SMART CLASSROOM TECHNOLOGIES

PRESENTATION

TO

COLLEGE OF
MARIN

March 30, 2007

BY

RICH GARRESON

ALFATECH
CAMBRIDGE
Purpose & Objectives

- Partnership with Technology Committee
- Develop the Minimum Standards for Technology Infrastructure
  - Review existing facilities
  - Evaluate educational program objectives
  - Develop minimum standards and guidelines
  - Identify key infrastructure dependencies
  - Provide input to Architects for future projects
Project Approach

- Alignment with Facility Plan
- Allow for input and feedback
- Incorporate emerging technologies
- Understand industry trends

**Technology Components**
- Wireless Technologies
- Audio/Visual Solutions
- Network Infrastructure
- Distance Education
- Content Management
- Video Distribution / Streaming
- Facility Infrastructure

**Educational Benchmarks**
- Stanford University
- Santa Rosa Junior College
- Solano Community College
- Monterey Peninsula College
- West Valley College
- Gavilan College
- Ohlone College
Technology Approach

- Protect Investments – Sustainable Solutions
- Ensure Long-Term Supportability
- Create Efficiencies to Increase Productivity
- Deliver Location Independent Services
- Centralize Maintenance and Administration
- Develop Scaleable Solutions
- Consider Product Lifecycle
- Easy to Operate and Use
- Enhance Teaching and Learning Experience
Technology Has Become a Utility

Electrical Grid

IP Communications Grid

Highly Available
Exponentially Scalable
Universally Accessible

Servers
PDA
IP Phone
E-Mail

E-Mail
Internet Access
IP Phone
Servers
Ethernet
Client
PDAPDA

Universally Accessible

Universally Accessible

Electrical Grid
Requirements Gathering Process

- Roundtable Workshops with Technology Committee
- Individual Interviews with IT, Faculty and Staff
- Site Assessment – Infrastructure, Classrooms, Labs
- Open Forums to Solicit Input
- Published Meeting Minutes and Site Assessment Report
Technology Functional Requirements

- Allow the instructor to incorporate multi-media content into the learning environment
- Ability to access and display content in the classroom from multiple sources including Public Internet, Campus Servers, VCR/DVD, Live TV, Local Computer and Flash Drives
- Easy to use media controls that are consistent in functionality between classrooms
- Ability for instructors to share course content from a central server and have remote access to this content from off campus
- Enable students to use personal laptop computers on campus with wired and/or wireless access to student network services and the public internet
- Increasing student demand for Distance Learning – Web based courses and content
- Compliance with ADA and LEED Certification Criteria
- Underlying Infrastructure must support long-term sustainability objectives
Proposed Recommendations

- **Campus Wireless Solution**
  - Evaluate campus wide solutions
  - Use Access Points to supplement coverage
  - Secure ‘Private’ access for internal use by faculty and staff
  - Unsecured ‘Public’ access for student use (DMZ)

- **Minimum Standard for Classrooms**
  - Power and Pathways for AV equipment
  - Projection Screen designed to work with projector
  - Wired and Wireless Network Access Ports
  - Implement AV equipment as budget allows
Smart Classroom Solution Examples

- Wall Mount Media Control Panel
- DVD/VCR Player
- Lectern Style Furniture Functional and Secure
- Projectors and Document Cameras
- In Floor Power and Cable Raceway Systems
Smart Classroom Solution Examples

- Drop Down Projection Screen
- Sound Reinforcement
- Television
- Packaged Solutions
- Laptop Interface
- Remote Control Devices
- Projectors
MediaLink™ Control System, Lectern Mounted Controls
MLC 206 AAP with MLS 406MA

Extron MLC 206 AAP
MediaLink Controller
- Projector On/Off control
- Lighting control
- VCR & DVD control
- Switcher control

Extron MLS 406MA
MediaLink Switcher
- Video/RGB switching
- Audio amplifier

Extron IRCM-DV+

Lectern

Input sources:
- Laptop
- VCR
- DVD

Audio and Video connections:
- Mono Audio
- Lighting Control
- Projector Control
  - RGB
  - Video
  - S-Video

Output:
- Lighting Controller

Diagram depicts the integration of various components for a media control system, including a controller, switcher, and input/output connections.
Classroom Functional Concepts

- Flex Classrooms
- Interactive Classrooms
- Lecture Hall
- Distance Education
- Instructional Labs
- Anywhere.....
Infrastructure Requirements

- Electrical Outlets
- Conduit Pathways
- Data Cabling
- Mounting Hardware
- Control Faceplates
  - Dim Lights
  - I/O Selection
  - Screen Operation
  - Audio Volume Control
• Sustainable Design and Products
• Focus on Core Infrastructure
• Design to Minimum Standards
• Provide Input to the Architects
Questions & Comments?

Contact Information
Swinerton
Management & Consulting

Elizabeth Tucker
Elizabeth.tucker@marin.edu