse and presenter
- 6 outlet power strip surge suppressor
- AMX Classroom Control Interface
- Amplified Sound System with Speakers

Electronic classrooms may also be equipped with the following specialized equipment:

- Tablets
- Electronic Interactive Whiteboard (SmartBoard or StarBoard)
- Microphone
- Portable microphone
- Lecture capture
- Webcam
- Personal Response System

Podium Enclosure

The podium enclosure must contain all equipment except the display, control interface keypad (with controls for turning the display equipment on or off, switching display input sources, and managing sound levels in the room) , video projector and screen. The enclosure must be secured with college-issued cabinet locks. Access to the computer power switch, computer video display, flash drive interface, control interface, and notebook computer connection must be provided without unlocking the podium enclosure. The podium must include a flat surface of 29" width by 28" depth for lecture materials. Front access doors to the podium must be designed in a manner that doesn't impede an instructor's movement at or near the podium.

Power and Conduits

Power is required at the podium, screen, projector and in the front, center of the room beneath the white board. Power is desirable in student seating areas.

Projector and Screen Power: Power is required beneath the ceiling at the projector location and at the location of projector screen.

Podium Power: A shallow open floor box, which provides access to conduits, signal cables and electrical power, must be installed at the center of where the podium will be located. The floor box is typically about 12 x 16 x 4 inches, and open on top. The podium bottom has a large opening to allow passage of cables. In cases where a floor box cannot easily be provided, a floor-mounted raceway may be used to conceal necessary cabling to the podium.

Student Seating Power: Students may bring their own portable devices to the classroom and may require outlets to charge and utilize their equipment. Where possible and needed, there should be outlets distributed throughout the seating area and in sufficient number to accommodate upwards to 75% of the maximum student seating capacity of the classroom.

Lighting

Lighting fixtures and lamps should be located so as to minimize light intrusion onto projection screens. Where possible, classrooms should have separately-controlled lighting for the seating area of a classroom and the front of the room. Lighting at the front of the room should be zoned to accommodate simultaneous video presentations and use of whiteboards. Lighting should be controlled at the room's entrances and adjacent to the instructor podium. Lighting should be such that no one location can lock out the other nor change the preset controls of the dimming system.

The preferred lighting fixture should be a recessed, parabolic, fluorescent fixture that provides in-direct lighting throughout the classroom. This drop ceiling mounted fixture can be suitably placed in a 2' x 4' or 2' x 2' suspended grid. The lamp to be used with this fixture is a T8 lamp with 35K color. A specification is included in the appendix for the Coffaire II Recessed Fluorescent CFH2GPF232, which is currently the college standard classroom lighting fixture.

Although it is not the preferred fixture, if a room will be equipped with pendant lighting fixtures that drop down from the ceiling, it's important to orient the fixtures perpendicular to the front of the room so that they do not obstruct the video image from the projector or preclude a projector from being optimally located.

Adequate lighting for safety should be controlled at entrances to rooms, with system controls at the in podium location. Lighting over seating should be sufficient for taking notes during media presentations. For note taking during projection, it should be possible to reduce the lighting over the seating area while still eliminating light from the projection screen(s).

In rooms where white boards will be installed on side or back walls in addition to the front wall, additional lighting and lighting control may be required.

Room Orientation

There are competing needs for white board space, screen projection area, podium placement and instructor seating in the front of most classrooms. To optimally accommodate these competing needs, where possible, the physical layout of the room should be a wide landscape orientation, as opposed to a deep portrait dimension; however the room should not be at a width that may prevent students on either end of the classroom from comfortably viewing video screens or the instructor.

Where possible and practical, a classroom may be oriented so that the podium is located in the corner of a room facing the opposite rear corner of the room (i.e., diagonal layout) and where two adjacent walls can be used to support presentation. These walls should not be window walls. Whiteboards can be installed on both walls and one of the walls should be the projection wall for the projector with the electric screen. This orientation will allow the instructor to be in the center point of the classroom.

Window Treatment

Where needed, sunlight filtering should be provided in classrooms to eliminate outside light from reaching the projection screen(s). If motorized screens are used to filter sunlight, the controls should be integrated into the room and equipment controls that are built into the podium.

Classroom Entrances

The flow of students should be a major factor in determining the location of entrances. The classroom entrance/exit should be located near the rear of the classroom, where possible. This location of doorways minimizes disruptions during class from students entering and exiting the room. Large tiered classrooms, or auditoriums that require multiple doors located at the front and rear of the space, are examples of exceptions to this rule.

Acoustics

All classrooms should be designed to minimize noise from outside the classroom and from the heating and air-conditioning system. When possible, classrooms should be located away from noise generating areas such as mechanical rooms, elevators, vending machines, and restrooms. If physical separation is not feasible, increased acoustical treatment may be needed.

In cases where ceiling speakers are installed in a classroom, speakers should be baffled or enclosed to minimize sound traveling through open plenums and disrupting adjacent classrooms.

Projection Screen

The width of the projection screen is determined by the room size. Screen width should be 1/4th of the distance of the farthest viewer in a room. All projection screen aspect ratios should be 16:10 to accommodate high definition format. This screen provides a screen large enough for the use of electronic projection of video and computer images, which have a lower resolution than optical projection. The first row of seats should be no closer to the screen than 1.5 times the width of the screen. Example, if a projection screen is 90”H x 120”W, the first row of student seating should be no closer than 15’ from the front of the room. Electric screen controls should be integrated with the classroom control system.

LCD Projector

A ceiling-suspended LCD projector mount should be centered on the projection screen and located between 12’ and 18’ from the center of the bracket to the face of the projection screen. Elevation of the projector mount should be level with the top of the projection screen. Fixed projector mounts must be rigid and completely free of sway or rotation deviation. Video projector mounts shall be installed and tested for stable operation and isolated from building vibrations. Due diligence shall be performed during installation to assure projector mounts do NOT move or vibrate due to building systems or operators working above the area of the projector mounts.

Large Screen TV Displays

Large screen TVs may only be considered in rooms where the TV display is comfortably viewable from the farthest seat in the room. The recommended range of viewing distance for a 60" TV screen size is 7.5' to 15'. This viewing distance approximates the view angle needed to be able to see pixel level detail. If the farthest seat in the room is greater than 15', an LCD projector should be considered over the use of a large screen TV display.

Audio Systems

Playback sound amplification should be present in all electronic classrooms. Specific speaker types and locations will be determined by the ceiling configuration. Generally, speakers should be mounted within 2'x 2' ceiling grid. In larger classrooms there may be a need for voice amplification using a fixed lectern microphone and/or a wireless microphone.

Whiteboard

Chalkboard/Whiteboard size and placement should be coordinated to provide as much useful board space as possible while the electronic screen is lowered. In rooms with limited board space it is recommended that multiple boards be provided so that there are boards located on at least two different walls. Classrooms should have 15 linear feet or more of white board space. A board should always be installed on the front teaching wall; the other wall/walls should be selected as appropriate to the layout of the room. The front wall should have no protrusions into the room so that a chalkboard/whiteboard can be installed across the entire wall of the instructor area.

HVAC

Classrooms must be provided with adequate heating, cooling, and fresh air. Careful selection and placement of equipment, and attention to the design of delivery systems are needed to minimize noise and vibration. Adequate cooling should be provided near the lectern location, as this area tends to be warm from the equipment.

Diffusers should be located to avoid any movement of the screen which would be caused by air flow. Additionally diffusers should not be located near video projector mounts to avoid conflicts with the mounting of audio/visual equipment in the ceiling. Locate all mechanical equipment as far from the classroom as possible. If adjacency is unavoidable, provide sound attenuation methods at classroom entrances.

Control System

Control systems for electronic components will have the capability of controlling all of the baseline components found in the electronic classrooms as well as projection screens, room lights, and shades that are operated by electric motors.

Appendix:

Podium Design:

RTHogg Design

Nova Lectern

Diagrams of Sample Classroom Layout

Projector Mounts:

Chief Vibration Isolator

Premier Universal Projector Mount