Technology Plan

2015-2017

Mission Statement

Consistent with our Vision, City College of San Francisco provides educational programs and services that promote student achievement and life-long learning to meet the needs of our diverse community:

Our primary mission is to provide programs and services leading to

- Transfer to baccalaureate institutions;
- Achievement of Associate Degrees in Arts and Sciences;
- Acquisition of certificates and career skills needed for success in the workplace;
- Basic Skills, including learning English as a Second Language and Transitional Studies.

In the pursuit of individual educational goals, students will improve their critical thinking, information competency, communication skills, ethical reasoning, and cultural, social, environmental, and personal awareness and responsibility.

In addition, the college offers other programs and services consistent with our primary mission as resources allow and whenever possible in collaboration with partnering agencies and community-based organizations.

City College of San Francisco belongs to the community and continually strives to provide an accessible, affordable, and high quality education to all its students. The College is committed to providing an array of academic and student development services that support students' success in attaining their academic, cultural, and civic achievements. To enhance student success and close equity achievement gaps, the college identifies and regularly assesses student learning outcomes to improve institutional effectiveness. As a part of its commitment to serve as a sustainable community resource, our CCSF mission statement drives institutional planning, decision making and resource allocation.

Education Master Plan Goals 2014-2020

Goal 1: Advance student achievement in meeting educational goals.

Goal 2: Transform and sustain College infrastructure.

Goal 3: Provide new and expanded opportunities for organizational development and effective innovation.

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Introduction

Our technology plan is a dynamic roadmap that follows from the Education Master Plan to further define the direction that the College needs to take to support its Mission. This alignment begins with guiding principles and a vision for CCSF educational and information technology.

The following Technology Guiding Principles will be followed in order to support the overall mission of the College. These principles are part of a continuous improvement process to adapt to technological changes and allocate resources based on prioritized program needs for educational excellence. The plan and these principles focus on *information technology.* Other highly particularized technologies (e.g., medical equipment for health programs, airplanes for aeronautics program) are not within the scope of this plan.

Technology Guiding Principles

Sustainability

Information technology equipment will be purchased, maintained, replaced and recycled using a continuous sustainable model.

Coordination

Information technology resources will be allocated in accordance with the needs of CCSF through the ongoing Program Review process, aligned with the goals of the Educational Master Plan.

Standardization

All information technology systems will be configured to CCSF standards to ensure adequate support and reduce downtime. The College will ensure that technology complies with federal and state mandates such as ADA, FERPA, and HIPAA requirements.

Security

Data integrity, confidentiality, and access to information will be protected in accordance with legal requirements and educational needs.

Shared Resources

Appropriate information technology equipment should be made accessible to the entire College community to maximize efficiency, sharing and utilization.

Staffing

Adequate staffing levels and training programs will be maintained to accommodate technological changes and program needs.

Innovation

New technologies will be evaluated and implemented at CCSF in order to enhance programs and services, achieve cost savings, and maintain a high level of educational excellence.

Vision for CCSF Technology

- Technology is used to enhance and support learning and teaching across the curriculum.
- Technology is used to increase efficiency and productivity of all employees.
- Technology training and professional development are prioritized to maximize the integration of technology into the curriculum, addressing the specific needs, developmental levels, and learning styles of students, and providing all employees with the knowledge and skills to utilize technology effectively.
- Technology resources are designed to achieve seamless integration of disparate systems for increased access and efficiency. Technology resources are continually evaluated, maximized and leveraged to realize administrative and operational efficiencies, streamline processes, increase productivity and efficiency, and facilitate access to information.
- Technology standards will be developed, where appropriate, and implemented to achieve efficiencies in cost, deployment, and training.

College-Wide Technology Goals

Based on the CCSF Education Master Plan, 2014-2020

EMP Goal 1.   Advance student achievement in meeting educational goals.

Goal 1: Provide appropriate technology support for learning outcomes and assessment, equity, enrollment, collaboration and instructional delivery by:

a. Continuing the acquisition and support of information storage and analysis tools
b. Improving the communications infrastructure
c. Providing equitable access to technology and technology support for all students
d. Increasing support for and use of distance learning technologies

EMP Goal 2.   Transform and sustain College infrastructure.

Goal 2: Engage in comprehensive technology planning to provide a robust technology infrastructure by:

a. Continuing to create appropriate procedures and processes for technology development and support
b. Evaluating technology needs and uses
c. Maintaining an adequate technology replacement and upgrade cycle

EMP Goal 3.   Provide new and expanded opportunities for organizational development and effective innovation.

Goal 3: Foster effective and transformative uses of technology by:

a. Expanding technology training and professional development opportunities
b. Providing opportunities to participate in technology collaborations and decision-making processes across the College
c. Using participatory governance processes for input and communication

Technology Planning Background

Relationship with College-Wide Planning Process

Technology planning is an integral part of the College's overall planning process. This coordination ensures that decisions about expending financial, human, and other resources on the acquisition and use of technology are consistent with the larger goals of the College. Using the College's program review process, technology needs are identified and prioritized against available resources and institutional priorities for the long term.

Historical Context

This plan is the latest in a series that started with the first CCSF Technology Plan, adopted by the Board of Trustees in 1997. Each successive plan (2003, 2005, 2009, and 2013) has added new strategies to address more divisions, departments, schools, centers, and campuses. A review of past technology plans reveals how CCSF technology goals have progressed:

1997: To provide a physical foundation and organizational structure for technology use;

2003: To upgrade systems and expand technology use and programs;

2009: To promote institutional effectiveness, efficiencies and learning; to provide guidelines and standards for technology-enhanced curriculum; and to bridge the digital divide, empowering students for mastery of information competency and attainment of their educational goals;

2013: Ensure adequate funding to continue to promote and use technology to serve the CCSF community.

Key Trends in Technology

The following trends in educational and information technology and its uses have been identified as relevant to the technology planning process for the College:*

- The evolution of the physical and virtual classroom
- Ongoing expansion of mobile devices and wireless connectivity for interactive learning and information access including Bring Your Own Device (BYOD)
- Wearable technology
- 3-D Printing and Maker technologies
- Smart classrooms for learning and teaching
- Electronic textbooks and trends in electronic publishing including open electronic resources
- Search technologies
- Library services platforms
- Interactive gaming environments to enhance learning and teaching;
- Growth of online programs and degrees
- Increased interactive distance learning

- Increased use of the learning management system to enhance learning and teaching in the face-to-face classroom, such as the flipped classroom;

- E-portfolios and other Portfolio/Project Management systems

- Web-based technologies used to support continuous quality improvement in instruction and student services

- Social media networks to enhance collaborative learning, both globally and locally

- Adaptive learning technologies

- Increased use of media to enhance learning in both face-to-face and online learning environments

- Growth of web-conferencing

- Locally produced educational content

- Administrative/Enterprise Resource Planning (ERP)/Information Systems

- Security

- Agility/Adaptability/Responsiveness

- Governance, Portfolio/Project Management

- Infrastructure/Cyber infrastructure

- Disaster Recovery/Business Continuity

See Appendix I for references.

Future Technology Planning Process

Revision of this 2015-2017 Technology Plan should be done annually to monitor progress and to adapt the plan as needed. Thus it will be a rolling two-year plan: each year when it is updated, its scope extends from that year, two years into the future.

- Changes and updates may be based on changes to the College's mission, priorities, Program Review, and other planning efforts.

- Employee and student surveys and other analytical tools should be conducted at reasonable intervals to inform priorities or changes to the plan.

- Annual review of the plan takes place under the guidance of the Office of Research and Planning and is coordinated by the Information Technology Advisory Committee (ITAC), in consultation with units that provide and use technology services.

- Annual review will be informed by consultation throughout the College to identify gaps in coverage of technology needs in the Plan, to be included in the next update.

- The format of the plan will be reviewed as part of the annual process to promote better communication, clarity, coordination and a college-wide perspective.

Functional Areas

Each functional area description includes:

Mission: Unit mission statement and description.

Reflections on 2013-2015 Technology Plan: Highlights significant goals that were and were not achieved during the 2013-15 cycle, along with factors that affected these outcomes.

Current Technology Environment: Describes the minimum level of ongoing technology support needed to meet the College's Mission and Accreditation Standards.

Strategic Goals: These objectives are designed to enhance instruction, resources, services, and planning initiatives; improve and update technologies; and take advantage of emerging and evolving technologies for information content, access models, and delivery platforms. Each top-level strategic goal includes parenthetical references to relevant portions of the CCSF Education Master Plan.

Educational Technology Department (ETD)

Educational technology directly supports CCSF's mission by promoting successful learning and enhancing student success. A variety of educational technologies are used to facilitate learning and teaching experiences both inside and outside the classroom. Ultimately, these technologies support learners in attaining academic, cultural, and civic outcomes.

Mission

- Train and support faculty in the development and delivery of distance education classes in order to promote successful learning and enhance student success.
- Train and support faculty using a variety of educational technologies to facilitate learning and teaching experiences, both inside and outside the classroom.
- Support students using Insight, the College's learning management system (LMS).

Reflections on 2013-2015 Technology Plan

Since the last Technology Plan, the ETD has met several significant strategic goals. Specifically, the ETD has significantly expanded the number of online courses and provides services to support this growth in online, hybrid, and tech-enhanced courses.

Additionally, ETD continues to provide instructional technology tools, facilities, and training and technical support to faculty and staff to improve efficiencies and effectiveness. Finally, the ETD continues to provide and upgrade facilities and equipment essential to the department.

While the ETD has met the above strategic goals, there are areas where the ETD was unable to meet the goals set within the last Technology Plan. In this Technology Plan, the strategic goals that still need to be a focus are related to human resources and continued instructional training and support. Specifically, the ETD needs to provide adequate human resources to ensure the continuation and improvement of all ETD functions. Also, ETD needs to continue to provide all faculty, including non-credit faculty, with access to current information and pedagogical practice related to learning technologies; and foster investigation, experimentation, and dialogue about the use of technology for learning and teaching.

Current Technology Environment

The ETD oversees the support of all telecourses; the development, delivery, and support of all online classes using the College's LMS; trains and supports faculty using the College's LMS in face-to-face classes; trains and supports faculty using educational technology to enhance the learning and teaching environment; and manages the TLC Laboratory, which serves as an open computer lab for faculty and staff as well as an area for training faculty.

Strategic Goals

1. **Continue to maintain, enhance, expand and support distance learning for both students and faculty. (EMP Goals 1b.1, 1b.3, 1b.5)**

   1.1. Continue to provide a high quality, reliable, and stable LMS for online classes that contains the latest integration with educational technologies, both generally and across the curriculum.

   1.2. Continue to encourage, train, and support faculty who teach distance learning classes to integrate multi-media delivery options into their courses, from high-quality graphics to webcasting, podcasting and social networking, with the focus on student success.

   1.3. Continue to explore and implement LMS back-end time and cost-saving strategies, such as enhanced student authentication practices, on-site archiving, and automated course-rollovers.

   1.4. Develop procedures that allow faculty to complete all required paperwork for the daily operation of their classes from remote locations.

   1.5. Explore technologies and develop procedures that allow students to complete necessary paperwork, including placement testing, orientations, education plans, and academic counseling from remote locations.

   1.6. Continue to provide multiple pathways to direct support for distance learning students.

   1.7. Continue to train and support faculty in the latest research surrounding the pedagogical implications of learning and teaching at a distance.

   1.8. Continue to strive to improve student retention, persistence, and success.

   1.9. Provide adequate human resources to support the College's distance learning program; and continue to use student lab aides to ensure the continuation and improvement of all distance learning functions.

   1.10. Expand development of online delivery of both credit and non-credit classes with a focus on high-demand/high FTES-generating courses.

   1.11. Work with faculty to increase participation in the State legislation mandating the creation of an online digital textbook library for the 50 lower division courses most often taken by students enrolled in the State's three higher education systems. The intent of the legislation is to put textbooks in an open-source format, bringing down the cost of instructional materials.

   1.12. Continue to collaborate with local, state, and national consortia on issues related to distance learning, including the understanding and implementation of state and federal legal requirements.

2. **Provide facilities, training, and support for faculty using educational technology tools to support the learning and teaching process. (EMP Goals 3b.1, 3b.3)**

   2.1. Continue to expand the current use of the College's LMS to all face-to-face credit classes, generating an overall level of expertise in LMS use that will prepare students and faculty for transitioning to hybrid or fully online classes.

2.2. Expand the use of software and educational technologies that integrate student learning outcome assessment and data analysis, with the goal of supporting continuous quality improvement.

2.3. Continue to provide for intake, possible training, and support for academic departmental projects using educational technology.

2.4. Continue to support ongoing collaboration with local, regional, state, and national consortia at the Community College and four-year levels. Develop pilot projects when necessary.

2.5. Continue to provide and upgrade essential ETD facilities and equipment in order to provide a learning environment for faculty to explore current and emerging educational technologies.

2.6. Provide adequate human resources through hiring and training; continue to use student lab aides to ensure the continuation of and improvement of ETD functions.

2.7. Continue to recognize and support the diverse learning styles of our student population by monitoring current educational technology trends and matching such new technologies to student learning needs.

2.8. Continue to identify and promotes areas of professional development for faculty related to the integration of technology into pedagogy in the classroom to support student success; expand training offerings in both face-to-face workshops and online classes.

2.9. Explore, evaluate, promote, train, and support interactive learning tools and collaboration software that enable faculty to better interact with all students in and out of the classroom.

2.10. Explore and implement pilot projects for use of mobile devices by students and faculty to access directly the College's LMS, course materials, podcasts, and e-books.

2.11. Continue to explore and evaluate the most effective web-based tools that enhance teaching and learning including re-evaluating the use of Google Apps for Higher Education.

Broadcast Media Services (BMS) and Educational Access Television (EATV)

Broadcast Media Services (BMS) and Educational Access Television (EATV) share talent, technology, staffing and other resources to meet classroom technology demands of the entire district.

Mission
- BMS provides video production and distribution services and expert consulting for video systems and equipment installation. Video production and webcasting services are provided district wide. System and equipment maintenance is provided on Ocean Campus.
- BMS supports student learning with classroom video documentation, classroom deliveries of Smart Carts that include video playback, computer, and projection equipment to Ocean Campus classrooms. Carts include high quality speakers and internet connection capacity for video and audio distribution.
- BMS and EATV technical staff operate and maintain the Distance Learning Classroom (MUB 388) equipment and systems in coordination with the Education Technology Department.
- EATV cablecasts and webcasts imaginative and flexible educational programming to meet the changing needs of San Francisco's diverse community and offers access to education for those who are physically challenged or housebound.
- EATV webstreams and cablecasts distance education classes originating in the CCSF Distance Learning Classroom, disseminates information about community events and resources, offers student internships in several areas of station operations and production, and is an outlet for student video, film, motion graphics and multimedia productions.

Reflections on 2013-2015 Technology Plans

Goals from the 2013-2015 plan that had financial support were successfully achieved. Broadcast Media Services (BMS) and Audio Visual staff continue to collaborate using a one-stop webpage describing all services available with contact information about where to request each service. Options for web-based audio and video classroom delivery requests and data collection continue to be explored and tested. http://www.ccsf.edu/mediasupport .

BMS has inventoried equipment, upgraded equipment and increased the quantity of deliverable classroom equipment for Ocean Campus classrooms. This made it possible to increase scheduled deliveries to 167 classrooms on Ocean Campus. However, Smart Cart delivery to Ocean Campus classrooms continues to increase rapidly and BMS lacks sufficient resources to meet demand. BMS worked with ITS to establish a district-wide standard for audio, video and projection equipment and provided ITS with a list of most served classrooms on Ocean Campus.

Broadcast Media Services and EATV continue to provide video distribution to support instruction, professional development, distance learning and public meetings by webcast and cablecast throughout the college district and the City of San Francisco. Creative audio and video support equipment sharing among departments and disciplines is encouraged where duplication exists. Broadcast Electronic Media Arts (EATV) coordinated with the CCSF Educational Technology Department to cablecast and webcast *Math 70- Math for Liberal Arts Majors* from the CCSF Distance Learning Classroom (MUB 388) during

2014-15. Students attended the class in person and later reviewed class materials via cablecast, computers and/or mobile devices.   Archived video assets from Math 70 will be edited and incorporated in an online Math 70 class during 2015-16. For more information: http://youtu.be/dsKHQbWqvNs.

Current Technology Environments

BMS provides audio and video production, playback, distribution, format conversion, duplication services and technical expertise to support instruction, student services, professional development, district governance, performances, presentations, events and related college activities. The webcast and webstreaming system was upgraded in January 2015 to accommodate viewing on mobile devices. The department is currently working on a mobile encoder upgrade to allow for live captioned webcasts distribution from any location in the San Francisco Community College District compatible with viewers using mobile devices.

Broadcast Media Services and EATV internships provide students with extensive experience in working with media technologies, equipment issue, production, scheduling, and customer service. Staff and interns support video production and distribution throughout the college, operate and program San Francisco's two educational television channels and operate and provide technical support for the Distance Learning Classroom in MUB-388.

Strategic Goals

1. **Implement the global vision for college-wide audio and video services to meet the needs of instructional programs and the College community.**

    1.1   Move inventory data to an electronic management system to generate reliable statistics on usage, etc., to share in the global environment.

    1.2   Continue research and discussions regarding a district-wide web based system for requesting media services options for faculty and staff that automatically directs requests to appropriate units throughout the district. Select a system and begin implementation.

    1.3   Survey end users to inform assess services and ensure that audio, video and projection equipment and services continue to enhance student success in classroom and public spaces.

    1.4   Implement the established district-wide standard for audio, video and projection equipment and discourage non-compliant purchasing.

    1.5   Collaborate with ITS, AV and academic departments to establish a district-wide technical support plan for classrooms with newly installed smart technology.

    1.6   Continue to develop and acquire quality educational programming for EATV to serve CCSF students, faculty & staff, SFUSD and the community at large.

    1.7   Continue to develop and support relationships and programs with SFUSD, CCSF Centers, and other Community Based Organizations to increase student awareness and access to learning pathways.

2. Enhance and expand district video distribution to meet the needs of classroom instruction, distance learning courses, professional development, and public meeting rooms.

2.1　Fully utilize the video distribution and video streaming capacity of the Distance Learning Classroom, MUB-388, to produce, distribute and stream live/archived instruction.

2.2　Establish methods of data collection to improve the effectiveness and efficiency of classroom delivery and production services and to inform staffing levels, scheduling and services.

2.3　Continue to upgrade and increase deliverable inventory and staff to meet ever-increasing demand.

2.4　Continue to encourage equipment sharing where duplication of equipment exists.

2.5　Continue developing webcast and streaming compatible with mobile devices and remote locations district wide.

Library and Learning Resources (LLR)

Mission

LLR is committed to providing excellent resources and services that support the College's mission. To fulfill its mission, the Library:

- Contributes to student learning outcomes by actively engaging in both the development and implementation of an information competency initiative that supports the curriculum;
- Provides users with assistance and instruction for success in the use of Library resources for their present and future studies;
- Strives to provide equal access to print and electronic materials and to develop services, including distance learning services, for students with a wide range of scholastic abilities, learning styles, and comprehension levels;
- Is supportive of and responsive to the changing needs of people with diverse ethnic, cultural, social, and economic backgrounds;
- Advocates for faculty and staff participation in building and enhancing Library resources and creating new services;
- Contributes to the College's curricular goals by providing programs and exhibitions and publicizing available resources and activities;
- Encourages forging of partnerships and integrating of new technologies to increase access to resources and services external to the College's physical collections.

Reflections on 2013-2015 Technology Plan

Progress was made on many of the goals in the 2013-14 plan. Technology-based enhancements to resources and services included the addition of streaming video resources, new platforms for research guides, and research and citation management tools for students. Services continued seamlessly by maintaining current updates of the library's integrated system and enhancing the library catalog. Hardware was replaced, upgraded or added to meet various needs. A major upgrade to the Library's integrated system has been approved for summer 2015.

Information competency and research skills instruction remain available online to all students. Software has been acquired to improve access to instruction, content, multimedia integration, and multiple modes of learning. Beta testing of new assessment modules is under investigation. Discussions with Educational Technology continue for finding better ways to integrate LLR workshops into the curriculum via Insight.

Highlights of staff training for technology include Flex Day workshops taught by LLR faculty, staff refreshers on library systems, and the creation of resource guides for faculty outside the LLR.

Planning for ongoing technology needs continues through assessment and annual program review. College-wide efforts to improve Banner, computer lab access and other initiatives are expected to pave the way for further achievement of LLR technology goals. Cooperation between the LLR and other departments on technology issues has been active and productive. College-wide improvements in

infrastructure such as wireless access and computer replacements have helped the LLR meet its technology goals.

Current Technology Environment

The LLR uses numerous technologies to provide information and research resources for all areas of the curriculum and student support and development, on-site and distance information competency instruction, access to local archival resources, educational programs and exhibitions, foreign language materials and tutoring, and audiovisual equipment, materials, and facilities for instruction. The LLR includes the Libraries, Media Center, Audiovisual Department, and Language Center.

The LLR currently provides the following:
- Systems enabling access to and delivery of print, digital and web-based information resources, including an online catalog, circulation, collection management, and statistical reporting;
- Digital information resources including but not limited to e-books, e-journals, periodical databases, audio and video content, and electronic reserves;
- In-Library computer labs for research, paper writing and homework assignments, and student support activities such as registration, orientation, and instructor contact;
- Information competency instruction technologies;
- Language Center computers and electronic resources; and
- Audiovisual equipment and media classrooms for academic courses, at the Ocean Campus and at some Centers.

Strategic Goals

1. **Enhance access to information resources. (EMP Goals 1.b.2, 1.b.3, 1.b.5, 3.b.1, 3.b.3)**
   1.1. Stabilize the funding base for electronic resources (e.g., periodical databases, e-books, streaming video, and other digital tools), which has shrunk due to the discontinuation of statewide funding for shared resources.

   1.2. Improve the quantity, quality, and variety of digital information and foreign language learning resources in LLR collections.

   1.3. Upgrade existing and acquire new technologies for information access within LLR facilities, including but not limited to mobile interface modules and devices, new software applications, photocopy and scanning systems, and video and audio technologies.

   1.4. Enhance and upgrade the integrated library system by adding access and service features and/or migrate to a library services platform that increasingly integrates multiple modes of information access.

   1.5. Provide enhanced information delivery models for remote users.

   1.6. Expand options for remote users to interact with library faculty and staff online for reference and information access.

   1.7. Investigate electronic resource and technology sharing with libraries and institutions outside the District to increase available resources and enhance efficiency.

1.8. Support expanded electronic access to College and departmental archival collections, programs, and exhibitions.

1.9. Work with ITS and BEMA to improve access to media classrooms, media equipment, and audio/visual information resources for district-wide classroom use.

2. **Enhance information competency and research skills instruction. (EMP Goals 1.b.1, 1.b.2, 1.b.3, 1.b.4, 1.b.5, 3.b.3)**

2.1. Expand online access to LLR instructional offerings and resources, including workshops, courses, and supporting materials, particularly through integration within the library website and the College's learning management system.

2.2. Increase online access to library faculty for research skills and information competency instruction via existing and new technologies.

2.3. Evaluate and, if necessary increase, faculty levels of support for expanded online instruction.

2.4. Implement and continue to explore technologies to enhance LLR instructional content to promote interactivity and accommodate a variety of learning styles.

2.5. Investigate and participate in enhanced delivery methods for distance learning and outreach, such as social media and mobile platforms.

2.6. Enhance technology used to incorporate LLR Programs and Exhibitions into distance learning.

3. **Upgrade and enhance technology supporting LLR facilities. (EMP Goals 2.b.1, 2.b.3)**

3.1. Replace and upgrade LLR security systems for materials and facilities and develop a plan for future maintenance, replacement, and upgrading.

3.2. Acquire and support appropriate technologies for information access and instruction, staff support, and security at new LLR sites at Civic Center and Evans.

4. **Expand utilization of technology to enhance evaluation of and planning for services and instruction. (EMP Goals 1.b.1, 3.b.3)**

4.1. Update existing and/or acquire new software to gather and analyze data for assessment and planning.

5. **Participate in College-wide efforts to ensure adequate and productive human resources for technology support. (EMP Goals 2.b.2, 2.b.4, 2.b.5)**

5.1. Assess and maintain appropriate staffing levels for technology support within the LLR

5.2. Upgrade training and professional development for technology support and usage within the LLR.

5.3 Continue cooperation with ITS to participate effectively and efficiently in college-wide technology support.

Student Services

Mission

The Student Services Division strives to provide exemplary support for student learning and development equitably throughout the District. With diversity as its hallmark, the Division supports student access, opportunity, retention, satisfaction, and achievement through programs and services that reflect students' needs, contributing to students' learning and educational goal attainment.

Through its orientation – Students First – Striving for Excellence – the Student Development Division seeks to anticipate student needs, involving students in meeting those needs to contribute to their individual learning and development. With a focus on student empowerment, the faculty and staff of the Division help students take charge of their educational experience by providing students with the tools to take increased responsibility for their future, thereby increasing the impact the College has on their lives.

Reflections on the 2009-2012 Technology Plan

Significant progress was made during the previous Technology Plan. The following accomplishments were achieved:

- In fall 2014, the Orientation Work Group of the Matriculation Advisory Committee revised the content of the online new student orientation.
- The Learning Assistance Center has begun web-based video tutoring. By appointment, students can access this service remotely.
- SARS Grid student counseling appointment reminders are now sent to students via email using the SARS MSGS software.
- In fall 2014, The GED Testing Center transitioned from paper-pencil format to the computerized GED test by PearsonVue.
- In summer 2014 per State MIS mandates, the college transitioned to the Student Success MIS reporting away from the Student Matriculation file previously submitted. The new process uses some Banner baseline functionality.
- In collaboration with Admissions & Records, ITS, Academic Affairs, and Ellucian Consultants Financial Aid successfully met enrollment reporting requirements in modifying the Clearinghouse House Enrollment File to meet new Title IV reporting requirements.
- Ten Financial Aid computers for Mission Center were purchased to upgrade computers, and 1 all in one printer.
- Ten Financial Aid staff computers for Ocean Campus were purchased to upgrade computers.
- The Financial Aid Satisfactory Academic Progress (SAP) process was streamlined from a custom script that was not meeting operational needs to utilizing Banner Baseline.

Although many technology efforts were successfully implemented as described above, some challenges are to be noted. Financial and human resources constrain the rate at which new technologies can be purchased and implemented. Creating a more robust student portal where students can interact with student services, and the College at large, continues to be a goal.

Current Environment

Recognizing that technology plays an important role in the provision of student services Student Development strives to integrate technology into the delivery of student support services where

possible. Emerging technologies, particularly in web-based and digital formats, have the potential to reach many students expediently. Smartphone and tablet technologies create an environment where students are at the ready anywhere to interact with and receive information from the College. Student Services seeks to meet the needs of our students by developing the following goals for 2013-2015.

Strategic Goals

1. **Expand the use of technology in the provision and delivery of student support services by exploring and implementing new software, databases, and web-based applications. (EMP Goals 1b.4, 2b.2)**

   1.1. Expand the use of SARS suite products to create and improve access to services, such as the scheduling of counseling appointments, including the use of phone calls, emails and text messaging.

   1.2. Expand and increase the use of the electronic student education planning system and degree audit. Implement the statewide Education Planning Initiative (EPI).

   1.3. Expand utilization of the Banner Document Management System (BDMS) to enhance the College's document storage and retrieval process.

   1.4. Implement the use of additional technology platforms (such as video, email or chat) to expand the scope of e-Advising.

   1.5. Explore the use of software that imports or submits commonly used student services forms electronically.

   1.6. Research and implement a web mobile application to increase access to CCSF services and information from mobile devices.

   1.7. Explore online electronic student form submission through WEB4.

   1.8. Implement eTranscripts.

2. **Improve student access to services regardless of location by using technology equitably district wide. (EMP Goals 1b.2, 1b.3, 2b.2)**

   2.1 Expand noncredit online registration system to expedite the registration process at all of the College's locations.

   2.2 Continue to upgrade office technology resources to support student services offices at Ocean and the Centers.

   2.3 Increase accessibility of Student Activities through the use of technology.

   2.4 Improve student access to all online forms in the Student Services area. Ensure that online forms comply with Americans with Disabilities Act.

   2.5 Implement an online form and calendar for major events at the College to be maintained by the Office of Student Activities.

3. **Identify student services technologies that enhance student learning and promote student success for distance learning students. (EMP Goals 1b.1, 1b.5, 2b.2)**

   3.1 Prioritize and fund technologies that support Student Services to enhance student learning and promote student success through distance education.

   3.2 Develop and implement counseling, career and transfer services for distance education students.

4. Upgrade technology infrastructure to support college operations. (EMP Goals 1b.3, 2b.2., 3b.1)

4.1 Expand web-based Positive Attendance Records System (PARS) to enhance noncredit attendance reporting.

4.2 Implement Banner baseline 320 state reporting.

4.3 Implement Argos data query and reporting tool.

4.4 Provide professional development and training opportunities to keep college employees' skills current.

Information Technology Services (ITS)

Mission

ITS supports the College and all its departments by the following: creating services and maintaining technology being used by students and employees; providing technical expertise to improve productivity, effectiveness, and efficiencies; and providing customer support for technology. ITS is customer-centric, empowering the College community by providing needed technology that in turn improves student success.

Reflections on 2013-2015 Technology Plan

Many substantial items in the ITS portion of the 2013-15 Tech Plan were completed. ITS and Ellucian consultants completed a dashboard in Argos for DSPS to assist them with better tracking of services provided in order to maximize funding as reflected in our MIS reporting. Emergency and outreach communications are undergoing changes. With the loss of AlertU as a free service, ITS participated with Campus Police, Student Development, and others to find a replacement. Vendor demonstrations were held and a choice has been identified. Further negotiations are underway as of April 2015. Much work has been completed with the assistance of Ellucian consultants and Application Management Services to improve our Banner environment. Baseline procedures are replacing customized coding. AMS' DBA services are providing a high level of support. AMS is assisting ITS staff with architecting a new Banner environment as CCSF upgrades its servers. Virtualization of the CCSF server environment continues as do projects to replace tape-based backup with disk and online backup. Previously unused Banner functionality such as Faculty Load and Compensation are being deployed.

Current Environment

BYOD – In a survey conducted in 2013 by Educause, 76 percent of undergraduates reported owning a smartphone, an increase of 14 percentage points compared with the previous year. 58% percent said they owned at least three Internet-capable devices.

Security – There is a continued increase in attacks as well as the growing complexity of what is required to stay on top of zero day exploits, etc. Research by the Ponemon Institute conducted in 2014 estimates that the average cost of responding to a network security breach in higher education is $294 per student record.

Increasing use of educational technology – Faculty and student use of Google Apps, Insight, and other educational technologies highlight the need for faculty support and training.

Cloud-based services – The use of cloud-based services continues to expand. The college's email systems are fully cloud-based. Further examples include Lynda dot com and OpenCCCApply.

Document imaging – Financial Aid has implemented Banner Document Management (BDM). The demand for document management is growing.

Mobile – The "new normal" of mobile, online learning, bring-your-own-everything, and cloud computing is the latest step in the gradual migration of institutional systems from a tightly controlled environment to a very diverse environment that is out of the direct control of the institution. Today, faculty, staff, and students expect to use institutional systems and to access, transmit, and store data anytime and anywhere using a wide variety of personal and work devices and applications. Institutional applications have burgeoned, and integration points have increased exponentially. The complexity of IT support has increased accordingly. (http://www.educause.edu/ero/article/top-10-it-issues-2015-inflection-point)

Growth in systems, computer labs - The ITS Department is currently supporting approximately 2,000 computers and telephones for faculty and staff in addition to approximately 3,500 computers in academic classrooms and labs.

Strategic Goals (EMP Goal 1.1b.1, 1b.3, 1b.5, Goal 2.2b.2. Goal 3,3b.1, 3b.3)

1. **Enhance and expand College network and communication services. (EMP Goals 1b.5, 2b.2, 3b.3**)

    1.1. Improve network and wireless connectivity for all campuses and centers.

    1.2. Implement Trident HE software for secure Identity Management for students and employees. Unify user credentials. Provide self-service password resets. Investigate two-factor authentication.

    1.3. Standardize miscellaneous computer-based technology used throughout the District, such as Access control systems, Video surveillance, Area of Refuge systems, and Building management systems

    1.4. Improve College website and website management, including portal and content management technologies. Adopt a "mobile first" strategy for future development.

    1.5. Fully deploy emergency and outreach notification and communication systems.

2. **Ensure that the computer lab facilities, multimedia classrooms, and regular classrooms meet the needs of instructional programs at all campuses and centers. (EMP Goals 1b.5, 2b.2, 3b.3)**

    2.1. With Facilities Planning, Audio-Visual, and others, develop and implement a plan for refreshing approximately 75 classrooms (including technology)

    2.2. Work with instructional departments to consolidate the number of computer labs and multimedia classrooms, while continuing to meet program needs, improving access to and measuring utilization of these resources.

    2.3. Promote multi-departmental usage of computer lab facilities.

    2.4. Standardize and enhance methods of student access to computer labs with secure identity management, including usage tracking with AccuTrack.

    2.5. Expand the number of classrooms with appropriate technology such as computers, mounted projectors, document cameras, interactive boards, sound amplification, and assistive listening.

    2.6. Assist Scheduling Office in the creation of a master list of technology available in classrooms.

    2.7. Unify computer lab and other public student printing with a single interface. Implement wireless (WiFi) printing.

2.8. Ensure access to specialized software, as needed by departmental and student requirements for various labs across campuses and centers, using software metering.

3. Develop and implement enhanced administrative information software and services. (EMP Goals 1b.3, 2b.2, 3b.3)

3.1. Revitalize CCSF's Banner, Oracle, and other applications, as required. Where appropriate, modifications are being turned off and baseline processing and forms are being used in their places. Previously unused Banner functionality such as Faculty Load and Compensation are being developed and deployed.

3.2. Where appropriate, modifications will be turned off and baseline processing and forms will be used in their places.

3.3. Implement Argos and other refinements to the Banner environment to provide data for informed decision-making.

3.4. Continue moving toward the CALB standard for Banner to the maximum feasible with a corresponding reduction in local modifications and additions, including MIS (320) state reporting.

3.5. Examine and improve existing work processes to take better advantage of Banner work-flows and functionalities to improve College operations, utilizing business process assessment methodologies (BPA), when appropriate.

3.6. Increase and improve noncredit attendance accounting using online reporting, expediting the process of noncredit Banner registration to facilitate use of Insight, the learning management system, in noncredit programs.

3.7. Develop, enhance, and implement solutions for Administrative Support, including web time entry, electronic document management (imaging) and better documentation of use of these resources.

4. Enhance ITS management and operations. (EMP Goals 1b.4, 1b.5, 2b.2, 3b.1, 3b.3)

4.1. Bring CCSF systems such as Web4, wireless, Banner INB, Office365, and CCSFmail under a single identity management solution.

4.2. Develop and implement a business continuity or disaster recovery plan.

4.3. Develop and implement improved and upgraded configuration of servers, incorporating cost-effective and sustainable technology, such as virtualization, including maintenance, monitoring, and back-up systems. Refresh data center equipment such as virtualization server clusters and storage.

4.4. Continue to implement modernization of the data center.

4.5. Continue to strengthen and improve information technology management and organization, evaluating ITS organizational structure and adjusting, as necessary.

4.6. Coordinate software purchases and licensing to achieve cost savings.

4.7. Provide adequate staffing to support functionality of existing equipment/software/services, and to implement new functions/features/services.

5. **Improve continuous planning process for technology. (EMP Goal 2b.2.)**

   5.1. Coordinate and evaluate planning for all areas of information technology through the Office of Research and Planning.

   5.2. Refine and implement processes and procedures for the acquisition and replacement of technology.

   5.3. Participate all phases of planning and implementation for all technology in capital construction projects.

Appendices

Appendix I – References

Technology Trends

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