

# Technology Plan

## COCC Information Technology

Technology 2011-13:  
An Operational Plan for Information Technology Services at  
Central Oregon Community College

Technology is a critical part of the day-to-day operations of Central Oregon Community College. It serves to enhance student learning; supports the transmission of knowledge; and supports institutional administrative functions. The purpose of this three-year plan is to guide the ongoing development and evolution of technology in support of the College's mission and strategic initiatives. The plan describes targeted technology-related activities through the 2011-12 academic year and beyond, and ensures that the planned use of technology is effectively embedded within the broader campus strategy.

### **COCC Mission and Vision**

The mission of Central Oregon Community College as stated by its Board of Directors is:  
*" Central Oregon Community College will be a leader in regionally and globally responsive adult, lifelong, postsecondary education for Central Oregon."*

### **COCC Board VISION**

Because of COCC, Central Oregonians will . . .

- be a district wide community that holds and promotes lifelong postsecondary education and ongoing professional growth and personal development for adults as values;
- be able to connect actively with other communities, the state, the nation and the world in order to attain both locally strong and globally responsible perspectives;
- view education as integral to a sense of well-being, security and responsibility; and
- look to COCC to lead the region in the achievement of these ends.

### **COCC Board GOALS**

Because of COCC, the community will...

- have an adult population with the proficiencies and learning skills necessary for lifelong employment at a family-wage level;
- have an adult population with academic achievements and learning skills necessary to successfully pursue education at and beyond the community college level;
- work collaboratively to achieve shared purposes;
- have wide-ranging opportunities to enhance learning, wellness, quality of life, and cultural appreciation;
- support diversity; and interact effectively with state, regional, national and global communities

## Background

Information Technology Services (ITS) is the centralized technology support organization at Central Oregon Community College, with broad responsibility for administration, operation and support of information systems, networks and telecommunications, and desktop computing. ITS maintains the necessary blend of systems, infrastructure and technical support to enable delivery of and access to information resources and services across the main campus, the Redmond North Campus, the Madras Campus, and at outlying centers.



## ITS Support Resources:

ITS components include: Instructional Technology Support, Management Information Systems, Administrative Technology Support, Data Networks, Voice Networks, Desktop Computing Support, Data Center Administration and Management, Technology Purchasing, Computer Lab Facilities, Web Services, IT Standards and Policies, Technology Project Management, Videography and Digital Production

## Systems Components:

### Instructional Technology Support

- Computer Labs
- Computer Classrooms
- Smart Multi-media Classrooms
- Technical Project Management and Implementation
- Internet Connectivity
- Web Platform for Faculty and Department Pages
- Local Area Network
- Managed Data Storage for Faculty and Students
- Phone System for Faculty Offices
- Email System for Faculty/Student Communications
- Computers for Faculty Offices
- Individual Technical Desktop Support of Faculty
- Videography and Digital Production Support
- Library Catalog/Database Connectivity

### Administrative Technology Support

- Computers for Administrative/Staff Offices
- Institutional Email & Calendaring System (Exchange/Outlook)
- Phone System (Switches, Lines, Handsets, External Connectivity)
- Individual Technical Desktop Support
- Remote network access from off campus (terminal services)

- Application backups
- Data backups
- Spam filtering
- Malware protection
- Public folder access/storage
- Document archiving
- Videography and Digital Production Support
- Web Services
- IP Video Conferencing
- Interface to administrative systems

#### Banner Management Information Systems

- Human Resources
- Fiscal (Gen. Ledger, Payroll, Purchasing, AR, AP)
- Student Information / Scheduling / Catalog
- Financial Aid/Cashiering

#### High-Level Technology Infrastructure:

##### Facilities

- 27 computer labs/classrooms including 4 College Centers
- 75 multimedia classrooms including 9 conference Rooms

##### Desktop Computing

- 1,225 computers in the college fleet
- Serving student, faculty, staff, & Central Oregon communities across five cities

##### Network/Telecommunications

- Fiber optic backbone/gigabit bandwidth
- Network for Education and Research in Oregon (NERO)
- Internal PBX/Telephone System
- Network Security Systems

##### Videography/Digital Production

- Broadcast channel – server support and programming
- Digital production systems

##### Data Center

- Enterprise application servers
- SAN data storage
- Spam Filtering Appliance
- Multi-tiered data backup system



## Planning Framework

To create the planning framework for the strategic document, TAC will take into consideration a variety of sources. These inputs will include reviewing educational technology trends at the national level, as well as at the regional level. Also included will be the COCC Board direction via the COCC Mission, Vision, and Goals. Technology needs and requests specific to COCC will also be a major source of input, and will come from a variety of sources. Consideration of current architecture and resource availability will also be a part of the consideration of the strategic planning process.



DRAFT

## National Trends

Summary of some information on higher education from across the U.S. to use as inputs and considerations for COCC's own strategic technology planning and efforts.

### **Campus Computing Survey:**

The Campus Computing 2010 survey data highlighted Learning Management Systems (LMS). The proportion of survey participants reporting that their institution uses Blackboard as the campus-standard LMS has dropped from to 71% in 2006 to 57.1% in 2010, with Blackboard's major LMS competitors gaining share. Desire2Learn LMS is 10.1% in 2010; Moodle LMS is 16.4 percent in 2010, Saka LMS is 4.6% in 2010.

Seventy percent of the survey participants agree/strongly agree that "mobile [LMS] apps are an important part of our campus plan to enhance instructional resources and campus services." However, the survey data indicate that mobile apps are in the early phase of campus deployment: as of fall 2010, 13.1% of campuses have activated mobile apps; 10.1% report that mobile apps are scheduled to go live. Mobile Apps are considered everything from bookmarks on browsers to button on smart phones.

Sixty percent of the survey participants agree/strongly agree that "lecture capture is an important part of our campus plan for developing and delivering instructional content." Lecture capture is in the early phase of what will likely be widespread campus deployment: as of fall 2010, 4.4% of courses make use of lecture capture technologies. The question is asked "what are we gonna do with all this stuff?"

Survey data revealed that student activities on social networks can pose social problems for colleges and universities. 15.4% of survey participants report an "incident" (cyberstalking; cyberbullying, etc.) linked to student activity on social networking sites this past year, up from 8.6% in 2006. "These rising numbers suggest it will be difficult for college and university officials to ignore the campus consequences of student behavior on social networks," "Many campuses are likely to expand their user education initiatives as part of institutional efforts to address this issue."

Eighty-six percent agree or strongly agree that "eBook content will be an important source for instructional resources in five years." "eBooks remain a much wished for, 'ever-arriving' technology in academe." It was noted that for most students, eTextbooks do not yet offer competitive alternative to used textbooks. "eTextbook development and pricing strategies are still evolving. Publishers still develop titles primarily for print, and then port print content into electronic formats. Consequently, eBooks and eTextbooks do not - yet - provide a compelling value proposition for most college students."

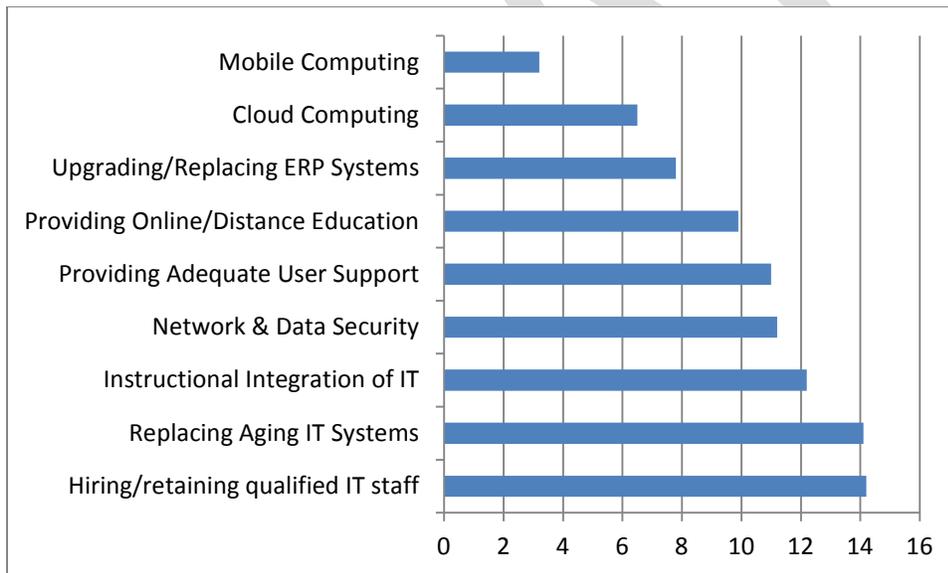
[The 2010 Campus Computing Report is based on survey data from senior campus IT officers representing 523 colleges and universities across the U.S. The questionnaire was completed in Sept-Oct 2010.]

Key 2010 Campus Computing Report Survey Results for Community Colleges

- 87.6% of Community Colleges Have No Plans to Close Public Computer Labs
- 61% of Community Colleges agree/strongly agree “Lecture Capture is an Important Part of Our Campus Plan for Developing & Delivering Instructional Content”
- 55% of Community Colleges Outsource Student Email
- 60% of Community Colleges Have a Campus Plan to Combat Illegal P2P in Compliance with HEOA
- 85% of Community Colleges agree/strongly agree “eBooks Will Be An Important Source for Instructional Resources in Five Years”
- 52% of Community Colleges courses are using CMS/LMS
- 65% of Community Colleges agree/strongly agree “Mobile Apps are an Important Part of Our Campus Plan to Enhance Instructional Resources & Campus Services”
- 67% of Community Colleges have Wireless Classrooms
- 57% of Community Colleges have Antiplagarism Software
- 34% of Community Colleges have Campus Projects to Assess the Impact of IT on Instructional Services and Academic Programs

From the 2010 Educause Conf. Presentation—Single Most Important Issues in Higher Ed 2010

“There is no ‘Single Most Important’ IT issue!”



Community College Specific – Single Most Important IT Issues

- Providing Adequate User Support (18.2%)
- Financing Replacing of Aging IT (16.5%)
- Hiring/Retaining IT Staff (11.6%)

## 2011 Horizon Report:

### Key Trends

The following four trends have been identified as key drivers of technology adoptions for the period 2011 through 2015; they are listed here in the order they were ranked by the Advisory Board.

*The abundance of resources and relationships made easily accessible via the Internet is increasingly challenging us to revisit our roles as educators in sense-making, coaching, and credentialing.* This multi-year trend was again ranked very highly, indicating its continued influence. With personal access to the Internet from mobile devices on the rise, the growing set of resources available as open content, and a variety of reference and textbooks available electronically, students' easy and pervasive access to information outside of formal campus resources continues to encourage educators to take a careful look at the ways we can best serve learners.

*People expect to be able to work, learn, and study whenever and wherever they want.* This highly-ranked trend, also noted last year, continues to permeate all aspects of daily life. Mobiles contribute to this trend, where increased availability of the Internet feeds the expectation of access. Feelings of frustration are common when it is not available. Companies are starting to respond to consumer demand for access anywhere; in 2010, programs like Google's Fiber for Communities sought to expand access to underserved communities, and several airlines began offering wireless network access in the air during flights.

*The world of work is increasingly collaborative, giving rise to reflection about the way student projects are structured.* This trend continues from 2010 and is being driven by the increasingly global and cooperative nature of business interactions facilitated by Internet technologies. The days of isolated desk jobs are disappearing, giving way to models in which teams work actively together to address issues too far-reaching or complex for a single worker to resolve alone. Market intelligence firm IDC notes that some one billion people fit the definition of mobile workers already, and projects that fully one-third of the global workforce — 1.2 billion workers — will perform their work from multiple locations by 2013.

*The technologies we use are increasingly cloud-based, and our notions of IT support are decentralized.* This trend, too, was noted in 2010 and continues to influence decisions about emerging technology adoption at educational institutions. As we turn to mobile applications for immediate access to many resources and tasks that once were performed on desktop computers, it makes sense to move data and services into the cloud. The challenges of privacy and control continue to affect adoption and deployment, but work continues on resolving the issues raised by increasingly networked information.

### Technologies to Watch

On the near-term horizon — that is, within the next 12 months — are *electronic books* and *mobiles*. Electronic books are moving closer to mainstream adoption for educational institutions, having appeared on the mid-term horizon last year. Mobiles reappear as well, remaining on the near-term horizon as they become increasingly popular throughout the world as a primary

means of accessing Internet resources. Resistance to the use of mobiles in the classroom continues to impede their adoption in many schools, but a growing number of institutions are finding ways to take advantage of a technology that nearly all students, faculty, and staff carry.

The second adoption horizon considers technologies expected to gain widespread usage within two to three years, and this year's candidates are *augmented reality* and *game-based learning*. Both intersect with practices in mainstream popular culture, both have been considered significant tools for education for many years, and both have made appearances on a number of campuses already. Advances in hardware and software, as well as in a broader acceptance of new methods in teaching, secured the place of these innovations as the top technologies for the mid-term horizon.

DRAFT

## **COCC Specific Inputs on Technology**

A variety of other inputs are available to the strategic technology plan for COCC.

Included are:

- Instructional Technology Requests
- Administrative Technology Requests
- Review of submitted ITS and MIS Help Desk Tickets
- TAC Meeting Minutes
- Interaction with other Oregon Community Colleges
- Interaction with OSU-Cascades
- Faculty and Staff Survey Results
- Student Survey Results
- Informal Conversations with Board Members, Faculty, and Staff
- Resource Constraints on Technology Implementation
- COCC Institutional Continuity Plan
- Board Mission/Vision/Goals

# Information Technology Strategy

To address these expectations within the planning framework discussed above, priority information resource strategies for 2011-13 are:

## Instructional Requests/Needs

- More flexibility in the ability to incorporate new software each year (or term)
- A robust wireless network to support students with their own mobile devices connecting to COCC networked resources
- A fault tolerant IT infrastructure to support instruction in the classroom
- A robust fleet of computers for the classroom and for public labs
- Technical Support of Innovative Instructional Methodologies
- Rapid response to PC outages
- Rapid response to network outages
- IT web platform that supports mobile devices
- IT web platform that supports Web 2.0 functionality
- Infrastructure that supports eBooks
- LMS system

## Administrative Requests/Needs

- Expand Banner ERP to increase functionality
- Increasingly integrate 3<sup>rd</sup> party applications into Banner
- Provide technical integration of mobile apps
- Business Intelligence systems to create information from data
- Robust network infrastructure
- Robust commercial grade phone system
- Robust voice mail system
- Robust network
- Rapid response to PC outages
- Rapid response to network outages
- Rapid response to application crashes
- Expand off-campus access to technology
- Secure network and applications
- Compliance with federal and state IT regulations and laws

## ITS Challenges

- Network enhancements to support growing technologies for mobile apps, increased wireless access; social networking and distance learning
- Data center management strategies that maintain solid and viable infrastructure and allow for sustainability of systems over time
- Maximizing technology availability and innovation while staying within budgetary and resource constraints. Maintaining high service levels through standardized technologies maximizes budgetary bang-for-the-buck. As a Microsoft Windows based institution, other platforms can be entertained, but will require investment of additional labor and financial resources
- Staffing and funding to support growing Instructional and Administrative technology requests/needs
- Time and resources for training to learn new technologies that are needed to support stakeholder initiatives
- Dedicated Security Administrator to support secure growing technology for the cloud and mobile apps; keeping network and servers viable and safe from attacks and viruses

## **Significant Technology Projects Underway**

- Desktop virtualization R&D and Planned Pilot
  - To address quicker turnaround of new instructional software
- SCT DegreeWorks
  - To address more effective and efficient administration of student degree needs in Admissions and Records
- COCC Web Platform Replacement
  - IT web platform that supports mobile devices
  - IT web platform that supports Web 2.0 functionality
- Math SMART Lab Implementations
  - Technical Support of Innovative Instructional Methodologies
- SCT Flexible Registration
  - To address more effective and efficient administration of the registration process for Continuing Education Division
- Replacement of the COCC Phone System
  - To address the college's need for a robust commercial grade phone system
- Replacement of the Desktop Support Trouble Ticketing System
  - Part of a process to improve rapid response to PC outages
  - Part of a process to improve rapid response to network outages
- Forefront Identify Management System – ability to create and assign user logins; email accounts and distribution lists
  - Allows management of tens of thousands of student accounts with minimal IT labor
- Exchange 2010 – upgrade from current email 2007 to newer version
- Upgrade to MS Office 2010 and Windows 7 – requires update to Windows 2008 R2
  - To accommodate CIS need for Windows 7 OS
- Enhanced virtual server environment; back up systems; and disk storage to accommodate growth of software applications
  - To address green data center concept
  - To address Instructional and Administrative requests for additional software applications
  - To address a robust technology environment
  - To minimized unneeded server hardware purchases