Technology Plan

Addendum to College of Alameda Educational Master Plan 2007-2010

8/4/2008

Contents

Technology Plan College of Alameda

PART I: INTRODUCTION

VISION:

Educational technology now plays a critical role in learning and teaching in many disciplines across the college curriculum as well as at multiple learning levels.   It is our belief that our students now require a consistent, powerful, and transparent utilization of current and emerging educational technology applications across disciplines and across the various campuses.[i]

MISSION:

To fulfill our strategic mission, technology is a tool that can be put in the hands of students, faculty and staff to enhance teaching, learning and streamline our administrative processes.

BACKGROUND:

The college is committed to the use of technology to further its mission, purpose and values as a public institution, including increasing accessibility to services at an affordable cost, at locations and times that are convenient to the student.

Technology is an integral part of many academic and vocational departments in the higher education arena. The importance of technology is increasing as new, innovative methods of teaching and learning are developed and will remain with students as they transition from the classroom to the workplace. It is imperative that the technology available in the classroom for instruction be fully functioning and up-to-date. Computers increase our ability to develop more effective teaching practices and they afford students a way to gain convenient access to information.

Students use technology to learn in ways that are interactive, flexible, personalized and convenient. Technology engages their interest, and encourages them to collaborate, inquire, and explore effectively, far beyond the bounds of the campus. Online remote access to campus resources is especially important for College of Alameda students living outside of Alameda County. Support for student efforts to learn both independently and collaboratively, and at their own pace, comes from other students, faculty, and staff members.

Teachers use technology to develop new instructional methods that address the needs of students with different learning styles, academic backgrounds, work schedules, and levels of motivation. Technology thus enables teachers to interact with students on and off campus, to keep current in their disciplines, to communicate with peers, to evaluate their own instructional efforts, and to remain responsive to the local community's needs.

The college uses technology to transact its business with more efficiency and greater service. Students have round-the-clock access to information about their own college records, course offerings, program requirements and transfer procedures, so that they can take responsibility for their own educational progress. Technology also makes it possible for students to ask for personal help whenever they need it. Both faculty and staff can participate in a flexible work environment that allows them to match their work habits to their own interests, skills, and personality. The entire college community uses technology to build effective bridges with other educational institutions, agencies, and employers.

Members of the campus community at the College of Alameda use technology to participate responsibly in a culturally-diverse, global society. It helps students prepare for successful transfer to other educational institutions, for more rewarding employment, or for advancement within their chosen careers.

GOALS:

- The college will provide the proper training to all members of the college community (students, faculty, and staff) to enable them to select and use the appropriate technology.
- The college will continually assess new potentials for the contribution of technology to instruction, student services and business services.
- Technology will be evaluated each year to maintain and upgrade hardware and software to ensure that state-of-the-art learning environments and delivery systems are available to all students, instructors and staff. The college will assess current instructional technology practices in order to develop long-term instructional technology policies, conduct an inventory of current hardware and software, and develop a campus technology plan.
- The college will upgrade classroom and lab computers to state-of-the-art technology within the various fields on a regular basis.
- The college will provide technology support for the maintenance and installation of network infrastructure.
- The college will continue to offer and improve services on the college website to include an on-line application for admissions, registration, on-line advising, placement testing, and orientation, purchase of books, scholarship information, financial aid resources, and supplemental web pages by instructors.
- The college will strive to develop technology-competent students.
- The college will continue to provide students a variety of opportunities to earn a degree or certificate through technology-based education. All students, whether on campus or off campus, will have opportunities to engage in varied learning experiences.
- The college will develop electronic programs for student orientation and advising that are designed primarily for students at the community campus sites.
- The college will actively encourage and support faculty's use and production of technology-based courses by providing appropriate incentives.
- The college will provide the infrastructure to facilitate instructional technology.

- The college will maintain faculty computers at a level that will allow them access to information within the college technology system and current operating system software for classroom and lab uses.

- The college will provide training to faculty on creating materials accessible to students with disabilities

- On line courses and in class instruction will employ approved guidelines to ensure access to students with disabilities

- Equipment in each lab will include accessible work stations with adjustable tables and chairs and accessibility software will be installed on at least 10% of the computers.

CURRENTS PROJECTS

The College of Alameda has identified three areas of the college that will facilitate the college's technological vision. The three areas are all in various levels of progress.

- Phase I Campus-wide wireless upgrade project: -   completed
- Phase II Campus-wide wireless upgrade project: -   pending
- Computer lab hardware upgrade project: -   completed
- Administrative offices Computer hardware project: -   in progress
- Installation of smart Classrooms   -   pending
- Building MDF Network extension project: -   pending
- Aviation Lab upgrade project: -   completed
- Clientless SSL VPN project: -   completed

PART II: CONTENT

DEMOGRAPHICS

While California's population increase slowed during the early 90's, growth continues, and the number of 18 to 24-year-olds, after declining for nearly a decade, started to increase rapidly in 1997 and should continue through 2005. The number of high school graduates already has begun to increase.

As the pool of students is expanding, it is also diversifying. Nearly one-half of California's population is people of color with the Hispanic and Asian populations growing the fastest. That trend will only continue creating a rich blend of ethnic and cultural diversity. Adding to this mix are the still increasing number of women entering the workforce. There will be a substantial increase in older workers as well.

The combination of diversity among ethnicity, age and gender has generated a complex, heterogeneous pool of students that will challenge community colleges' abilities to provide adequate and equitable service. In particular, many of the growing population groups have been underrepresented in education. The challenge of improving their access to education is especially significant for community colleges since most of these individuals begin their postsecondary education at a community college.

TECHNOLOGY

Technological change demands increasingly higher skills from the labor force. California's economy is shifting from an industry to a knowledge basis with emphasis more on services—particularly on communications and information processing technologies—and less on manufacturing. Most of the new jobs created during the next decade will require some postsecondary education. Community colleges train for virtually all of the largest growing job categories in California. Moreover, technological change also means more job and career changes by workers and an increased need for occupational retraining and upgrading—functions also performed by community colleges.

ECONOMY

Community colleges are doubly affected by economic cycles. Downturns, for instance, produce declines in real income per capita and accompanying increases in unemployment. Higher unemployment means fewer tax dollars for the state and less funding for community colleges. Along with the decrease in funding is an increase in demand for education and training from workers who wish to stay competitive in the tightening job market. The recession in the early 90's was a good example of this.

On the other hand, economic upturns tend to yield greater funding for community colleges. Unfortunately, the rise in funding often does not keep pace with the booming demand for highly skilled workers from businesses. Either way, community colleges are typically in a tight fiscal situation, which makes it all the more imperative that systems be implemented to insure the effective allocation of limited resources.

SOCIETY

Technological change is producing profound, but ambiguous changes in society. Like most other states, California is becoming a so-called "networked" society. More skilled workers are operating as independent contractors rather than "traditional" employees, and smaller firms use temporary joint ventures like partnerships and alliances to accomplish their work. At the same time, the rising frequency of corporate acquisitions and mergers creates colossal corporations. The independent, mid-sized company style of business is diverging into small, niche firms and large, multi-national conglomerates.

From this changing environment emerge potential students whose learning styles and needs are quite different from those of students in earlier generations. This new generation of students demands flexibility and responsiveness. Those community colleges that meet this challenge will be well positioned to thrive.

PUBLIC POLICY

Voter initiatives continue to constrain the authority and revenue-raising capability of California public policy bodies, particularly at the local level. While the state is a leader in research and development, it lags in its public investment in infrastructure and education. Federal efforts at deregulation, decentralization and less proscriptive policies will continue to put more responsibility on state and local authorities. This will particularly impact workforce preparation where California Community Colleges are active partners in efforts to coordinate the state's existing programs and make them more responsive to structural changes in the work place and more accessible to all those who need the training.

The State's *Constitution* provides K-12 and community colleges with reasonable funding in good economic times, but not in bad economic times. It is a sad irony that when dollars are tight, those activities that have the greatest leverage to change the situation are the first to be cut. With the economic recovery of the past several years, funding has improved. However, while community college operating budgets have increased over the short term, needed maintenance and expansion of college physical plants and technology have problematic sources of financial support in the long-term.

Adding to the uncertainty faced by community colleges are the possible future consequences of public policy actions such as CSU plans for elimination of remedial instruction, a proposed constitutional revision removing community colleges from Proposition 98 (1988) funding, and revisions to affirmative action at UC.

FUNDING AND BUDGETING

The District must make a significant commitment to information technology in order to improve services to students, faculty, and staff. The District must compete in the higher education arena with other institutions, both public and private, in the use of technology in the curriculum and also in the delivery of instruction using new mediums.

The budgeting process follows the Educational Master Plan in both resource allocation and in expenditure budget development. The link between the planning and budgeting is a strong commitment to strategic planning whereby the District no longer "plans the budgets, but budgets the plans". As new funding becomes available or reallocation occurs through institutional review, the budgets will be developed to implement a phased approach to achieving the *Technology Master Plan.*

PART III: CRITICAL ISSUES

ONLINE EDUCATION

<u>Purpose and Need</u>

As technology advances, online education is moving into the mainstream of higher education. Community college students, many of whom have full-time jobs and family responsibilities, are

attracted to online courses for ease of scheduling and remote access. As PCCD develops online courses it is necessary to maintain educational standards, provide faculty and student support, acquire state-of-the-art technology, and develop a coordinated, district-wide effort while allowing colleges to maintain their autonomy.

Description of Current Efforts

Efforts at the district level include modest marketing, limited technology support, and some professional development opportunities. There is considerable faculty enthusiasm for online education, resulting in initial successes for online courses. Average enrollment in online courses is 45. Retention is high. Over 700 FTES have been generated by online courses in the past two years.

External Data

Data from State Chancellor's Office and anecdotal evidence suggests Peralta's average 45-student enrollment is consistent with state data. Peralta lags behind other California Community Colleges in funding and must provide adequate support staff, student services, technology acquisition, and professional development opportunities to ensure successful online education efforts.

Best Practices

PCCD online best practices are built on the model suggested by the Institute for Higher Education Policy (www.ihep.org). Best practices areas include institutional support, course development, course structure, student services support, faculty support, evaluation, and assessment.

Standards

PCCD faculty has embraced standards of academic excellence for online education efforts. As mentioned earlier, the district needs to provide sufficient funding to successfully develop an online education program comparable to many other California community colleges (e.g., San Diego community college district). Standards must include methods of evaluation as well as coordinated efforts to make online courses accessible and usable.

Educational Principles

The PCCD Online Education Program will be developed in accordance with state and national DE best practices. As part of these efforts, PCCD service centers will need to facilitate collaboration among the college, identify and implement training opportunities, and develop internal support networks for faculty, administration, staff, and students. Colleges are encouraged to identify and develop their role in online education according to individual strengths and educational plans. Commonly accepted online assessment and student learning outcomes will be adhered to. Students will receive proper counseling, tutoring, and other support.

Quantitative and Qualitative Goals

Qualitative:

- Increase FTES without affecting physical plant
- Comply with accessibility and usability guidelines and requirements
- Increase community access to education
- Increase the number of qualified online instructors
- Increase inter-campus collaboration
- Make use of state-of-the-art online technology.
- Integrate Student Services with online programs
- Train high quality online educators.
- Develop academically rigorous online courses.
- Effectively use technology.
- Develop online courses that include IGETC and CSU-GE breadth requirements, under-enrolled courses (particularly major requirements), courses relevant to community partners, and basic skills courses.
- Increase marketing effort to effectively reach target populations – students with scheduling difficulties, students within district who can't come to campus, students out of district.

Quantitative

- Increase enrollment by 2% per academic year.
- Hire at least one full-time online education technical support person at each campus.
- Create active instructional technology groups and/or committees in each campus to:
    o Be an active force in the discussion and generation of ideas related to instructional technology and its strategic use.
    o Share/collaborate across the District on instructional technology to reach more people and to improve teaching and learning.
    o Be actively engaged in activities that support effective use of instructional technology. Example from Ocotillo group:
       Http://www.mcli.dist.maricopa.edu/forum/fall02/ocotillo.html

- Increase funding for purchasing new technology, support staff, professional development opportunities, marketing, etc.

Strategies

- Individual campuses must take lead in developing aggressive online education plans.
- Faculty and campus administrators must convince District to fully fund online education efforts.

Performance standards and evaluation Approach

- Qualitative and quantitative goals include evaluation criteria.
- Faculty and support staff professional development will be required and funded by the district.
- Standards of accessibility and usability (e.g., ADA guidelines) will be followed.

Timeline (depends on adequate funding by district)

- Faculty training – 2007-08
- New CMS – 2008
- New delivery systems – 2007-09
- Additional staffing – 2007-08
- Integrated student support services 2007-08
- Evaluation, assessment, and outcome development 2007-08
- Infrastructure development, campus-wide 2007-08, district-wide 2007-09

AACJC 2006-07 DISTANCE LEARNING COURSES						
COURSE NAME & NUMBER	**DELIVERY MODE**	**FIRST OFFERED**			**CREDIT TYPE**	**DEVELOPER**
		Sm06	**F06**	**S07**		
BUS 10: Introduction to Business	2-Way I			√	Trans AA/AS	Dept fac
CIS 1: Intro to Computer Info Systems	2-Way I	√			Trans AA/AS	Dept fac
CIS 5: Intro to Computer Science	2-Way I		√		Trans AA/AS	Dept fac
ECON002: Micro-Economics	2-Way I & F-2-F			√	Trans AA/AS	Dept fac & Commer
ENGL001B: Composition & Reading	2-Way I		√		Trans AA/AS	Dept fac
ENGL005: Critical Thinking	2-Way I			√	Trans AA/AS	Dept fac
GEOG 1: Physical Geography	2-Way I			√	Trans AA/AS	Dept fac
HIST 7A: History of the U.S. to 1877	2-Way I	√			Trans AA/AS	Dept fac
HIST 7B: History of the U.S. Since 1865	2-Way I	√			Trans AA/AS	Dept fac

AACJC 2007-2008 DISTANCE LEARNING COURSES

COURSE NAME & NUMBER	DISTANCE DELIVERY MODE	FIRST OFFERED			CREDIT TYPE	DEVELOPER
		Sm07	F07	S08		
ANTHRO 1: Introduction to Physical Anthropology	2-Way I			√	Trans AA/AS	Dept fac
ANTHRO 2:Introduction to Archaeology and Pre-History	2-Way I			√	Trans AA/AS	Dept fac
ART 1: Introduction to Art History	2-Way I			√	Trans AA/AS	Dept fac
BUS 10: Introduction to Business	2-Way I				Trans AA/AS	Dept fac & Commer
CIS 1: Intro to Computer Info Systems	2-Way I				Trans AA/AS	Dept fac & Commer
CIS 5: Intro to Computer Science	2-Way I				Trans AA/AS	Dept fac & Commer
CIS 234A: World Wide Web Publishing	2-Way I				AA/AS	Dept fac & Commer
ECON 1: Macro-Economics	2-Way I & F-2-F				Trans AA/AS	Dept fac & Commer
ECON 1: Macro-Economics	2-Way I		√		Trans AA/AS	Dept fac & Commer
ECON 2: Micro-Economics	2-Way I & F-2-F				Trans AA/AS	Dept fac & Commer
ECON 2: Micro-Economics	2-Way I		√		Trans AA/AS	Dept fac & Commer
ENGL 1A: Composition and Reading	2-Way I & F-2-F			√	Trans AA/AS	Dept fac
ENGL 1B: Composition & Reading	2-Way I				Trans AA/AS	Dept fac
ENGL 5: Critical Thinking	2-Way I				Trans AA/AS	Dept fac
ENGL 10: Creative Writing	2-Way I			√	Trans AA/AS	Dept fac
ENGL 47: Children's Literature	2-Way I			√	Trans AA/AS	Dept fac
GEOG 1: Physical Geography	2-Way I				Trans AA/AS	Dept fac
GEOG 2: Cultural Geography	2-Way I				Trans AA/AS	Dept fac
GEOL 10: Introduction to Geology	2-Way I			√	Trans AA/AS	Dept fac
HIST 2A: History of European Civilization	2-Way I		√		Trans AA/AS	Dept fac
HIST 2B: History of European Civilization	2-Way I			√	Trans AA/AS	Dept fac

AACJC 2007-2008 DISTANCE LEARNING COURSES						
COURSE NAME & NUMBER	**DISTANCE DELIVERY MODE**	**FIRST OFFERED**			**CREDIT TYPE**	**DEVELOPER**
		Sm07	F07	S08		
HIST 7A: History of the U.S. to 1877	2-Way I				Trans AA/AS	Dept fac
HIST 7B: History of the U.S. Since 1865	2-Way I				Trans AA/AS	Dept fac
HIST 19: History of California	2-Way I			√	Trans AA/AS	Dept fac
HUMAN 1: Introduction to Humanities	2-Way I			√	Trans AA/AS	Dept fac
MATH 13: Introduction to Statistics	2-Way I			√	Trans AA/AS	Dept fac & Commer
MATH 201: Elementary Algebra	2-Way I			√	AA/AS	Dept fac & Commer
MATH 203: Intermediate Algebra	2-Way I			√	AA/AS	Dept fac & Commer
PHIL 1: Introduction to Philosophy	2-Way I			√	Trans AA/AS	Dept fac
PHIL 10: Logic	2-Way I			√	Trans AA/AS	Dept fac
POSCI 1: Government and Politics in the US	2-Way I			√	Trans AA/AS	Dept fac
PSYCH 1A: Introduction to Psychology	2-Way I			√	Trans AA/AS	Dept fac
PSYCH 1B: Introduction to Psychology	2-Way I			√	Trans AA/AS	Dept fac
SOC 1: Introduction to Sociology	2-Way I			√	Trans AA/AS	Dept fac

CENTER FOR CREATIVE TECHNOLOGY INTEGRATION

Vision Statement

The Center for Creative Technology Integration will be the heart of the campus' Online Education Program. Its primary goal is to develop, deploy and sustain campus online courses and instructors, contract education, and just-in-time-training for our community partners and local businesses. In addition to the above, the Center for Creative Technology Integration will serve as a faculty technology training center where technological integration into any faculty member's curriculum will be facilitated.

The vision of the CCTI is to become a vibrant center for collaborative learning among the faculty, staff and administration of the college. Coordinators managing the Center for Creative Technology Integration will conduct workshops and working lunches, host attendees of online conferences (webinars), and work with individuals in an intimate, round-table setting, to bring technology into all parts of the curriculum and daily life of the college community.

Purpose

- Increase FTES without affecting physical plant by offering courses online
- Increase community access to education
- Increase the number of highly-qualified online instructors
- Increase collaboration in providing online services

Goals

- Increase availability of traditionally high-demand courses
- Offer new and innovative courses
- Represent 100% of IGETC and CSU-GE Areas in online courses by Fall 2010
- Integrate Student Support Services with online programs
- Foster a vibrant association of online educators committed to academic and service excellence
- Ensure accessibility to students with disabilities through faculty training

Target Courses

- IGETC and CSU-GE requirements
- Under enrolled courses
- Courses relevant to community partners
- Courses other than transfer with content appropriate for online and/or hybrid delivery
- Basic Skills and other remediation courses

Target Populations

- Students who want to take more courses but cannot due to scheduling conflicts
- Students who would like to take classes but cannot come to campus
- Students outside the district interested in online courses who would not otherwise take COA courses

Justification

- During the spring semester of 2006, two important reports were disseminated to the faculty and administration at College of Alameda. The first, spearheaded by the leadership of ASCOA, showed incontrovertibly that College of Alameda students want and need the flexible scheduling opportunities that online and hybrid courses afford. The second, a joint venture between the campus Academic Senate and Student Services, showed through phone poll results that many students who did not return to College of Alameda for the Spring '07 term left for other campuses that had the classes they wanted at times that were congruent with the students' work and family commitments.

- The establishment and vision of the CCTI is in keeping with the Peralta Community College District's Strategic plan for online education. The district plan calls for individual campuses to

develop goals and programs that incorporate online education into each college's educational goals.

- Community Colleges across the state of California have acknowledged the need for flexibility in course scheduling; building the Online Education Program at College of Alameda through the Center for Creative Technology Integration will help ensure that College of Alameda students need not look elsewhere to complete their educational objectives. As COA develops online courses, it must maintain educational standards, provide faculty and student technical training, acquire state-of-the-art technology, and develop a coordinated effort to support academic departments and faculty that have articulated online education plans.

Current Projects:

Future plans include consolidating the Audio-Visual and Campus Technology & Networking staff onto the second floor of the "L" building, in an area currently being used as office space and storage of audio-visual equipment and supplies. The plan allows for the consolidation of these services into a Technology Support Center. The convergence of traditional audio-visual services as a stand alone system is changing; with VOIP (voice over Internet Protocol) systems where video is provided over the internet in digital form, the obsolesce of VHS-tape systems as they are converted to CD-ROM and DVD-R/W systems, traditional classroom support which required moving equipment from room-to-room to an upgrading of these rooms to interactive/smart classrooms all require a different way of looking at technical support systems.

A visual depiction of the Tech Center is provided below in Figure 6. Phase I of this plan has been completed with the purchase and installation of 4 staff work areas during the summer 2008 timeframe. Phase II which will complete the renovation, should be done by fall 2009.
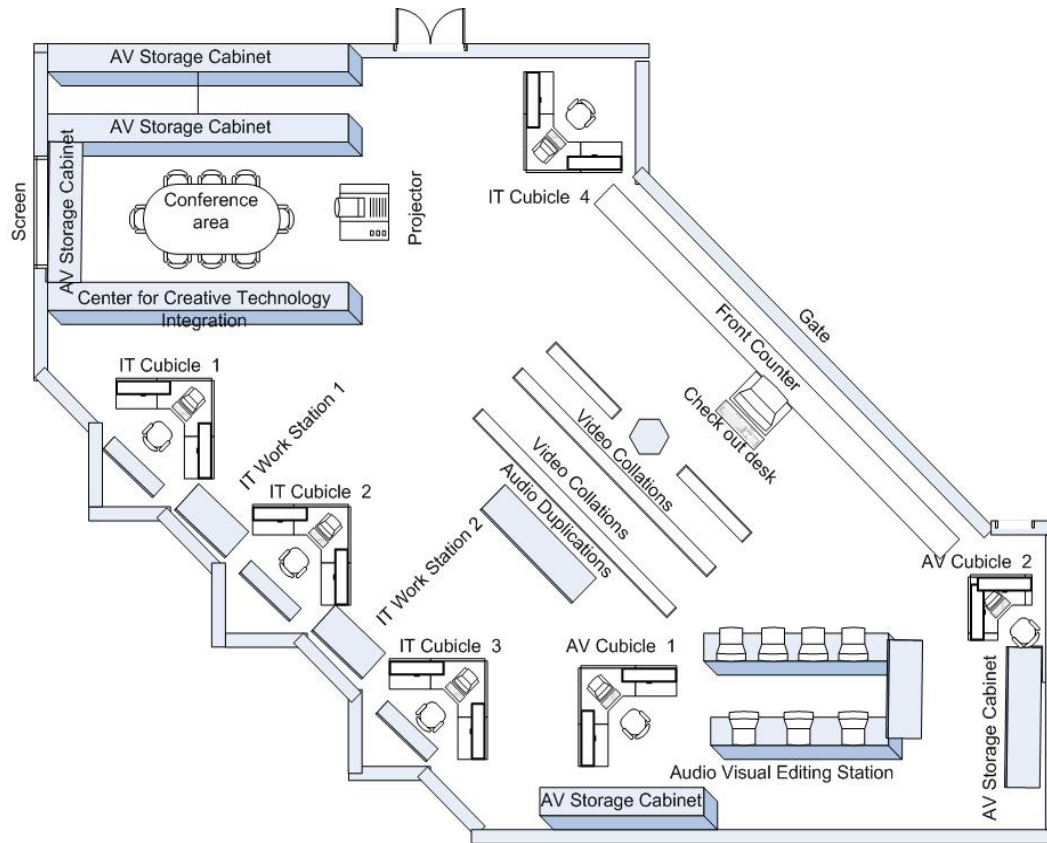
E-TUTORING PROGRAM

Mission Statement:

The e-Tutoring Program supports online College of Alameda students in academic writing projects and basic reading/writing skills across the curriculum anywhere, any time.

Brief History:

The e-Tutoring Program is a joint effort by College of Alameda's Learning Resources Center (LRC) and the Stanford Women's Club of the East Bay (SWCEB). The program began its pilot training and initial tutoring sessions in October, 2007.

Strengths:

Multiple-methods design in static learning modules and dynamic discussion. customized learning plan for each student, customizable for individual disciplines and/or instructors. Tutor/student and tutor/instructor two-way communication is available in synchronous and asynchronous forms; secure, private two-way communication is also available within the online environment. In accordance with Title V requirements for equal access to services for online students and all aspects of the state-wide Basic Skills Initiative. Meets needs of students who cannot come to campus for traditional tutoring/Writing Center work.

Student Learning Outcomes:

Students who take advantage of the tutoring program will complete the term with stronger reading, writing, critical thinking and communication skills.

Impact on Other Programs:

The e-Tutoring Program can currently support students in most liberal arts disciplines that contain a writing component. As such, the e-Tutoring Program is an invaluable asset for content area instructors who may not have the tools or training to assist under-prepared students for transfer-level reading and writing.

LEARNING RESOURCE CENTER

CAMPUS IT

College Network History:

Date	Version	Contributors	Changes
1974 to 2001	As the College of Alameda's Dean, Vice President and President.	Special mention to Juan Vazquez, for his dedication to the education of students and his support of the College of Alameda Information Technology.	Throughout his administration, Mr.Vazquez continuously raised the level of technology for the benefit students. It was his support and knowledge of IT that earned him the reputation as Peralta's Technolog Administrator.
1987 to 2004	College of Alameda's District Trustee	Special mention to Amey Stone, who represented	Her hard work, dedication and vision helped to advance the Pera

Date	Version	Contributors	Changes
		and supported the College of Alameda's IT, as well as the Peralta Community Campus technology efforts.	Community College District's technology from archaic to a modern Enterprise Network District Enterprise Network.
August , 2001	Windows 2000 Advance Server running Active Directory	Emerson Whatley, Joseph Camara and Willard Barksdale	Created a parallel Windows 2000 Server A/D network alongside an existing Novell 4.11 NDS
November, 2001 To December, 2001	Window 2000 Advance Server, running Active Directory, Exchange server with Web based email and network security.	Emerson Whatley, Joseph Camara, Willard Barksdale, Dach Hau and James Schraw and Wei Du Griffiths	Converted one third of the instructional network over to a Windows 2000 network and placed behind a firewall.
All of 2002	Evaluated the Windows 2000 Active Directory with Exchange server network for stability and functionality	Joseph Camara, Willard Barksdale, Emerson Whatley, Robert Engwall, Dach Hau and Bernard Tsang	Only minor changes were needed to accommodate specific instructional programs needs
July, 2003	New Cisco Networking Devices	Johnny Lim & Eric Randolph (e-Paperless) and LLC Elite Team,	Configured switches, routers and firewalls and supplied tech support as needed
September, 2004	Upgraded seven servers running Windows 2000 with Active Directory to Windows 2003 Standard Edition Server running Active Directory	Joseph Camara, Willard Barksdale, Emerson Whatley, Robert Engwall, Dach Hau, Tammy Cantrell and Bernard Tsang. Special mention: Kit Hui and Linnea Wren from the district.	Migrated from older Clone servers to newer HP DL360. With the exception of one Domain controller in the D-114. The two IT people from the district helped to troubleshoot networking problems.
October 2004	Created three file servers, three Domain Controller servers and one DHCP server. All running Windows 2003 Standard Edition Server with Active Directory	Joseph Camara, Willard Barksdale, Robert Engwall, Dach Hau and Bernard Tsang. Special mention to Patricia Rom from Merritt College and Chi Au from Laney College	Centrally re-located all instructional servers into one room and in one rack, which is equipped with an eight port KVM with two UPS. The two IT people from the campuses helped with server security.

Campus Network

Objectives:

- To migrate all instructional clone servers onto HP DL360's servers, mounted in a single rack and in a centrally secure location.

- To eventually upgrade instructional servers from Windows 2000 Advance Server to Windows 2003 Server "Standard Edition" running Active Directory.

- Upgrade before the beginning of the spring 2005 semester all servers with Trend Micro Anti Virus software, with anti spam capability, including the instructional lab desktops.

- To add a fourth Aviation VLAN to the existing three instructional VLAN's.

- Anticipate what future demands the instructional network may face with the main emphasis on adding instructional VLAN's to accommodate student, faculty and instructional networking needs.

- To complete the Aviation facility's certified FAA "Federal Aviation Administration" testing facility.

- Continue testing the instructional network infrastructure for reliable, expandable security for students, faculty and staff.

- Implement HP Storage Works MSL 5000 Series Digital Tape backup system, with a storage capacity up to 1,200 gigabytes.

- Complete an HP Internet Cyber Café in the Student Lounge utilizing HP Thin client technology, offering free Internet access, in an environment where students can purchase espressos and other coffee drinks in a comfortable setting.

- Prove the feasibility of a Windows Exchange Web based Email server for the campus and later for the district.

- Help implement a district-wide single logon for all students and faculty to access directory based resources from any instructional lab.

- To better serve students and faculty by installing secured wireless base stations in various locations in open areas, in the library, and in some office areas.

- Instructional IT personnel to have the ability to manage user accounts, computers, printers, routers and other devices through the use of various network software management interfaces.

- Incorporate new Cisco secure firewall with intrusion detection and a Windows directory-based authentication to resources, which includes Microsoft's latest encryption technology.

- To manage our satellite Aviation facility located at the Oakland International Airport over a newly installed point to point T-1 line from the campus to the facility.

- To promote the needs of Student Services assessment testing application software by making accessible from any instructional lab.

- To enable Vocational Education classes such as Auto, Aviation and Diesel Mechanics programs to have dedicated servers capable of delivering broadcast quality video manuals over the network.

- Work with DSPS staff to ensure accessibility software is installed in each lab.

Original Hub/Switch Network Structure

[Network Structure Documented on June 22, 1998]

Between 1996 and 1998 Bob Dang Computer Systems, a vendor who supplied servers, desktops and network services to the College of Alameda and district created the network in Figure 1. This Company was instrumental in both the design and implementation of the instructional network. Bob Dang Computer Systems created the Information Technology foundation for the College of Alameda, and it was that foundation that first advanced the College of Alameda and eventually the Peralta Community College District network. It wasn't until 1998 that some of the labs were able to access the Internet, and those that did were connected using an Ascend Router over a dual channel (128K) **ISDN** Signal/Frame Relay. Also in 1998 the instructional network was a hub and switch environment. This type of environment limited the number of labs that could be put online, which reduced the number of networked computers for instructional programs. The maximum data rate at that time was 100 megabit between buildings, with a maximum of 10 megabit from lab computers.

Furthermore, back then the instructional labs were managed independently, with large collision zones which reduced data transfer rates and Internet speed. This early network had many points of failure and little or no redundancy, which made managing the instructional labs/network resource intensive. However, what made this early network unique was its ability to have Bob Dang Computer System's trouble shoot network/server problems remotely from their remote management center which saved money by not having to pay someone to physically come on campus to solve the problem.
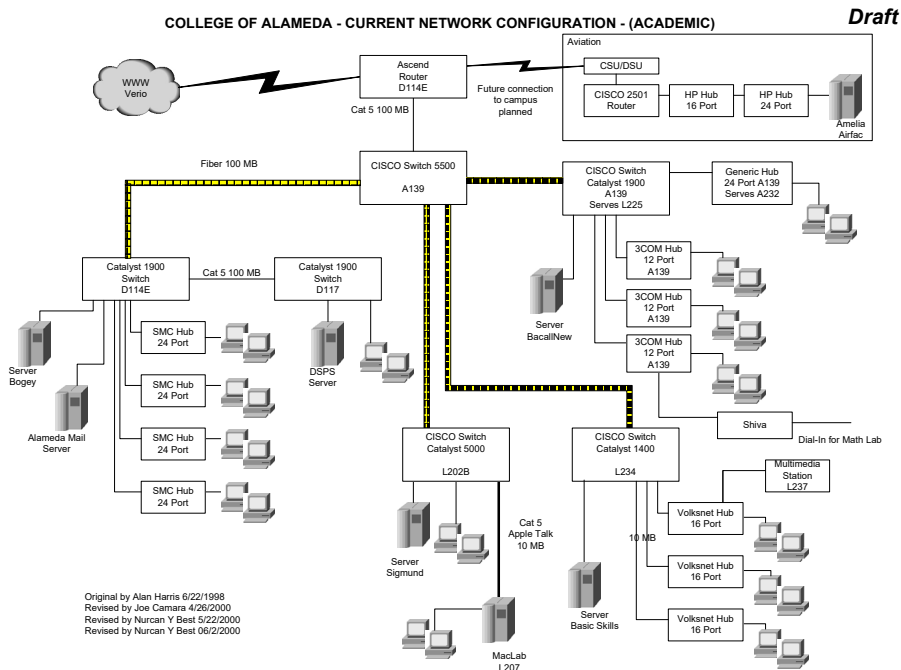

Figure 1

Switched VLAN Network Structure

[**Network Structure Documented on November 10, 2001**]Between 1998 and 2001 the instructional labs and network went through several transitive states. This 2001 diagram displays dotted boxes which define instructional VLAN's which host several labs. This network was designed and implemented by Emerson Whatley. It was his knowledge and expertise of Windows 2000 networks, Cisco firewalls and his ability to work closely with the instructional IT staff which greatly helped guarantee the success of the pilot. The instructional network was the first in the district to implement a Windows 2000 Active Directory Enterprise Network, Exchange Web email, VLAN technology and NAT [i.e. Network Address Translation.] Upon its completion, Alameda's instructional network was also the first network in the district to use these new technologies and operate its network from behind a firewall. Under this environment, all of the instructional labs have Internet access, smaller collision zones, faster data transfer rates and Internet speed. This switched network environment allows for the addition of more labs, which increases the number of available networked computers for instructional programs. The data speeds have increased from 100 megabits between buildings to gigabit between buildings, from 10 megabits from lab computers to 100 and potentially 10/1000 megabits from lab computers.

Instructional labs are no longer managed as separate entities; instead they are managed as an enterprise. This type of network configuration reduced points of failure, increased security and has redundancy. It also has greatly improved the ability to better manage the Instructional labs and the network.

Figure 2

COLLEGE OF ALAMEDA - (INSTRUCTIONAL) VLAN & LAB CONFIGURATION

19
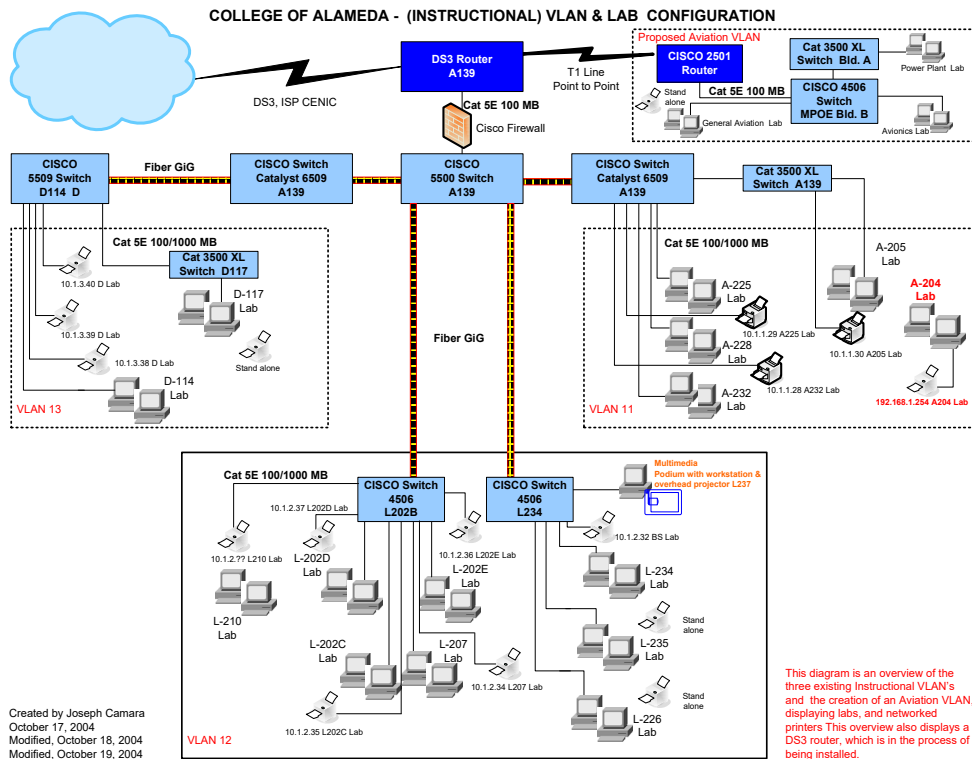
Alameda Enterprise Network Structure

I. With the seamless integration of the district office and all of the four campuses, the Enterprise network will improve overall technological services, such as Web Site delivery and manageability, Networking and Data Management as well as the everyday technical support which should encourage a cooperative and coordinated approach to technology throughout the Peralta district. For security reasons, the device names and IP addresses have been removed.
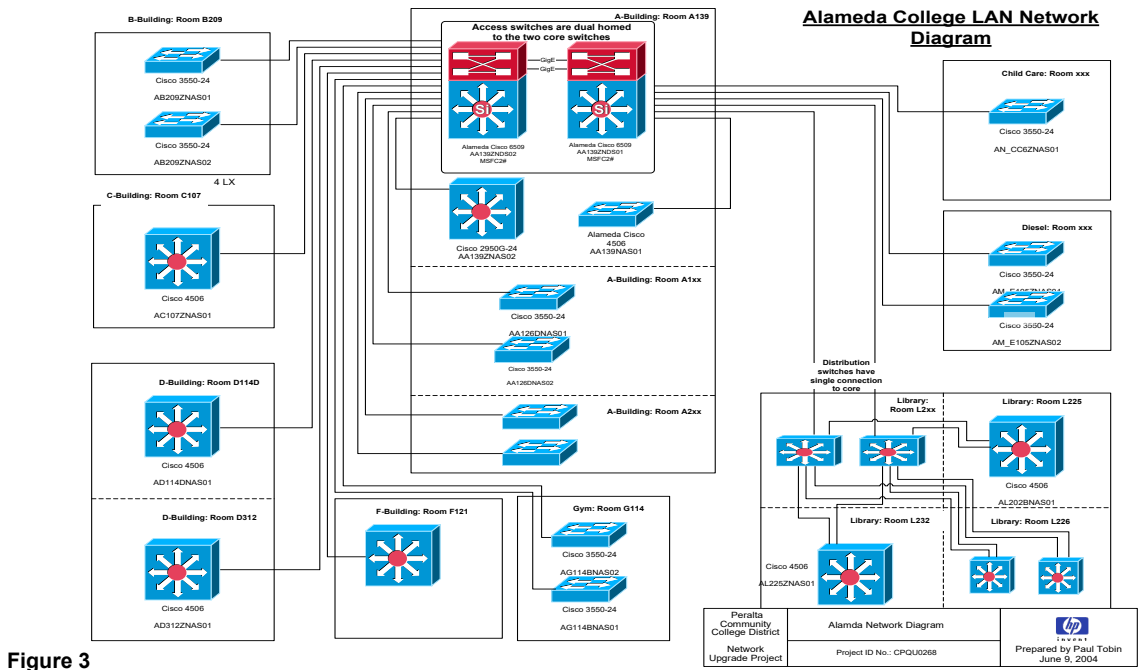

Figure 3

Alameda's Future Instructional Network

_____

Even before the Windows 2000 pilot project began, the goal of the College of Alameda's instructional network has always been to meet the current needs of instructional programs. The instructional network has always strived to position the labs and network to easily promote new technologies and instructional applications that are constantly being developed. The College of Alameda's existing instructional Enterprise network is expandable and able to meet future multiple objectives that faculty are now using and will need to use in the next several years. Currently, the College of Alameda's instructional network is preparing to implement the following technologies:

1. The selective delivery of quality of service for video on demand across the campus network.
   - Campus and district IT, working together, has completed preliminary testing of the delivery capabilities of video between the district IT office and the College of Alameda.
   - The goal is to eventually deliver selected video for instructional use to all instructional labs.
   - It is essential that campus IT be able to monitor the effects of pushing video over the entire campus network.

2. Implementation of a Cisco 3725 Gatekeeper router with intelligent caching, content routing, and management, CVS, i.e. Content Verification System, with the ability of delivering some of the following features:
   - Web-application acceleration (including software distribution)
   - Business video with comprehensive streaming-media support
   - Point-of-sale video and Web kiosks

3. Meet the demands of distance learning
   - By raising network security and increasing the bandwidth capabilities of the instructional network.
   - Making sure that IT delivers a network capable of supporting faculty who chose to teach distant learning classes.

4. Increased instructional security and management of faculty and student data files
   - By standardizing on Hp hardware for all servers, and running Windows 2003 server technology
   - The entire campus network uses Cisco networking devices.

5. Implement a campus wide secure wireless network
   - Currently the district is implementing wireless technology on all four campuses.
   - Students at COA have the ability to register for classes via campus-wide wireless network from most areas of the campus using their own personal laptops

6. Library technology requirements

- With Bala Sampathraj's assistance, we have moved the library OPAC computers off of the administrative network over to the instructional network. We also have upgraded the OPAC workstations from NT4 to XP Professional and are currently managing two OPAC profiles globally.

- Insure reliable network connectivity between, the campus library and the district office Horizon server.

- Library electronic resources are to be made available throughout the entire instructional network

- Maintain and manage the library GoPrint server on both administrative and instructional networks.

- Implemented the installation and connection of Math Lab computers to a DVD/CD server.

- Plan to put online twelve Thin Client workstations in library instructional area.

- For security convert existing drops around library perimeter first floor from administrative network over to the Internet VLAN.

- Installed new power panel in A-139, which doubled the power capability for future expansion.

- In fall 2008, LRC "Learning Resource Center" begins piloting district-wide PC-TRAK software, which monitors student positive attendance in the LRC labs.

7. Programs and Services for Students with Disabilities

- DSPS Adapted Computer Learning Center has 16 computers running Windows XP Professional

- Accessibility software installed includes Kurzweil 3000 (network version), JAWS (local hard drives), ZoomText (network version), Dragon Naturally Speaking (local hard drive).

- JAWS and ZoomText are available for students in the College Welcome Center.
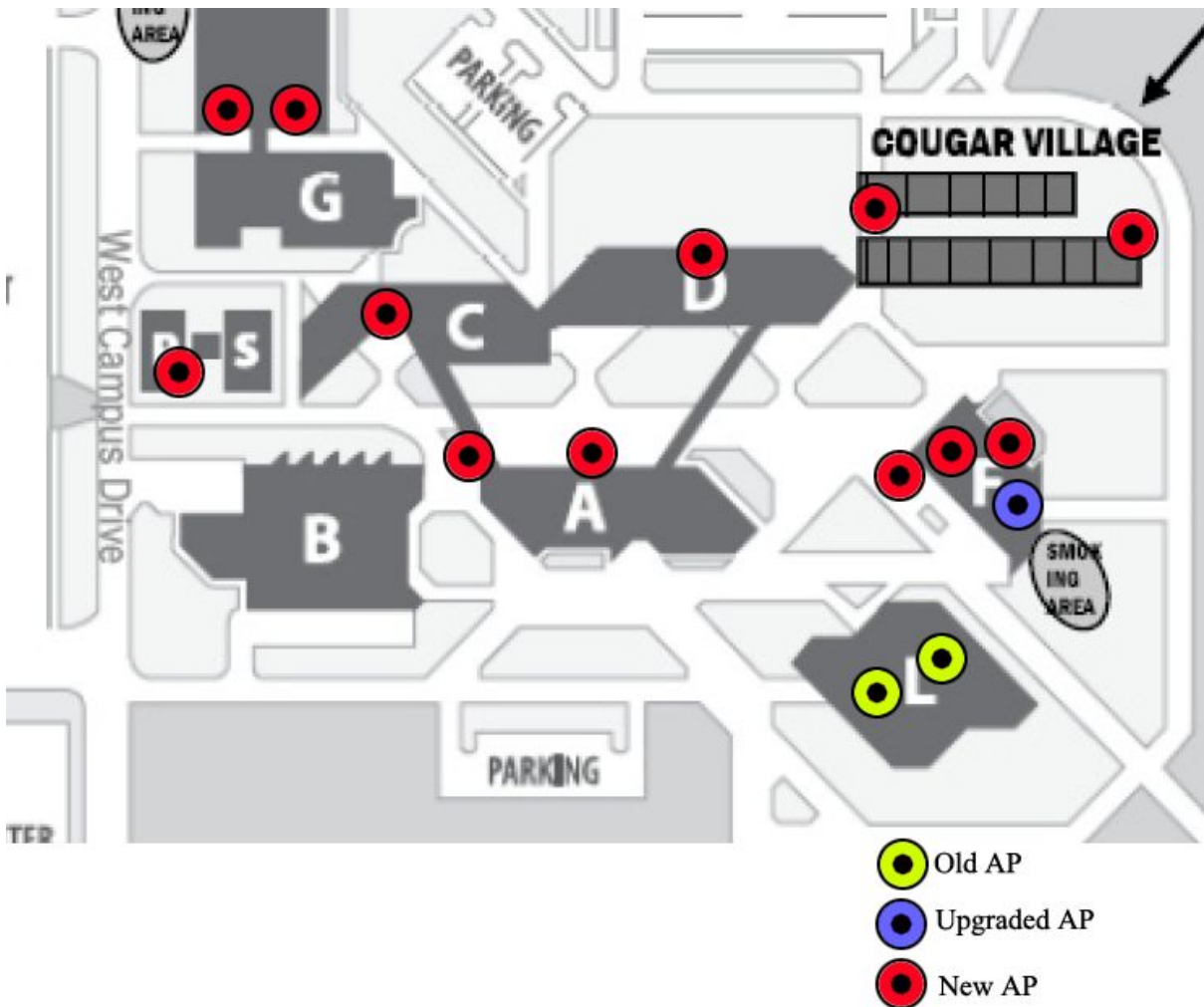
The College of Alameda has once again has positioned itself as the campus to validate new instructional programs, technologies and architectures over an instructional Enterprise network. The obstacles facing campus administrators will be supporting and securing needed funding for the purchase of newer instructional applications. Funding these new applications will encourage faculty and staff to look for and implement newer programs. Additionally, IT personnel must work closely with faculty to ensure that these new applications and technologies can be installed and delivered to faculty in a timely manner.

SMART CLASSROOMS

LIBRARY

Mission Statement

The College of Alameda Library strives to be a learning-centered library for a diverse community by providing physical and online access to quality print, electronic, and multi-media resources, services, and instruction. The library faculty and staff strive to promote academic excellence and student success regardless of location by emphasizing skills in library research, information literacy, and critical thinking. As a result of encouraging intellectual curiosity, independent thinking, and lifelong learning the library helps to facilitate students, faculty, and staff to achieve their individual educational, occupational, and life goals.

The library's goals and objectives as relative to technology include:

■ To provide quality services, research materials, technology, facilities, and instructional programs that support the college curricula, information literacy, and research needs

■ To provide students with access to information resources that support their learning processes, teach information literacy, and satisfies their intellectual needs

■ To provide timely, appropriate, current, and knowledgeable responses to students and faculty requests for information needs in print, electronic and web-based formats

■ To provide professionally qualified librarians and a skilled technical staff to support the use of library resources and technology (including audio-visual/multi-media) to support academic, administrative, collegial, and organizational needs

■ To provide assistance and access to persons with disabilities, and ensure a comfortable, safe, clean, and technologically appropriate learning environment [ii]

Support of Institutional mission, goals and objectives:

The Library supports the college's mission and goals to meet the educational needs of its multicultural and diverse community by emphasizing the teaching of library research and information literacy, by acquiring a current, authoritative, and appropriate collection of resources to serve this community. The library strives to provide excellent, comprehensive and flexible services, resources, and programs (brick-and-mortar, print, digital formats) regardless of location. By insisting on a vision of a teaching-centered library, librarians support the college goals in using, innovative teaching methodologies to train student as *innovative seekers of knowledge*. The library also supports institutional values that relate to technology by "extending opportunities in technology" for student to "achieve educational excellence." The library supports the institutions technology goals by providing digital resources regardless of location, and as a result of its instructional programs and services, helps improve over-all college student persistence rates and thereby helps increase student success at College of Alameda.

This assistance is also provided for educationally and economically at-risk students by providing open access to library research computer workstations in the Reference Area. The library supports the college's foundational skills though it instructional programs that assist student to "demonstrate information competency - ability to find, evaluate, use, communicate and appreciate information in all its various formats, and to "demonstrate technological literacy."[iii]

Status of current technology:

Physical building: The Library opened in 1977 and occupies the first floor of the Learning Resources Center building. The library has approximately 20,768 gross square feet as assignable space on the first floor, which includes all book stack, study space, circulation and cataloging/process services, archive, and library offices. There is only approximately 5,042 gross square feet as assignable space on the second floor to house the Audio-Visual Reserve Collection and AV circulation services, a six carrel Listening and Viewing Center (opening Spring 2009). There is seating for more than 200, including four study rooms, individual study carrels, and the open classroom for instruction.

The library will have new interior study furnishings in Spring 2009 that includes approximately 5% of total seating for persons with disabilities and table surfaces at a height selected to meet Americans with

Disabilities Act specifications. Aisle width and the designated space between tables conform to ADA requirements. There are two library research workstations with adjustable height for use by students with variety of physical mobility needs. There is a 3M theft detection system at the main entrance of the L Building. The open classroom has seating for 32 students, including seating that meets Americans with Disabilities Act specifications. The library instruction program teaches credit courses and course related information literacy and research sessions from this classroom. It is not known if the building meets all of Title 24 Seismic safety requirements for the State of California.

Campus computing infrastructure description: The campus IT Team maintains library access to instructional and administrative networks on campus and coordinates with the district for many shared services including Web-based resource for e-mail (Microsoft Office Outlook, and Passport, the student services enrollment system), CCC Satellite Network access in L237 (deliver instructional and training content across state, nation, and globe from CalREN), wireless internet access on campus using a wireless LAN (WLAN) 802LG IEEE standard, and specialized software for the Library research workstations, including GoPrint Printing Utility, Horizon Integrated Catalog System, Public Web Browser Interface for OPACs, and EZProxy for remote access to library materials. IT maintains 18 servers on campus divided into separate instructional and administrative networks. As a part of the state educational network initiative in California, connectivity between the instructional network and the district network is via a DS 3 (Centric) line. Connectivity between the administrative and District networks is via a dedicated T1 line. For online Library Information Studies classes, librarians use the course management platform is contracted through *Etudes-NG*, an iteration of the Sakai open source platform. Librarians plan to migrate to the new free open-source course management system, Moodle, as soon as possible.

Workstations and terminals: The library has fourteen (14) Reference/Research Workstations, including two workstations for students with disabilities, and fourteen (14) faculty/staff/service terminals running Microsoft XP 2002, Pentium III processors. The hardware itself is approximately 8 years old. Internet service is provided by CENIC at a partial DS 3 level. PCCD maintains a Web server, a Microsoft SQL catalog server, and provides telnet and Web Access for the library public access catalog. Physical network cabling is UTP. Network Wiring protocol is Ethernet. Campus network operating systems in use are NT, Novell, and Linux. The library maintains staff workstations configured for support of efficient work effort. The library conforms to relevant standards: AACR2 for MARC cataloging, Z39.50 linking standard, Z39.70 format for circulation transactions, HTML standards, and TCP/IP standards. COA and District Librarians are investigating compliance issues with Web Accessibility Initiative (WAI) page standards,.

Integrated Library System status: The library automation vendor is Dynix/Horizon. The integrated system provides for an online public access catalog, circulation and reserves, serials control, and acquisitions. The system server is a Dell computer running Microsoft SQL. The library has an unlimited users license.

Status of collection, book and non-book collection, Sept 2008: The library has 34,354 book titles; 41 magazine, and newspaper subscriptions. The library owns no electronic book, or multimedia titles, but has an uncataloged faculty reserve of multimedia materials in Audio-Visual.

Online information resources status: By Fall 2008 the library had subscriptions to a selection of 15 core online fulltext resources: Academic Search Premier, Library Information, Military and Government Collection from EbscoHost, Books in Print College Source, Discovering Collection, Student Research Center, Ethnic Newwatch, Expanded Academic ASAP, Gale Literature: Contemporary Authors, Literary Criticism, and Dictionary of Literary Biography, CQ Researcher, CountryWatch, Grove Dictionary of Art Online, Grove Dictionary of Music, Lexis-Nexis Academic, and SIRS Knowledge Source. The library makes

these fulltext resources available to College of Alameda authorized users utilizing a remote authentication process via a proxy server (EzProxy).

OBJECTIVES AND STRATEGIES

Objective 1: Information Resources

- Provide College of Alameda students with access to electronic, digital, and online information resources regardless of location that support their learning processes and satisfy their intellectual needs.
- Provide College of Alameda faculty and staff with access to electronic, digital, and online information resources regardless of location that support curricular and organizational needs.

Strategies

- Continue to develop, expand online access to core resources for COA students, faculty and staff, including development of the online catalog, development of a multimedia collection, and a core collection of periodicals.
- Continue to develop and expand library web page

Action Plans

- **New Integrated Library System:** Head Librarian in collaboration with District librarians will conduct selection and migration process for a new integrated library system, necessitated by the recent announcement that development of the Horizon system will be discontinued after the 7.4.1 release.
- **WEB PAGE**: Support college shared governance proposal of hiring a campus web designer and webmaster to continue to develop webpage. Support PCCD efforts to stabilize web utility for access, updating, and development.
- **ONLINE DATABASES**: Expand the number of electronic online databases. Find additional stable budget resources to support this expansion. Explore EBook collections available. Additional funds for subscriptions to new electronic/online research resources (e.g. electronic version of an encyclopedia).
- **MULTIMEDIA LISTENING VIEWING CENTER – COLLECTIONS**: Funding support for library materials to research, select, and processes a new Multi-Media Collection (including captioned VHF, video disks, DVDs, and CDs, for use by entire campus community as required by professional standards and Title V Ed. Code.
- **RESERVE TEXTBOOKS**: Develop additional sources for funding Reserve Books (Book Store, Student Government funds), and/or include costs in budget plans and goals.
- **Audio-Visual/Multimedia SLOs:** Collaborate with head librarian in development of Learning Outcomes for A/V Services.
- **MULTIMEDIA COLLECTION**: Research acquisitions for development, processing, and delivery of this collection; see AV below.
- **EBOOKS:** Provide a stable platform for remote access to EBook collections (ex. NetLibrary) collaborate with district librarians for a district-wide proxy services for access.

Objective 2: Instructional Resources

- Continue to expand and improve how the library provides College of Alameda students with instruction and assistance in information literacy, especially as applies to integration of information needs from electronic and online resources into their educational objectives.
- Continue to expand and improve how the library collaborates with College of Alameda faculty to provide training and assistance with the integration of information resources into their curricular, teaching and scholarship needs.

Strategies

- **Instructional Programs for Information Competency** : Continue to evaluate and develop instructional programs: LIS classes (credit and positive attendance), orientations, workshops, specialized workshop, including those for basic skills and faculty training
- **Online Instructional Programs for Information Competency**: Continue to evaluate and develop online instructional programs: LIS classes (credit and positive attendance), orientations, workshops, specialized workshop, including those that address special needs and basic skills learning.

Action Plans

- Hire additional library faculty: see Human Resources below for details.
- Request staff development funds as appropriate for extensive development of instructional programs.
- **LIBRARY INSTRUCTIONAL "SMART" CLASSROOM/LAB – PLANNING:** Review of methodology and teaching philosophy for redesign of reference/information desk into lab model for teaching information competency.[iv] New plan to include a restructuring of Reference to accommodate needs of classroom/lab.

Objective 3: Infrastructure (including hardware & software)

- Provide appropriate infrastructure that will support electronic access and connectivity for students, faculty and staff regardless of location.

- Collaborate with the college's IT Team and PCCD technology office regarding hardware, software, upgrades, maintenance, and standards.

Strategies

- **FACILITIES: LIBRARY INSTRUCTIONAL "SMART" CLASSROOM/LAB: P**lanning, Design, Funding, Implement
- **EQUIPMENT**: Ongoing maintenance and upgrade of library technology, funding and procedures

Action Plans

- **LIBRARY INSTRUCTIONAL "SMART" CLASSROOM/LAB – PLANNING, DESIGN, FUNDING:** proposal and plan for teaching area remodel;[v] assess costs for 30+ classroom/lab research workstations, one instructors workstation, and other necessary equipment and software to make the classroom totally functional; New plan to include a restructuring of Reference to accommodate needs of classroom/lab.
- **MULTIMEDIA LISTENING VIEWING CENTER –** equipment and multimedia collection development; assess standards and costs for collection and new processing. –
- **MAINTENANCE AND UPDATE OF COMPUTER HARDWARE**: FACULTY/STAFF DESK COMPUTERS; Library Lab Computers for Student/Public Access (OPACs); using a three year cycle and computer roll-down policy and procedure recommended by the IT department.
- **MAINTENANCE AND UPDATE OF COMPUTER HARDWARE** Expansion of student access to library research computers, explore thin client platform. Is it cheaper?
- **MAINTENANCE AND UPDATE OF COMPUTER SOFTWARE & UTILITIES:** Upgrading library's user interface (Public Web Browser), to a server version for easier installation and maintenance, and Ezproxy Upgrade, other server software as needed.
- **CATALOGE: BRING PERIODICALS MODULE (CATALOG) ONLINE:** Cataloging & Processing of Periodical Collection using bibliographic utility HORIZON (online catalog) for make records for items, and summary of holding available through the online catalog. Involved library technicians, cataloging librarian, and public services librarian.

Objective 4: Human Resources

- Continue to grow and expand the teaching role of the librarian in the learning process by developing and teaching course in the Library Information Studies discipline. Including continued collaboration with other discipline-based faculty.
- The continued growth, support and maintenance of library technologies require additional resources for additional technical IT staff assistance.
- Continued growth of college FTES and Head Count require hring additional library technical staff

Strategies

- **Develop funding** to hire adjunct librarians to cover reference desk duties and/or as instructors in order to continue to expand and develop instructional programs beyond current levels.
- **Develop funding** to hire classified staff, including student assistants, and "floating" staff position.
- **Develop funding** to hire additional AV staffing
- **Develop** new and crucial technology training for staff

Action Plans

- **Budget for personnel**: Hire adjunct librarians, classified staff and student assistants.
- **Multimedia Listening Viewing Center, Formal establishment of Circulation Services for AV/Listening**. **STAFFING:** Hiring 1.0 FTE Student Assistant for AV/LISTENING Center -- Adequate staffing and supplies to realize this project.
- **Request Staff Development funds** and other appropriate funding sources to support ongoing technical training for library staff.

ASSISTIVE TECHNOLOGIES/DSPS

PART IV: POLICIES AND STANDARDS

OVERVIEW
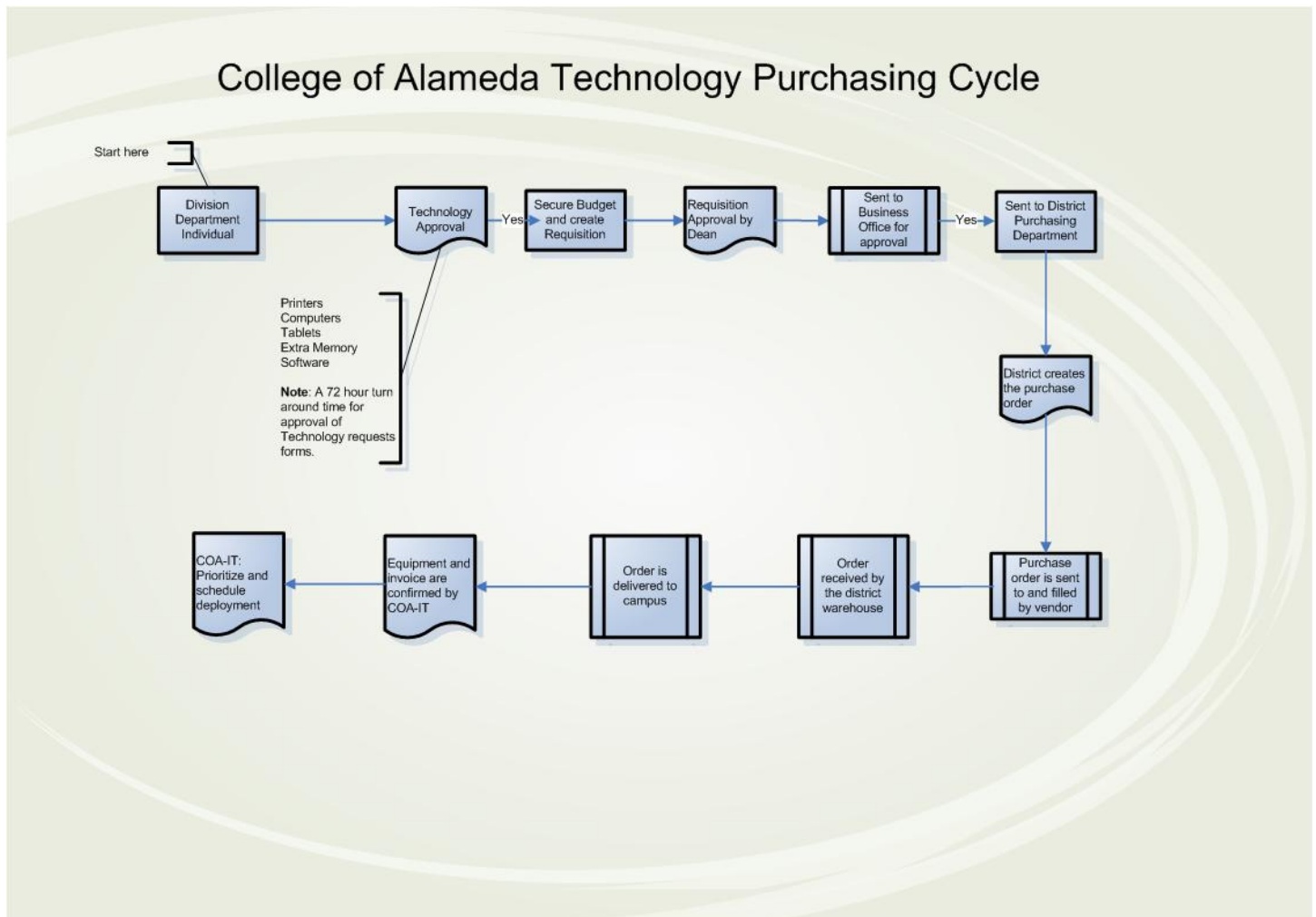
PLANNING CYCLE

ITT ORGANIZATIONAL STRUCTURE

FACILITIES

SECURITY

INTERNET ACCESS

TELECOMINCATIONS

COMPUTING POLICY

PURCHASING POLICY

College of Alameda Technology Purchasing Cycle

COLLEGE OF ALAMEDA
Technology Life Cycle
Asset Request Form

No._____

The Technology Life Cycle (TLC) – Asset Request Form will be used to request older computer technologies for computer needs that don't require a new computer. Basic keyboarding classes, print servers, student workstations, etc, are just a few examples of what older computers may be used for. By utilizing older technologies we hope to leverage computer resources throughout the college when possible. If you need any assistance in filling out this form, or need help in determining computer resource needs, please contact the Campus or Network Coordinator.

NOTE: All technology transfers <u>must</u> to be coordinated with IT prior to deployment and/or transfer.

Initiator's Name: _____   Date: _____

Requester's Name: _____ Phone:_____Div/Dept:_____

Purpose of Equipment:_____

_____

<u>Section 508 Review:</u> Equipment Requested (printers/monitors/computers, etc.): _____

_____

Division Dean/Unit Manager Signature:_____ Print Name:_____

Tech Support:_____   □ Approved   □ Denied

Equipment Processed Date: Technician:

RQ#:   Technician

ASSET VISABILITY:

It has been recommending by the College Technology Committee that before any laptop is deployed that it be branded with the College of Alameda logo when it boots up. When a laptop is stolen or lost this branding will help identify the laptop as the property of College of Alameda. The branding will also applied to lab computers.

Example of branding logo:

MAINTENANCE

DISASTER RECOVERY

PART V: APPENDIX

ii For a complete list of library goals and objective see the Library Program Review.

iii For a compete list of the institution's goals and objective see the college homepage.

iv Part of original State Library Automation Project; $87,000.00 allocated to each CCC campus library to set up a library electronic classroom strictly for library instruction in information literacy. Laney Library was able to use these funds, but District took loophole and reallocated other library lab funds to other technology purposes

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