

STANDARD III.C. DRAFT – 10/17/22

Standard III.C. Technology Resources

- 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.**

Evidence of Meeting the Standard

The College’s Technology Plan provides a vision for technology at CCSF through five college-wide technology goals and strategic directions appropriate and adequate to support the institution’s management and operational functions, academic programs, teaching and learning, and support services. To achieve the five broad goals and strategic directions, the plan articulates key college-wide technology priorities that the College identified primarily through an assessment of technology needs and interests from across the College. As with all College plans, it is grounded in and supports the College mission and achievement of the College’s Education Master Plan goals. (IIC1-1)

City College of San Francisco’s Information Technology Services (ITS) Department is primarily responsible for providing technology services that carry out the vision of the Technology Plan, particularly related to the College’s management and operational functions. Their responsibilities include providing desktop services; infrastructure services; implementing a variety of IT projects; enterprise, web, and mobile applications services; information security services; and user accounts and access permissions administration. College employees and students can access a 24-hour helpdesk for technical support. (IIC1-2, IIC1-3, IIC1-4, IIC1-5, IIC1-6)

In addition, ITS partners with other areas of the College for implementing and maintaining technology relevant to each individual area. For example, ITS shares responsibility with the Office of Online Learning and Educational Technology (OLET) for the distance learning environment (Canvas). Similarly, ITS shares responsibility with Student Affairs for the College’s degree planning system (DegreeWorks). (IIC1-7, IIC1-8)

In line with the College’s Technology Plan, ITS ensures that College-wide equipment and software is standardized to promote easier maintenance and upgrades. The College has been issuing new, standardized laptops to all employees, beginning in 2021-22. ITS maintains inventories of all IT equipment and software. (IIC1-9, IIC1-10, IIC1-11, IIC1-12, IIC1-13, IIC1-14, IIC1-15)

Each year, departments assess their technology needs and can request funding for those needs in alignment with the Technology Plan through the program review process (departments submit comprehensive program reviews every three years and annual plans in the intervening years). These requests focus on technology needs beyond the standard computer refresh program noted above. In addition, a line item in the College budget ensures that the College can maintain and upgrade existing technology as needed (see Standard III.D.). (IIC1-16, IIC1-17, IIC1-18)

The College’s Technology Committee, a participatory governance standing committee, promotes the strategic and efficient use of technology (hardware and software) to support student learning. Its responsibilities focus on ensuring the College meets Standard III.C. The Technology Committee is in the process of developing criteria and a decision flowchart for selecting

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technology based on accessibility, privacy, compatibility with existing systems, cost, training, sustainability, longevity, and other factors. This is a new process that the Technology Committee will implement for recommending funding of program review requests. As needed, Technology Committee workgroups carry out specific tasks related to the College's technology needs. (IIC1-19, IIC1-20, IIC1-21, IIC1-22)

ITS works closely with other areas of the College that depend on technology and with service providers (Oculus IT, Oracle, Microsoft, Google, and Ellucian to name a few) to ensure that technology services are appropriate and adequate for all areas of the College by setting directions, discussing active projects, planning future projects, and contributing to creating a technology roadmap to meet the College's goals. In addition, the College receives monthly reports from its vendors regarding the capacity and effectiveness of each vendor's technical services and also monitors IT performance indicators through various on-demand reports. (IIC1-23, IIC1-24)

The College has migrated its application technology services and data center facilities services into cloud computing. This ensures reliability, recovery from disaster, privacy, and security. (IIC1-25)

Upon the College's pivot toward remote instruction and operations at the outset of the COVID-19 pandemic, the Office of Online Learning and Educational Technology (OLET) provided faculty and staff with resources enabling distance education and online resources for students, quickly and effectively adapting to changing teaching and learning conditions. The work of OLET continues to support various teaching modalities. In addition, many employees continue working remotely at least for some portion of the time, changing the way the College has used technology. Technologies such as Virtual Private Network (VPN) and Zoom support remote operations. (See also Standard II.B.)

Analysis and Evaluation

Employees and students have appropriate access to technological resources and support in using those resources. The College's Technology Plan and program review processes programmatically address technology needs to support all CCSF functions. Standardization of technology used in offices, classrooms, and labs provides employees with adequate equipment, improves support, and establishes a viable technology renewal cycle.

Although the College maintains an inventory of technology (hardware and software), it is in the process of obtaining asset management software.

ITS works closely with service providers to evaluate the College's technology infrastructure. The migration of application technology services and data center facilities to the cloud provides back up and protects the College against interruptions due to power outages or disaster.

During the COVID-19 pandemic, the College was able to pivot toward remote instruction and operations and continues to adapt to the College's changing technology needs.

- 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.**

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Evidence of Meeting the Standard

The College plans for its technology needs through the Technology Plan, which aligns with and supports the College's Education Master Plan. The development of the plan engaged stakeholders in identifying the College's technology needs (including both hardware and software) that informed the development of the plan's five technology goals and strategic directions. (IIC2-1, IIC2-2, IIC2-3, IIC2-4)

In addition, the Technology Committee meets regularly to assess the dynamic technology needs of faculty, staff, and students as part of the College's efforts to continuously update and replace technology solutions. This includes making recommendations regarding program review technology resource requests as well as recommending an annual calendar of standardized technology maintenance across the College that doesn't interfere with College operations. (IIC2-5, IIC2-6; see also Standard III.C.1.)

ITS maintains inventories of the College's current technology solutions and deploys replacements in a timely manner according to the vendors' recommendations. A recent computer refresh began during 2021-22, and ITS has been deploying new laptops for all employees with standard configurations. (IIC2-7, IIC2-8, IIC2-9, IIC2-10)

Technology available for students includes laptops/Chromebooks, WiFi hotspots, and calculators. The College uses xlibris to maintain and monitor this inventory, and students can check availability online. (IIC2-11)

The College regularly evaluates whether the current technology resources and infrastructure are sufficient to support all College operations. Most recently, this took place through the development of the Technology Plan, and the College is planning to administer a College-wide survey during 2023. In addition, ITS monitors key performance indicators related to its infrastructure as noted in Standard III.C.1. and makes adjustments as needed based on that information. (IIC2-12, IIC2-13, IIC2-14)

Analysis and Evaluation

The College recently updated its Technology Plan, which serves as the primary planning tool for assessing need, identifying priorities, and connecting those needs and priorities to the Education Master Plan. In addition, the program review process provides an opportunity for departments to request technology beyond the scope of standard office equipment (computers, printers, etc.).

ITS maintains and monitors the College's computer technology.

The Technology Committee also supports the College's technology needs by recommending funding for program review requests and developing an annual calendar for standardized technology maintenance.

Regular surveys and self-assessments help inform whether the College's technology resources and infrastructure are sufficient.

- 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.**

Evidence of Meeting the Standard

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The College ensures data, voice, and wireless connectivity at all sites to support reliable access. Each College site is connected to the Internet through the Corporation for Education Network Initiatives in California (CENIC). A fiber-based Metro Area Network installed at all CCSF locations, through a partnership with the City of San Francisco Department of Technology, ensures reliable and sufficient bandwidth and equitable access for all College services. The network consists of approximately 410 Wireless Access Points (WAPs) from vendor Cisco-Meraki. All College employees, students, and guests can access the College's wireless network at all locations. (IIC3-1, IIC3-2)

As noted previously, the migration of the College's application technology services and data center facilities services into cloud computing ensures reliability, recovery from disaster, privacy, and security. ITS also performs technology equipment maintenance on a regular basis. (IIC3-3, IIC3-4)

In addition, as codified in board policy and administrative procedures, the College taken the following steps to ensure security:

- Adopted the California Community Colleges Information Security Standard. (IIC3-5, IIC3-6, IIC3-7)
- Upgraded on-premises Next Generation (NG) Palo Alto Networks (PAN) firewalls and installed NG PAN firewall in Oracle Cloud Infrastructure (OCI). Next Generation firewalls include three subscription services: Threat Prevention, URL Filtering, and WildFire. Threat Prevention provides improved antivirus, anti-spyware (command-and-control), and vulnerability protection to secure CCSF network against malicious hosts and connections to malicious domains. URL filtering feature provides the ability to not only control web-access, but how users interact with online content based on dynamic URL categories. This feature can also be configured to prevent credential theft by controlling the sites to which users can submit their campus credentials. WildFire subscription provides frequent threats signature updates that will become automatically blocked. (IIC3-8)
- Collaborated with City and County cybersecurity resources. The Office of the Controller (Controller) operates enterprise-level systems for the City & County of San Francisco (City). This Interconnection Security Agreement (ISA) provides technical and security requirements for connections with any enterprise-level system the Controller operates.

With this annual agreement, CCSF certifies that information security controls exist to protect the confidentiality, integrity, and availability of the systems and associated data. The extent of the information should be sufficient for the Controller to prudently decide whether to continue existing interconnections and approve or disapprove of proposed interconnections. (IIC3-9)

A cybersecurity Web page provides guidance to College employees and students in safe computing practices, including how to recognize and guard against common threat types. Employees can also access cybersecurity training from this Web page. (IIC3-10)

Analysis and Evaluation

The College implements and maintains technology resources at all locations where the College offers courses, programs, and services to assure reliable access, safety, and security. Wireless

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access at all College locations (main campus and Centers) is reliable and offers secure access to college resources.

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

Evidence of Meeting the Standard

The College's Technology Plan identifies a need for training all employees on the Microsoft Office suite of products, Adobe Sign, ARGOS, the Vision Resource Center (VRC), and programs like Banner and Creative Cloud. The College's Professional Development Plan integrates with and reinforces the Technology Plan by including a focus on technology training. (IIC4-1, IIC4-2)

Employees can participate in training through Flex Day sessions and through thousands of VRC offerings. VRC training includes topics such as the following: Learning and Teaching Online, through Crisis, and Beyond; Building a Student-Centered Canvas Course; Assessment in Digital Learning; Canvas and Accessibility Toolbox; Microsoft PowerPoint Level 100; Microsoft Word Level 100; and Microsoft Forms. (IIC4-3, IIC4-4, IIC4-5)

In addition, ITS and other areas of the College offer regular, ongoing training or guidance on a variety of topics related to technology. Faculty-specific training focuses on effectively using technology for instruction. (IIC4-6, IIC4-7, IIC4-8, IIC4-9, IIC4-10, IIC4-11)

Training for students focuses on helping them navigate technology such as the Canvas learning management system. (IIC4-12)

As noted in Standard III.A.14, the College's Professional Development Committee evaluates each Flex Day by surveying participants and reflecting on the results to inform Flex Day offerings going forward. The Office of Online Learning and Educational Technology also regularly evaluates the training they provide. (IIC4-13)

Analysis and Evaluation

The College provides training through online courses, tutorials, and guides to employees on the use of various technologies, including technology for general operations and for teaching and learning. Training is also available for students in using technology related to the learning environment. The College's participation in the VRC expands the availability of training modules available to employees.

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

Evidence of Meeting the Standard

The College has board policies and administrative procedures that guide the appropriate use of technology in the teaching and learning processes, including computer and network use; information security; copyright requirements; and student authentication. A Web page contains all policies and procedures, and employee handbooks reinforce many

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of these policies and procedures. (IIIC5-1, IIIC5-2, IIIC5-3, IIIC5-4, IIIC5-5, IIIC5-6, IIIC5-7, IIIC5-8, IIIC5-9, IIIC5-10, IIIC5-11)

In addition, the Office of Online Learning and Educational Technology compiled recommendations for remote learning, endorsed by the Academic Senate. (IIIC5-12)

Finally, guidelines for students regarding their College email account promote proper usage and describe consequences for noncompliance. (IIIC5-13, IIIC5-14)

Analysis and Evaluation

The College has policies, procedures, recommendations, and guidelines that support the appropriate use of technology for teaching and learning processes.

Conclusions on Standard III.C. Technology Resources

The College has appropriate and adequate technology resources to support its mission, operations, programs, and services. The Technology Plan integrates with other College-wide planning efforts and utilizes program review as a core mechanism for identifying needs and allocating resources that go beyond standard workstation upgrades. Employees and students can reliably access safe and secure technology resources at all College locations. To ensure that College employees and students can effectively use the available technology, ITS and other areas of the College provide appropriate instruction and guidance. Finally, policies and procedures guide the appropriate use of technology in teaching and learning.

Improvement Plan(s)

There are no improvement plans at this time beyond the initiatives included in the Technology Plan.

Evidence List

[IIIC1-1 Technology Plan 2021-2025](#)

IIIC1-2 ITS Organizational Chart (forthcoming)

[IIIC1-3 ITS Web Page](#)

[IIIC1-4 CCC Collaboration Applications](#)

[IIIC1-5 WiFi Infrastructure](#)

[IIIC1-6 CCSF Help Desk](#)

[IIIC1-7 Office of Online Learning and Educational Technology Web Page](#)

[IIIC1-8 DegreeWorks Web Page](#)

[IIIC1-9 Standard Computer Configurations](#)

[IIIC1-10 Standard Printer Models](#)

[IIIC1-11 Smart Classroom Standards](#)

[IIIC1-12 Smart Classroom Status](#)

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[IIIC1-13 Laptop Purchase Order](#)

[IIIC1-14 Workstation Systems Replacement Inventory](#)

[IIIC1-15 Computer Lab Hardware and Software Inventory](#)

[IIIC1-16 Program Review Web Page \(see \[IIIA9-3\]\(#\)\)](#)

[IIIC1-17 Comprehensive Program Review – Section 3, Fiscal Planning, Support Systems, & Use of Data](#)

[IIIC1-18 Fall 2021 Program Review Technology Requests](#)

[IIIC1-19 Technology Committee Description and Purpose](#)

[IIIC1-20 Technology Committee Web Page](#)

[IIIC1-21 Sample Technology Committee Minutes 5/17/22](#)

[IIIC1-22 Technology Committee Work Groups](#)

[IIIC1-23 Sample IT Vendor Report on Capacity and Effectiveness - BlackBelt Help Desk Services](#)

[IIIC1-24 Sample On-Demand Reports - CCSF IT Infrastructure Health](#)

[IIIC1-25 Cybersecurity Risk Assessment - Annual Self Evaluation 2022-23](#)

[IIIC2-1 Technology Plan 2021-2025 \(see \[IIIC1-1\]\(#\)\)](#)

[IIIC2-2 Technology Plan Survey Part 1 - Spring 2021](#)

[IIIC2-3 Technology Plan Survey Part 2 - Spring 2021](#)

[IIIC2-4 Constituent Feedback on the Technology Plan](#)

[IIIC2-5 Technology Committee Web Page \(see \[IIIC1-20\]\(#\)\)](#)

[IIIC2-6 Fall 2021 Program Review Technology Requests \(see \[IIIC1-18\]\(#\)\)](#)

[IIIC2-7 Sample Vendor Notification for Technology End of Life - Microsoft Windows](#)

[IIIC2-8 Workstation Systems Replacement Inventory \(see \[IIIC1-14\]\(#\)\)](#)

[IIIC2-9 Computer Lab Hardware and Software Inventory \(see \[IIIC1-15\]\(#\)\)](#)

[IIIC2-10 Standard Computer Configurations \(see \[IIIC1-9\]\(#\)\)](#)

[IIIC2-11 Technology Students Can Borrow Web Page](#)

[IIIC2-12 Cybersecurity Risk Assessment - Annual Self Evaluation 2022-23 \(see \[IIIC1-25\]\(#\)\)](#)

[IIIC2-13 Network Alert Example](#)

[IIIC2-14 Sample Actions Taken Based on Network Survey – Removal of Legacy Windows Systems](#)

[IIIC3-1 WiFi Infrastructure \(see \[IIIC1-5\]\(#\)\)](#)

[IIIC3-2 CCSF Metro Area Network](#)

[IIIC3-3 Cybersecurity Risk Assessment - Annual Self Evaluation 2022-23 \(see \[IIIC1-25\]\(#\)\)](#)

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[IIIC3-4 Sample Calendar of Scheduled IT Maintenance](#)

[IIIC3-5 Board Policy 8.18 - Information Security Standard](#)

[IIIC3-6 Administrative Procedures 8.18 - Information Security Standard](#)

[IIIC3-7 California Community Colleges Information Security Standard](#)

[IIIC3-8 Cybersecurity with Next Generation Palo Alto Networks Firewalls Purchase Order](#)

[IIIC3-9 Updated Interconnection Security Agreement 2021-22](#)

[IIIC3-10 Cybersecurity Web Page](#)

IIIC4-1 Technology Plan 2021-2025 (see [IIIC1-1](#))

IIIC4-2 CCSF Professional Development Plan 2020-2023 Year 2 (see [IIIA14-1](#))

[IIIC4-3 Sample Flex Day Schedule of Workshops](#)

[IIIC4-4 Sample Technology Training: Learning and Teaching Online, through Crisis, and Beyond](#)

[IIIC4-5 Sample Technology Training: Microsoft PowerPoint Level 100](#)

[IIIC4-6 CCSF Website Editing Documentation - Training](#)

[IIIC4-7 Online Teaching and Learning Training at CCSF Web Page](#)

[IIIC4-8 Canvas Training](#)

[IIIC4-9 Zoom Conferencing Guide](#)

[IIIC4-10 CurriQunet Guides](#)

[IIIC4-11 Sample Argos Guide - How to Find Course Outline Dates](#)

IIIC4-12 Passport to Canvas (see [IIB1-41](#))

IIIC4-13 Sample OLET Training Survey (forthcoming)

[IIIC5-1 Board Policy 7.14 - District Use of Computer and Network](#)

[IIIC5-2 Administrative Procedure 7.14 - District Use of Computer and Network](#)

IIIC5-3 Board Policy 8.18 - Information Security Standard (see [IIIC3-5](#))

[IIIC5-4 Board Policy 8.10 - Copyright](#)

IIIC5-5 Administrative Procedures 8.18 - Information Security Standard (see [IIIC3-6](#))

IIIC5-6 BP 6.28 - Student Authentication (see [IIB4-20](#))

IIIC5-7 AP 6.28 - Student Authentication (see [IIB4-21](#))

IIIC5-8 Board Policies and Administrative Procedures Web Page (see [IB7-1](#))

[IIIC5-9 Faculty Handbook Section 2.11 - Computer Usage Policy](#)

[IIIC5-10 Classified Employee Handbook Section 8.9 - CCSF Computer, Network, and Classroom Technology Use Policy](#)

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[IIC5-11 Computer Usage Policy Web Page](#)

[IIC5-12 Teaching Remote Classes - Recommendations](#)

[IIC5-13 CCSF Catalog - Code of Student Conduct](#)

[IIC5-14 Student CCSFMail Standards and Guidelines](#)