FOOTHILL COLLEGE

2016 – 2019 Foothill College
Technology Master Plan

2016 – 2019 Foothill College Technology Master Plan

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SUMMARY

The Foothill College Technology Master Plan, in conjunction with the Foothill College Education Master Plan and the Foothill-De Anza Community College District Technology (ETS) Master Plan, describes how technology is integrated with college-wide planning and decision-making in support of student success.

The technology goals for 2016 - 2019 are:

- Ensure that campus technology policies and procedures guide the appropriate use of technology to foster a dynamic and effective learning environment;
- Support expectations by students, faculty, staff, and administrators for access to informational resources, the Internet and support for computing devices;
- Maintain the leading edge of higher educational computing to support students with planned updates and replacements in support of a sound technological infrastructure;
- Provide high-quality learning environments supported by technology in a secure, reliable, and safe manner; and
- Ensure that students, faculty, staff, and administrators have access to and instruction for appropriate use of technology and systems necessary for student success.

Introduction

The 2016 – 2019 Foothill College Technology Master Plan (Tech Plan) serves to guide decisions and actions over the next three years that can be facilitated by educational technology to promote student and institutional success. Technology planning entails the identification and refinement of long- and short-term goals and objectives based on input from stakeholders from across the campus community about desired strategic capabilities. These goals and objectives are intended to align with other college plans including the Foothill College Education Master Plan (EMP), the Equity Plan, and Student Success and Support Program (3SP), as well as the Foothill-De Anza Community College District's Technology Master Plan. Additionally, this Tech Plan is informed by input collected from staff, faculty, and administrators via interviews, meetings, and surveys.

The ever-changing opportunities and challenges of educational technology require that this plan be considered dynamic and subject to annual review and updating based on feedback, ongoing dialogue by the campus community, and performance indicators.

Relationship of Technology Master Plan to the Mission of Foothill College

In addition to program and administrative reviews, this plan is driven by the College Mission. The Foothill College Mission states: "Believing a well-educated population is essential to sustaining and enhancing a democratic society, Foothill College offers programs and services that empower students to achieve their goals as members of the workforce, as future students and as global citizens. We work to obtain equity in achievement of student outcomes for all California student populations, and are guided by our core values of honesty, integrity, trust, openness, transparency, forgiveness, and sustainability." The Technology Master Plan aligns with the College Mission by guiding use of technology to meet strategic capabilities that enhance student access to instructional and student services regardless of location, time, and ability.

Foothill College Technology Committee

Foothill College integrates technology planning with college planning through its institutional planning model and shared governance committees. The Technology Committee (Tech Committee) reports to Planning and Resource Council (PaRC) and includes membership from District Educational Technology Services (ETS), administration, faculty, and staff. The Tech Committee is co-chaired by the dean of Foothill Online Learning

and the director of marketing and public relations. The Tech Committee meets on a monthly basis. Meeting minutes are posted at http://www.foothill.edu/president/ttf.php.

The PaRC is the ultimate authority for college planning and decision-making. The PaRC is made up of representatives from college governance groups including the Academic Senate, Classified Senate, employee unions and representatives from instructional and student services working groups such as the Basic Skills Workgroup, the Transfer Workgroup and the Workforce Workgroup.

With ongoing input from faculty, staff, administrators, and students, the Tech Committee is the major entity responsible for educational technology planning at Foothill College. The Tech Committee serves to facilitate and create a dynamic learning environment; support stakeholders' expectations for access to informational resources, the Internet and support for computing devices; provide high-quality learning environments supported by technology in a secure, reliable, and safe manner; reach the leading edge of higher educational computing and technology deployment to support students; offer the highest quality online learning tools/systems in a secure manner for students, staff, and faculty; and ensure all students have access to the technology necessary for student success.

The Operations Planning Committee of the PaRC collaborates with the Tech Committee annually when technology-related resource requests associated with Program Reviews are under consideration (see "OPC Recommendation for Flow for Resource Requests" at http://www.foothill.edu/president/opc-pdf/OPC_Rec_Flow_Resource_Request_4A.pdf).

Strategic Capabilities

The academic and administrative capabilities desired by Foothill College that require technology implementation and support fall into four categories: 1) business processes; 2) communications; 3) information and knowledge management; and 4) instruction and student services. These capabilities were identified by soliciting input from faculty, staff, and administrators using interviews, meetings, and surveys during the Fall Quarter of 2015.

1) Business process capabilities include:

   - Efficient use of resources based on shared solutions, economies of scale, and minimized duplication of effort
   - Convenient workflows, processes and procedures for conducting college-related study and work
   - Nurtured and supported innovation that ensures fiscal sustainability and broad positive impact
   - Quick turnaround for review and approval of time-sensitive projects

2) Communication capabilities involve shared and timely communication among students, faculty, and staff that facilitates collaborative problem-solving and solution generation, especially for shared governance, that accommodates everyone regardless of location, time, and ability.

3) Information and knowledge management involves:

- Secure, accurate, consistent, efficient, scalable, timely, and cost-effective collection and sharing of information and data for routine college operations and data-driven decision-making as well as special initiatives and innovation
- Effective and efficient ability to address student equity issues including transportable and ready access to information and the integration of information to best meet the needs of our students.
- Quick and easy access to relevant, useable, and transportable information about Foothill College and its operations for student, faculty and staff

4) Instruction and student services require:
- Flexible state-of-the-art teaching and learning spaces on and off campus for purpose of student success
- Innovative, dynamic, and agile approaches to teaching, learning, and student support services
- Support for student engagement, collaboration, and self-regulation in learning environments

Three-Year Goals and Objectives (revised annually)

Goals

The technology goals in support of these strategic capabilities over the next three years are:

Goal 1: Ensure that campus technology policies and procedures guide the appropriate use of technology to foster a dynamic and effective learning environment;

Goal 2: Support expectations by students, faculty, staff, and administrators for access to informational resources, the Internet and support for computing devices;

Goal 3: Maintain the leading edge of higher educational computing to support students with planned updates and replacements in support of a sound technological infrastructure;

Goal 4: Provide high-quality learning environments supported by technology in a secure, reliable, and safe manner; and

Goal 5: Ensure that students, faculty, staff, and administrators have access to and instruction for appropriate use of technology and systems necessary for student success.

Objectives

Steps that must be taken by Foothill College to address Goal 1 include:

- All proposed educational tech projects and initiatives will be reviewed by experts and stakeholders prior to submitting project request to District ETS. Whenever feasible, proposed educational technology projects and initiatives will include a needs assessment in the project initiation phase.
- The process for collaborative development, review, and prioritization of educational tech project initiatives at the college level will be streamlined.
- The service level agreements between Foothill College and District ETS will be reviewed and updated to ensure appropriate funding levels for virtualization and servicing computer/multimedia refreshes.

Steps that must be taken by Foothill College to address Goal 2 include:

- Qualified employees will be provided with secure software for collecting information via questionnaires
- The transparency and speed of the process for ordering and installation of technology equipment and software will be improved.
- The number of paper-based only forms will be decreased by replacing them with digital submission alternatives.
- Capability of meeting rooms for use of video-conferencing will be improved.

Steps that must be taken by Foothill College to address Goal 3 include:

- A quick turnaround process for systematic review and approval of time-sensitive projects that involve technology will be developed and provided.
- A standardized and timely process will be developed that provides all employees and facilities with technology equipment and software upgrades.

Steps that must be taken by Foothill College to address Goal 4 include:

- Use of Office 365 by employees will be increased for secure communication, file sharing, and computer backup.
- Migration of the college-supported course management system from Etudes to Canvas course management system will be completed by July 1, 2017.
- The number of student services that are available remotely will be increased.
- A needs assessment will be conducted to determine baseline and optimal types, levels, and location of classroom and meeting room technologies.

Steps that must be taken by Foothill College to address Goal 5 include:

- The planned Foothill College website redesign will employ responsive design standards so that content is accessible on mobile devices.

Table 1 shows how strategic capabilities, Technology Master Plan goals and objectives align.

TABLE 1: Alignment of Strategic Capabilities and Technology Master Plan Goals and Objectives		
Strategic Capabilities	Technology Master Plan Goal	Technology Master Plan Objectives
• Efficient use of resources based on shared solutions, economies of scale, and minimized duplication of effort	**Goal 1:** Ensure that campus technology policies and procedures guide the appropriate use of technology to foster a dynamic and effective learning environment.	• All proposed educational tech projects and initiatives will be reviewed by experts and stakeholders prior to submitting project request to District ETS. • The process for collaborative development, review, and prioritization of educational tech project initiatives at the college level will be streamlined. • The service level agreement between Foothill College and District ETS will

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Strategic Capabilities	**Technology Master Plan Goal**	**Technology Master Plan Objectives**
		be reviewed and updated to ensure appropriate funding levels for virtualization and servicing computer/multimedia refreshes.
• Convenient workflows, processes and procedures for conducting college-related study and work • Secure, accurate, consistent, efficient, scalable, timely, and/or cost-effective collection and sharing of information and data for routine college operations and data-driven decision-making as well as special initiatives and innovation • Effective and efficient ability to address student equity issues including transportable and ready access to information and the integration of information to best meet the needs of our students	**Goal 2:** Support expectations by students, faculty, staff, and administrators for access to informational resources, the Internet and support for computing devices.	• The transparency and speed of the process for ordering and installation of technology equipment and software will be improved. • Qualified employees will be provided with secure software for collecting information via questionnaires • The number of paper-based only forms will be decreased by replacing them with digital submission alternatives. • Capability of meeting rooms for use of video-conferencing will be improved.
• Nurtured and supported innovation that ensures fiscal sustainability and broad positive impact	**Goal 3:** Maintain the leading edge of higher educational computing to support students with planned updates and replacements in support of a sound technological infrastructure.	• A quick turnaround process for systematic review and approval of time-sensitive projects that involve technology will be developed and provided. • A standardized and timely process will be developed that provides all employees and facilities with technology equipment and software upgrades. • Adoption of virtualization will be encouraged to achieve timely tech

TABLE 1: Alignment of Strategic Capabilities and Technology Master Plan Goals and Objectives		
Strategic Capabilities	**Technology Master Plan Goal**	**Technology Master Plan Objectives**
		support and software updates, whenever feasible.
• Shared and timely communication among students, faculty and staff, especially for shared governance concerns, that accommodates everyone regardless of location, time, and ability	**Goal 4:** Provide high-quality learning environments supported by technology in a secure, reliable, and safe manner.	• Use of Office 365 by employees will be increased for secure communication, file sharing, and computer backup.
• 1) Flexible state-of-the-art teaching and learning spaces on and off campus for purpose of student success; 2) Innovative, dynamic, and agile approaches to teaching, learning, and student support services; and 3) Support for student engagement, collaboration, self-regulation in learning environments	**Goal 4:** Provide high-quality learning environments supported by technology in a secure, reliable, and safe manner.	• Migration of the college-supported course management system from Etudes to Canvas course management system will be completed by July 1, 2017. • The number of student services that are available remotely will be increased. • Baseline and optimal levels of classroom and meeting room technologies will be determined.
• Quick and easy access to relevant, useable, and transportable information about Foothill College and its operations for student, faculty and staff	**Goal 5:** Ensure that students, faculty, staff, and administrators have access to and instruction for appropriate use of technology and systems necessary for student success.	• The planned Foothill College website redesign will employ responsive design standards so that content is accessible on mobile devices.

Support for Other College Plans

The strategic capabilities and goals and objectives of the Technology Master Plan support other college plans including the Education Master Plan (EMP), the Equity Plan, and Student Success and Support Program as well as the District's Technology Master Plan. In particular, the ongoing support, upgrades, and professional development required by most technology initiatives are included in each of these plans.

Education Master Plan. The EMP informs the identification and selection of strategic capabilities for the Technology Plan to address. In particular, EMP Goal 3 that values responsible stewardship of resources is consistent with Tech Plan Goal 2 which addresses the desired strategic capability to nurture efficient collection and sharing of information and data for routine college operations which involves actions steps to decrease

unnecessary dependence on paper-based forms and travel to campus for meetings. Also, the culture of planning promoted by the EMP provides a template for the dynamic nature of the Technology Plan.

Table 2 shows how Technology Master Plan goals align with Education Master Plan goals.

TABLE 2: Alignment of Technology Master Plan Goals and Education Master Plan Goals	
Technology Master Plan Goal	**EMP Goal**
Goal 1: Ensure that campus technology policies and procedures guide the appropriate use of technology to foster a dynamic and effective learning environment.	EMP Goal 1: Create a culture of equity that promotes student success, particularly for underserved students.
Goal 2: Support expectations by students, faculty, staff, and administrators for access to informational resources, the Internet and support for computing devices.	EMP Goal 1: Create a culture of equity that promotes student success, particularly for underserved students.
Goal 3: Maintain the leading edge of higher educational computing to support students with planned updates and replacements in support of a sound technological infrastructure.	EMP Goal 3: Recognize and support a campus culture that values ongoing improvement and stewardship of resources.
Goal 4: Provide high-quality learning environments supported by technology in a secure, reliable, and safe manner.	EMP Goal 2: Strengthen a sense of community and commitment to the College's mission; expand participation from all constituents in shared governance.
Goal 5: Ensure that students, faculty, staff, and administrators have access to and instruction for appropriate use of technology and systems necessary for student success.	EMP Goal 3: Recognize and support a campus culture that values ongoing improvement and stewardship of resources.

Equity Plan. The Tech Plan supports the Equity Plan goal of improving access, course completion, degree completion, certification completion, and transfer for target populations identified in the college research as experiencing a disproportionate impact. Redesign of the college website (action step for Goal 5 of Tech Plan: Ensure that students, faculty, staff, and administrators have access to and instruction for appropriate use of technology and systems necessary for student success) will allow students to access information and services more easily than ever before. The action step for Goal 4 to adopt Canvas as the college-supported course management system further supports the Equity Plan because Canvas has far more robust tools to address the achievement gap in online classes than Etudes by facilitating student engagement and instructor presence as well as more student-friendly access via mobile devices.

Student Success and Support Program (3SP). Goal 5 of the Tech Plan to ensure that students, faculty, staff, and administrators have access to and instruction for appropriate use of technology and systems necessary for student success is consistent with the goal of 3SP to support students' course completion and persistence by providing student services by developing the Inquiry Tool and online reporting tools using student education plan data.

District Technology Master Plan. Success of the Foothill College Tech Plan requires use of the District's automated Technology Project Request process which aligns with goals of the District's Technology Master Plan.

One-Year and Three-Year Implementation Plans (revised annually)

Several projects and initiatives need to be accomplished by the college in order to achieve the three-year goals and objectives. All proposed technology initiatives and projects should have a plan for monitoring of ongoing utility, feasibility, and cost-effectiveness as well as availability of tech support and training to determine when/if upgrades, replacement, or phase-out is appropriate. Table 3 shows how Tech Plan goals and objectives align with projects and initiatives.

TABLE 3: Alignment of Technology Master Plan Goals and Objectives with Projects and Initiatives		
Technology Master Plan Goal	Technology Master Plan Objectives	Projects and Initiatives
Goal 1: Ensure that campus technology policies and procedures guide the appropriate use of technology to foster a dynamic and effective learning environment.	• All proposed educational tech projects and initiatives will be reviewed by experts and stakeholders prior to submitting project request to District ETS • The process for collaborative development, review, and prioritization of educational tech project initiatives at the college level will be streamlined. • The service level agreement between Foothill College and District ETS will be reviewed and updated to ensure appropriate funding levels for virtualization and servicing computer/multimedia refreshes.	• Introduction to and support for automated Technology Project Request intake process provided by ETS for collaborative development, review, and prioritization of educational tech project initiatives at the college level
Goal 2: Support expectations by students, faculty, staff, and administrators for access to informational resources, the Internet and support for computing devices.	• Qualified employees will be provided with secure software for collecting information via questionnaires along with training on survey development and data analysis. • The transparency and speed of the process for ordering and installation of technology equipment and software will be improved. • The number of paper-based only forms will be decreased by replacing them with digital submission alternatives. • Capability of meeting rooms for use of video-conferencing will be improved.	• Selection and purchase of secure cloud survey services for qualified employees for purpose of data collection using questionnaires and training on survey development and data analysis. • Outfit meeting rooms with permanent capability (microphone and camera external to computer: browser updates) to host remote attendance via webconferencing. • Utilization of telepresence equipment at the Sunnyvale Center and Foothill campus to

TABLE 3: Alignment of Technology Master Plan Goals and Objectives with Projects and Initiatives		
Technology Master Plan Goal	Technology Master Plan Objectives	Projects and Initiatives
		allow students to connect remotely with student services in the areas of counseling and financial aid when there is not an on-site staff person present.
Goal 3: Maintain the leading edge of higher educational computing to support students with planned updates and replacements in support of a sound technological infrastructure.	• A quick turnaround process for systematic review and approval of time-sensitive projects that involve technology will be developed and provided. • A standardized and timely process will be developed that provides all employees and facilities with technology equipment and software upgrades. • Adoption of virtualization will be encouraged to achieve timely tech support and software updates, whenever feasible.	• Designation of technical support services, classrooms, cloud services, software, and equipment for faculty to experiment (or pilot-test) with innovative teaching approaches • Use of virtualization in computer labs at the Sunnyvale Center. • Development of criteria for feasibility of virtualization adoption in computer labs
Goal 4: Provide high-quality learning environments supported by technology in a secure, reliable, and safe manner.	• Use of Office 365 by employees will be increased for communication, file sharing, and computer backup • Migration to Canvas course management system will be completed. • The number of student services that are available remotely will be increased. • Baseline and optimal levels of classroom and meeting room technologies will be determined.	• Faculty and staff training in Office 365, computer security and computer back up • Canvas course management system implementation • Implementation of an Early Alert System – Starfish • Needs assessment to determine baseline and optimal classroom and meeting room technologies.
Goal 5: Ensure that students, faculty, staff, and administrators have access to and instruction for appropriate use of technology and systems necessary for student success.	• The Foothill College website redesign will employ responsive design standards so that content is accessible on mobile devices.	• Development of formal process for annual review and evaluation of college website with input from students, faculty and staff to ensure that it meets needs for access to information and services.

In the 2016-2017 academic year, projects and initiatives may include:

- Routine use of an automated Technology Project Request intake process provided by ETS for collaborative development, review, and prioritization of educational tech project initiatives at the college level
- Faculty and staff training in Office 365, computer security and computer back up
- Course management system implementation to switch from Etudes to Canvas
- Deployment of desktop virtualization in computer labs at the Sunnyvale Center
- Utilization of telepresence equipment at the Sunnyvale Center and Foothill campus to allow students to connect remotely with student services in the areas of counseling and financial aid when there is not an on-site staff person present

In the 2017-2018 academic year, projects and initiatives may include:

- Needs assessment to determine baseline and optimal classroom and meeting room technologies
- Outfit meeting rooms with permanent capability (microphone and camera external to computer; browser updates) to host remote attendance via webconferencing
- Designation of technical support services, classrooms, cloud services, software, and equipment for faculty to experiment (or pilot-test) with innovative teaching approaches
- Development of formal process for annual review and evaluation of college website with input from students, faculty and staff to ensure that it meets needs for access to information and services

In the 2018-2019 academic year, projects and initiatives may include:

- Selection and purchase of secure cloud survey services for qualified employees for purpose of data collection using questionnaires

Responsible Parties

Table 4 shows the year of implementation, responsible party, and potential funding source for each project or initiative. The college provides funding support for technology through several funding sources including District-level bonds, categorical funding from the state chancellor's office, grants from other sponsors, and general revenue funds.

TABLE 4: Project and Initiative Year, Responsible Party, and Potential Funding			
Year	Project or Initiative	Responsible Party	Potential Funding
16-17	Routine use of Automated Project Intake process provided by ETS for collaborative development, review, and prioritization of educational tech project initiatives at the college level	Technology Committee co-chairs; VP of Finance & Admin Services	District ETS
16-17	Faculty and staff training in Office 365, computer security and computer back up	Foothill Online Learning; Professional Development; District ETS	B budget
16-17	Canvas course management system implementation to switch from Etudes to Canvas	Foothill Online Learning	B budget

TABLE 4: Project and Initiative Year, Responsible Party, and Potential Funding			
16-17	Implementation of an Early Alert System – Starfish	Director of Equity Programs	Student Equity Funds & 3SP Funds
16-17	Telepresence equipment will be operational and utilized at the Sunnyvale Center and Foothill campus to allow students to connect remotely with student services in the areas of counseling & financial aid when there is not an on-site staff person present.	District ETS; dean of Sunnyvale Center; dean of counseling; dean of financial aid	Measure C
16-17	Deployment of desktop virtualization in computer labs at the Sunnyvale Center.	Dean of Middlefield and Off-Campus Programs	Measure C
17-18	Needs assessment to determine baseline and optimal classroom and meeting room technologies.	Dean of Foothill Online Learning; District ETS	B budget
17-18	Outfit meeting rooms with permanent capability (microphones and camera external to computer; automated browser updating) to host remote attendance via webconferencing.	Technology Committee; VP of Finance & Admin Services	B budget
17-18	Designation of technical support services, classrooms, cloud services, software, and equipment for faculty to experiment (or pilot-test) with innovative teaching approaches	Technology Committee; VP of Finance & Admin Services	B budget
17-18	Development of formal process for annual review and evaluation of college website with input from students, faculty and staff to ensure that it meets needs for access to information and services.	Marketing and Public Relations Office	B budget
18-19	Selection and purchase of secure cloud survey services to all employees for purpose of data collection using questionnaires.	Research Office	B budget

One-Year Technology Projects

Within the next 18 months, Foothill College will complete several technology-related initiatives and projects including:
- Sunnyvale Center - new regional state-of-the-art educational facility
- Foothill College Library Renovation Project
- College website redesign
- College course management system migration from Etudes to Canvas
- Technology in support of student services: Edunav and Starfish pilot projects

Sunnyvale Center

In fall of 2016, the Middlefield Campus moved to the new Sunnyvale Center which is a regional state-of-the-art facility. The center is 2-story, 46,882 square feet state-of-the-art LEED Gold certified building equipped with the latest in wireless, cloud, and computing technologies.

The Sunnyvale Center will have 19 state-of-the-art classrooms, a rapid prototyping laboratory, two areas for students to meet and work on projects, and multiple areas for computer access and educational assistance with their coursework. The classrooms and common areas will each have wireless interfaces for students. The majority of classrooms will have dual screen projectors that are laser rather than traditional bulb technology. The first floor of the Sunnyvale Center will have a room that is reconfigurable to serve as a classroom or to support student projects including entrepreneur startups. This room and the adjacent conference room will have the capacity to be used for many different purposes. Both rooms will be in close proximity to a lab that will have two very high and 3-D printers as well as a programmable CNC machine. Access to the lab will require faculty supervision. The lab will support student projects in engineering, biomedical design, industrial design, and prototypes to support startups. Students and the community will be able to submit files for printing using a payment process through the bookstore. On the second floor will have rooms for individual study which also contain the virtualized laptop computers.

- High-end computers in combination with the Virtualized Desktop Infrastructure (VDI) system creates a uniquely adaptable instructional computing environment.
- Pervasive self-service wireless networking is available for the casual visitor to full-time students.
- Cutting-edge multimedia classroom equipment enhances the collaborative learning experience through the use of the latest digital, laser and wireless technologies.
- Remotely managed and monitored technology equipment increases reliability and reduces response time to requests for assistance.

Foothill College Library Renovation Project

The remodel of the Foothill College Library was completed in time for the 2016 Winter Quarter. The student-centered facility features a learning commons with state-of-the art technology, improved individual study areas, more group study rooms, durable furnishings, and efficient heating and air conditioning.

Technology plays a significant role in the remodeled facility. In addition to 50 new Mac and PC computer stations for students to use, the library will offer an information commons, a centralized location where students can search the library collection in comfort. The building also features plentiful electrical outlets, strategic use of natural light and a thoroughly redesigned reference and circulation counters. Articles that were formerly available only on microfilm are now conveniently accessed via a variety of academic discipline-specific online databases.

The library renovation project is part of a larger series of facilities improvements at Foothill College De Anza College, which have been funded by Measure C, a $490.8 million general obligation bond measure. The bond has enabled the Foothill-De Anza Community College District to upgrade electrical, heating, ventilation and fire/seismic safety systems; repair leaky roofs; improve access for people with disabilities; upgrade technology; and repair, construct, acquire and equip buildings, classrooms, libraries and science/computer labs. Voters in the district's service area approved Measure C in June 2006.

College Website Redesign

Foothill College has contracted with Visionpoint to work on the College's website redesign. Launch of the redesigned website is planned for Winter Quarter of 2017. Along with the website redesign will be conversion

to Omni Update to serve as the content management system which will allow departments/divisions to be in closer control of updating their own webpages.

College Course Management System Migration from Etudes to Canvas

As a means to increase access to education, Foothill College has offered distance education courses for more than 20 years. Colleges commonly review their course management systems (CMS) on a regular basis, especially if the CMS has been in use for over five years. During 2015 Spring Quarter, the Academic Senate charged the Committee on Online Learning (COOL) with making a recommendation for a CMS. After reviewing faculty input collected at six open town hall meetings, three division meetings, and a faculty survey, COOL recommended Canvas for adoption by Foothill College to the Academic Senate by a significant margin. The Academic Senate accepted the recommendation. Subsequently, in June 2015, Foothill College decided to adopt Canvas. Faculty started using Canvas for teaching classes in the 2015 Fall Quarter.

Starting with the 2016 Spring Quarter, all online and hybrid courses must use a college-approved CMS. Foothill College is obligated by accreditation and federal requirements to systematically authenticate the identity of students who take online courses. This obligation is best met by using a single college-approved course management system that is integrated with our student information system. Working in conjunction with staff in the District's Educational Technology Services, the dean of Foothill Online Learning serves as the sys admin for Canvas at Foothill College to integrate third-party resources for single sign-on.

Technology in Support of Student Services

Student Services has two pilot projects underway that leverage technology to provide valuable services for students: 1) Edunav's Student Lifecycle System, and 2) the Starfish college early alert system. Faculty will need training in order to use these technology resources effectively.

Edunav's has a patented Student Lifecycle System, which intelligently creates a personalized map-like plan for each student based on their personal circumstances and career/life goals. Thereafter, Edunav proactively adjusts their plan, picking the correct set of courses and sections every term and guiding the student as they progress on their personalized pathway to successful on-time completion. Edunav also guides enrollment management by aggregating and analyzing all the student plans to optimize the institutional class schedule assuring courses have enough capacity and eliminating excess were it is not needed.

Starfish is a software program to assist college early alert programs to address, evaluate and manage students having difficulties in class as reported by faculty. Promoting student success, identifying at-risk students, and executing effective intervention plans is critical to student success. Through case management, reporting options and data tracking the early alert coordinators can better address student needs and provide them with references and resources. Foothill is hoping to be in the second round of implementing this through the State contract.

Evaluation

The success of the three-year goals and objectives and the annual implementation plan will be evaluated by members of the Technology Committee based on progress reports and stakeholder feedback. Success will be

measured by the degree to which each Technology Plan objective has been met and action steps have been completed.

Responsible parties for each of the proposed projects and initiatives will submit annual status reports to the Technology Committee for review. These reports will identify individuals and programs impacted by the project and describe the nature of that impact as well as delineate progress toward completion of projects and any resources needed.

The Technology Committee will solicit and review feedback from individuals who are most impacted by the proposed projects and initiatives via questionnaires administered annually.

ACCJS Accreditation Standard III.C. Technology Resources

Foothill College follows Accreditation Standard III.C. Technology Resources issued by ACCJC:

1. Technology services, professional support, facilities, hardware, and software are appropriate and adequate to support the institution's management and operational functions, academic programs, teaching and learning, and support services.
2. The institution continuously plans for, updates and replaces technology to ensure its technological infrastructure, quality and capacity are adequate to support its mission, operations, programs, and services.
3. The institution assures that technology resources at all locations where it offers courses, programs, and services are implemented and maintained to assure reliable access, safety, and security.
4. The institution provides appropriate instruction and support for students, faculty, staff, and administrators, in the effective use of technology and technology systems related to its programs, services, and institutional operations.
5. The institution has policies and procedures that guide the appropriate use of technology in the teaching and learning processes.

III.C.1. Technology services, professional support, facilities, hardware, and software are appropriate and adequate to support the institution's management and operational functions, academic programs, teaching and learning, and support services.

A subcommittee of the District Educational Technology Advisory Committee (ETAC) called the Hardware and Software Standards Committee is responsible for setting computer hardware, computer peripherals, and software standards for both Foothill College and De Anza College. The Standards Policy is posted at http://ets.fhda.edu/policies-and-procedures/standards-policy.html and states: "The standards are expected to meet more than 90% of our office users' needs." These standards cover computers, keyboards, external monitors, printers, and scanners. The committee meets several times annually to review the needs of the colleges and the product offerings of vendors and makes changes to standards that are posted at http://ets.fhda.edu/_downloads/Standard%20configs.pdf. College staff may purchase computers in accordance with this standards list or request an exception based on need.

Technology in Support of Student Learning

Efforts are underway to investigate and implement new or upgraded technology solutions for:

- content management of curriculum matters
- content management of Student Learning Outcomes (SLOs)
- access to course attributes and student data by faculty
- classroom scheduling
- synchronous instruction from campus to remote sites

The Office of Instruction and Institutional Research continues to explore third-party curriculum software system options. Simultaneously, efforts are underway to make improvements to the existing curriculum system, called C3MS, based on feedback from users and the members of the Curriculum Committee. The plan is to begin the process of vendor selection in fall of 2016.

A new or updated version of TracDat that allows for easier content management and portability of Student Learning Outcome (SLO) Statements is needed. The new version has the potential to be used as an input for program review data. Faculty training and staffing for migration of content are needed before the new version of TracDat can be put into place.

The Inquiry Tool is being developed by the District's ETS for both campuses. It will allow faculty that have been trained to compare their course sections to the average of all sections for the same course. The technology and look is similar to the California Community College Chancellor's Office Data Mart. It will allow drill down by several course attributes and student demographic variables.

An upgrade to room scheduling system from Resource 25 to Resource 25 Live is planned in collaboration with De Anza College. The new product will allow easier access to room information, including for facilities rentals. It will also allow reports to be run to check the efficiency of scheduling. The tool has the potential for the publishing of event schedules to the Internet. The new software will make it easier to share information on our room utilization, including events scheduling. A review of this product is taking place in spring of 2016. The upgrade to Resource 25 Live will launch in September of 2016.

The Krause Center for Innovation is positioned to support Foothill College technology plan and educational master plan as a professional development training center for faculty, staff, and students for learning technology tools and resources, as well as pedagogical practices for higher education teaching and learning. Upgrades to audio, displays, and video capture equipment in KCI Room 4006 are planned to enable synchronous instruction with remote sites. It will allow for live instruction to occur in multiple remote locations and for archiving the session for later viewing (asynchronously). The KCI's FastTech program is a collection of short duration technology classes offered for credit each quarter on topics like Adobe software applications, Google applications, effectively using the internet, and interactive media production. In addition, the Krause Center for Innovation serves the entire Bay Area region and beyond by offering programs and services designed to improve K-14 education proficiency and effectiveness. Current programs for educators include, MERIT (Making Education Relevant and Interactive through Technology), miniMERIT, FAME (Faculty Academy for Mathematics Excellence) in both face-to-face and blended formats and one-day edtech summits. Future projects include a micro-credentialing (badging) service for educators, Google Education branded services, and the Professional Learning Network. For a full description of these programs consult the Krause Center for Innovation website at www.krauseinnovationcenter.org.

Technology in Support of Student Services

In 2015-2016, Student Services utilized the following technology resources to improve student access to services:

- Innovative Educator's StudentLingo: Series of interactive on-demand video workshops, action plans and valuable resources focused on helping students achieve their academic, personal, and career goals.
- Innovative Educators Go2Knowledge: Series of 100+ web-based, 24/7, on-demand professional development webinars for college faculty, staff and administrators.
- Innovative Educators Go2Orientation: A package of a Resource Library of 100+ web-based, 24/7, on-demand engaging orientation videos developed to enhance the level of engagement, information sharing and flexibility that students need to be successful.
- IntelliResponse: 24/7 online, on-demand questions and answers about the college. Also online for Foothill in Spanish.
- Financial Aid TV: Financial aid information delivered through online video.
- Guidebook: Tool for development of mobile applications for college services, programs and events.
- Credentials Solutions: Provides eTranscripts for students and parking permits online at no cost to the college.
- TouchNet/Heartland: Manages all aspects of the student payment plan for all tuition and fees, dividing the payments into 3 equal parts, due over the quarter attended.
- SARS Grid: Online scheduling and tracking of student appointments.
- Zoom: Videoconferencing software to provide students with the option of remote academic counseling sessions.
- Register Blast: Online scheduling and tracking for assessment appointments.
- SensusAccess: A self-service solution that automates the conversion of documents into a range of alternative formats including Braille, mp3, Daisy and e-books.
- ClockWork: Database scheduler is a complete scheduling and data management software solution designed to meet the specialized needs of disability service departments in colleges. It functions as a comprehensive and secure data management system that supports mandated reporting.
- Symplicity's ADVOCATE: A software program to assist college behavioral assessment teams to address, evaluate and manage student behavioral issues reported by faculty, staff, administrators and other students.
- Smarthinking: Online, on-demand, 24/7 tutoring for students.
- OrgSync: Student engagement software to encourage and track student participation and satisfaction with college programs and events.
- Kognito Online Training - CCC Student Mental Health Program
- Student Health 101 online magazine (funded by Foothill Health Services)
- Accuplacer: Assessment system

III.C.2. The institution continuously plans for, updates and replaces technology to ensure its technological infrastructure, quality and capacity are adequate to support its mission, operations, programs, and services.

Foothill College systematically plans, acquires, maintains and upgrades or replaces technology infrastructure and equipment to meet the needs of the college, including computer refresh cycles and classroom multimedia upgrades and installations.

Foothill College maintains a coordinated ongoing plan for updating faculty, staff and administrator computers, on a five-year refresh cycle. The college has a full-time coordinator of Furniture, Fixtures and Equipment (FFE) who is responsible for working with ETS to maintain a database of all computers on campus, and to coordinate with the TTF and the campus technology coordinator for ordering new computers and arranging for timely installations.

In addition, the college maintains a coordinated plan for the updating of all classrooms with multimedia equipment for instructional use. The Director of Facilities, the FFE coordinator and the campus technology coordinator work with ETS to develop timelines for classroom renovations and multimedia upgrades, to schedule the updating of existing multimedia equipment on a five year refresh cycle, and to handle immediate issues that come up such as equipment failure. Computer labs on campus are coordinated in the same manner, and deans and faculty are consulted so that appropriate computer equipment is ordered and installed to meet the needs of the specific division and program area students and faculty.

Refresh of Personal Workstations and Laptops

The results of an analysis completed in 2010 by ETS set a standard for replacing desktop and laptop computers every five years. A five-year replacement cycle extends the available funding in Measure C Bond funds to refresh computers.

The Tech Committee endeavors to increase transparency about campus technology planning, processes, purchases, and decisions. This will increase coordination and decrease duplication of effort. Tech Committee meeting agendas and minutes are posted on the Tech Committee webpage.

III.C.3. The institution assures that technology resources at all locations where it offers courses, programs, and services are implemented and maintained to assure reliable access, safety, and security.

Foothill College offers courses, programs, and services on the main campus and the Sunnyvale Center as well as remotely via the Internet.

Starting in the fall quarter of 2016, there will be the capability for students at the Sunnyvale Center to be able to speak with instructional aide faculty who are located at the Foothill College main campus such as at the STEM Success Center. This will occur in multiple ways: video face-to-face using Zoom, a blog interface, or a virtual whiteboard. Student Services staff will be available for students to meet one-on-one at the Sunnyvale Center. When this is not available, students will be able to use similar interfaces as a one provided for academic assistance as well as a dedicated video terminal from Cisco called Telepresence.

III.C.4.   The institution provides appropriate instruction and support for students, faculty, staff, and administrators, in the effective use of technology and technology systems related to its programs, services, and institutional operations.

Staffing and Organization

The college and the District together provide the staffing, organization, funding, and participative governance structures necessary to ensure the effective management, maintenance, and operation of its technological infrastructure and equipment.

Central IT: The management, maintenance, and operation of the college's technological infrastructure and equipment are primarily handled through the District's central technology organization, Educational Technology Services (ETS). ETS is organized to support the development, improvement and support of IT systems including software applications, networks, instructional computer labs, smart classrooms, personal computing and telephony for the District's two colleges. A list of ETS directors can be viewed at http://ets.fhda.edu/contact-us/index.html. In addition to providing direct technical support through staff, ETS manages some of its systems through outsourcing contracts.

College staffing: In addition to the staffing in ETS, the college provides a limited number of IT staff (primarily at the Instructional Associate level) to directly assist with instruction in computer labs. The Division of Physical Science, Mathematics, and Engineering employs staff to maintain and support servers at the Physical Sciences and Engineering Center building (PSEC) for use for the STEM courses. The college also has a Web Coordinator who coordinates and maintains the college's website (http://www.foothill.fhda.edu/index.php) and the curriculum management system (C3MS) (http://www.foothill.edu/cms/).

In 2013, dean of Foothill Online Learning was assigned the role of Campus Technology Coordinator. In 2015, she was assigned to serve as sys admin for the Foothill College instance of Canvas. She also serves as one of the tri-chairs of the Professional Development Committee which organizes training opportunities for faculty and staff.

The following technology is used to manage professional development:

- Constant Contact: Service for scheduling and registration of professional development events
- SurveyGizmo – online survey services to collect participant feedback about professional development events
- Zoom – videoconferencing tool

Staff in the Foothill Online Learning program provide faculty with tech support and training in use of Canvas for teaching and students with in-person orientation sessions in the use of Canvas as a student.

External staffing: The College outsources some of its IT support needs to vendors.

One of the college's course management system (CMS) will be maintained by Etudes, Inc. through June 30, 2017.

Vendors are routinely contracted through grants awarded by the Distance Education Captioning and Transcription program (DECT) to provide professional captioning for videos used in online and hybrid classes.

III.C.5. The institution has policies and procedures that guide the appropriate use of technology in the teaching and learning processes.

Both Foothill College and the District have policies and procedures regarding appropriate use of technology. Foothill College has policies and procedures that guide compliance with Federal accessibility requirements, web policy, and distance education, The District ETS has policies and procedures that guide the purchase of technology equipment and software, computer and network use, and compliance with Federal Section 508 accessibility requirements.

Foothill College Policies and Procedures

The 2011 Resolution by Foothill College Faculty Academic Senate strongly encourages faculty to familiarize themselves with the requirements specified in the Distance Education Accessibility Guidelines for Students with Disabilities and to take immediate steps to ensure that their online courses and materials are in compliance with these guidelines. All online courses must comply with 2011 Distance Education Accessibility Requirement Guidelines for Students with Disabilities.

The Foothill College Web Policy (http://www.foothill.edu/staff/policy.php) states: "Web pages that are generated and supported by Foothill College resources should reflect the college goals contained in the College Mission Statement. Content should in no way negate or detract from that statement."

Web pages created or posted by faculty or staff should reflect academic content specific to the area of instruction, general discipline, or campus service that is provided by the individual creating the page.

The 2010 Resolution by Foothill College Faculty Academic Senate states: "In compliance with federal requirements to document student attendance in online classes, faculty must record a weekly academically related activity such as discussion forum posting, online quiz, reflection, assignment, exam, email, field trip, telephone call or electronic communication at least through week 7 or the drop with W deadline for each student in an online class. This is in line with our commitment to best practices of Regular, Timely and Effective Student/Faculty Contact as approved by the Faculty Senate and submitted by faculty on the "Course Approval Application for Online/Distance Learning Delivery" and vital to students receiving financial aid."

The Foothill College Academic Senate has formulated the following best practices and guidelines for Regular, Timely and Effective Student/Faculty Contact in online/distance education courses: "Faculty must provide substantive feedback within a reasonable time as outlined in the course syllabus. Faculty/Student Communication Process including the timeframe for faculty response to student communications. A response time of 24-48 hours, Monday through Friday is desirable but may vary based on course requirements and extenuating circumstances. It must be clear whether or not the instructor will be available after hours or on weekends and holidays."

Foothill College has a Web Policy (http://www.foothill.edu/staff/policy.php) that describes the appropriate use of webpages generated by all segments of the campus community, particularly compliance with accessibility standards proposed by the Americans with Disabilities Act.

District

"Administrative Procedures 3250 Computer and Network Use: Rights and Responsibilities"

(https://ets.fhda.edu/_downloads/3250.pdf#sthash.VXxxKbQQ.dpuf) covers issues of privacy interests, District rights, user rights, user responsibilities, and enforcement. The hardware standards policy (http://ets.fhda.edu/policies-and-procedures/standards-policy.html) establishes district-wide standards for desktop computers and software (http://ets.fhda.edu/policies-and-procedures/standards-policy.html#sthash.8uP4oZkk.dpuf)

Board Policy "Section 508 Standards for Electronic and Information Technology Accessibility" (http://www.fhda.edu/search/?q=policy#sthash.VXxxKbQQ.dpuf) guides the purchase of hardware and software and development of web content that meets accessibility requirements.