Napa Valley College

Technology Master Plan

2017-2021

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Mission

The Technology Committee promotes the use of technology to increase efficiency of college operations, support teaching, and enhance student learning.

Responsibilities

- Maintain a technology plan that aligns with state recommendations.
- Assess the technological needs and competencies of faculty, staff, and students.
- Provide technology training for staff and faculty.
- Make recommendations concerning acquisition, implementation, maintenance, and upgrading of technologies within a secure and robust infrastructure.
- Communicate with NVC personnel.
- Identify and promote resource procurement to advance technology and its use by students, faculty, and staff.
- Recommend allocation of technology resources in accordance with the Educational Master Plan, Facilities Master Plan, and Technology Plan.
- Maintain a website to disseminate technology-related information to the NVC community.

Membership

The committee shall consist of 5 faculty representatives, 2 classified representatives, 2 administrative representatives, and one student appointed by Associated Students of Napa Valley College. The Director of Institutional Technology serves as the District Co-Chair, and the committee members elect the other Co-Chair.

2017-2018 Members

Eric Houck	District – Co-Chair
Joshua Hanson	Academic Senate Rep. – Co-Chair
Vacant	ASNVC Rep.
Donna Geiger	Academic Senate Rep.
Sean McCann	Academic Senate Rep.
Robert Miller	Academic Senate Rep.
Gregory S. Rose	Academic Senate Rep.
Jose Sanchez	Classified Senate Rep.
Renee Sicard	Classified Senate Rep.
Christopher Farmer	Administrative Rep.
Maria Villagomez	Administrative Rep.

2016-2017 Members

Robert Parker	District – Co-Chair
Patti Morgan	Administrative Rep. – Co-Chair

Dominique Elayda	ASNVC Rep.
Donna Geiger	Academic Senate Rep.
Maricel R. Ignacio	Academic Senate Rep.
Robert Miller	Academic Senate Rep.
Gregory S. Rose	Academic Senate Rep.
Jose Sanchez	Classified Senate Rep.
Renee Sicard	Classified Senate Rep.
Cathryn Wilkinson	Administrative Rep.

Executive Summary

The Technology Plan at Napa Valley College (NVC) defines critical needs and technology trends for the next five years. As such, it represents a roadmap of where we need to go with information technology implementation. To draft this plan, the Technology Committee was tasked with creating this document with a perspective representative of the following basic assumptions, common themes, and shared vision for the role of technology at NVC.

Basic Assumptions

- The focus is comprehensive, college-wide, and inclusive of multiple instructional sites.
- Adequate funding levels need to be identified to successfully implement the plan.
- Baselines for technology, support, and training need to be established.
- The plan is a "living document" and will be reviewed and adjusted on an annual basis, as technology and NVC needs evolve.
- The plan is modular in nature and most of the initiatives can be implemented independent of the whole.

Common Themes

- Student success and access to current technology are synonymous.
- The quality of our learning environments depends on technological currency.
- Our students and staff expect technology to become smaller, faster, and mobile.
- Our installed technology base has greatly expanded and needs to be maintained.
- Wireless technology has become a mature technology able to support learning everywhere.
- The infrastructure that delivers and supports technology must be constantly improved.
- Connectivity, security and bandwidth are the gating factors to end users experience with Institutional Technology (IT).

Shared vision for the role of technology

We believe that technology is a tool for learning that expands our instructional repertoire and is the vehicle that maximizes the capacity of all faculty and students. It is the vision of NVC that students be engaged in a stimulating academic environment and a challenging curriculum that is student-centered and focused on inquiry-based learning.

Specifically, we envision that technology is available and effectively supported for all students and staff:

- To provide global access to information
- To meet the curricular needs of all learners
- To provide access to the general curriculum
- To refine critical thinking skills and foster creativity
- To provide a medium for expression and communication
- To collect, assess, and share performance information
- To improve the effectiveness of administrative tasks
- To provide skills and proficiencies necessary for the workforce

It is our intention that this vision will remain constant over the course of our plan and that it will guide the day-to-day and year-to-year implementation of technology across NVC.

Guiding Principles

Technology is more than improving business processes. Technology is becoming more and more strategically as well as fundamentally important to an organization's success. Successful organizations must differentiate their strategies and models, and then identify how IT can add value to those endeavors. Organizational planning examines how IT can shape and support these strategies.

NVC's IT strategy needs to align with our institution's strategy and goals. As technology and the NVC's institutional needs continue to grow and evolve, so should our strategic plan. For IT strategies to be successful, we must:

- Understand our institution's priorities and allocate resources and structure IT to support them.
- Advocate efficient use and management of our resources through wise use of technology and multiyear fiscal planning which provides stability, sustainability, and supports longer-term IT strategies.
- Establish institutional technology standards that ensure interoperability of systems and reduced Total Cost of Ownership (TCO).
- Establish centralized purchasing guidelines to support conformity to standards utilizing preferred vendors to simplify procurement, secure discount pricing, and streamline technology support.
- Enable the acquisition of additional IT resources such as user fees, technology grants, and partnerships through the innovative use and promotion of technology.
- Establish and ensure reasonable, fair, and equitable funding mechanisms and processes.
- Plan and leverage technology assets not only for improving institutional efficiencies and cost savings, but to motivate and increase student success.

IT Goals

- Support the campus mission through adaptive and innovative use of technology.
- Achieve the alignment of technology and innovation with institutional goals.
- Provide a robust, reliable, and secure technology infrastructure.
- Procure, provision, and refresh new, cost-effective technologies to keep the campus community effective, current, and competitive.
- Assist and empower functional areas and organizational units across campus to best integrate technology, in order to improve efficiencies, self-reliance, and success.
- Update IT organizational structure; fill position vacancies.
- Provide a seamless service desk that promotes the delivery of comprehensive technology services to the campus.
- Update, develop, and proactively communicate institutional policies and sanctions related to technology.

Strategic Initiatives

The following strategic initiatives will be undertaken in order to achieve the College's Strategic Goals over the next five years. The initiatives have originated from various sources. Many of the initiatives have been brought forward through the Facilities and Technology Committee or through the Program Plans written by programs across campus. Some initiatives have come from the various participatory governance and advisory groups within the District and other initiatives have originated from the Institutional Technology Department.

The following chart displays the alignment of the Institutional Strategic Plan goals with the information technology initiatives:

The sections on the following pages provide overviews of the initiatives, with a listing of benefits, and proposed action.

1. Standardization and Technology Currency

As technology evolves, it is important to update equipment on a regular basis. New technologies often require additional capacity and computing power that older systems do not have. Guidelines for specific technology standards are intended to define the requirements to ensure availability, stability and efficient operations management of the college's essential technology systems. Over time, and in light of challenging funding and IT leadership vacancies, there is also an absence of several key policies and documented procedures in place for which have contributed to an inconsistent approach to maintaining unified and current technology solutions employed across the district campuses.   In order to best support student learning it is critical that the district elevate its current level of technology to meet the expectations of both students and faculty/staff.

Benefits:

- Improved educational environment for students, faculty, and staff.
- Reduction in support of aged equipment.
- Better public perception of district utilization of funds and modern or cutting-edge driven education through employment of technology.
- Established basis for decision-making related to technology issues.

Proposed Actions:

a.   Conduct and develop a holistic and current inventory of deployed technology across all campuses which can be maintained effectively.

b.   Develop and implement a technology refresh plan which appropriately updates existing hardware with respect to priority, fiscal responsibility, and long-term cyclical sustainability.

c.   Create and utilize technology standards in the areas of classroom technology, staff and office equipment, software, web, and network management including wireless systems with a regular review cycle for updates reflective of industry trends.

d.   Identify and construct and/or update appropriate IT policies and procedures which integrate respect for developed standards related to both acquisition and support of hardware technology. Several examples include: Service Level Agreements (SLAs), acquisition/purchasing process for new technology, etc.

e.   Revitalize district website presence such that it employs next-generation design, that is mobile-friendly, and meets accessibility standards (504/508 compliance).

2. Operational and Workflow Efficiencies

The business of higher education has changed from the past and should not be limited to administrative and back office functions, the business of higher education for today and the future demands focus on a blend of domains across the campus—from teaching and learning to strategic planning.   In the face of dynamic change, faculty and staff must learn to adapt quickly and act strategically in order to accelerate institutional effectiveness and achieve results within the institution. Today's higher education administrators face increasing demands to be more effective and accountable when managing their institution. Today's budget challenges have all institutions looking to do more with less. Institutions of higher learning want to offer more and better services to students and staff, while at the same time reducing the institution's costs. Technology utilization is key to transitioning to a higher performing organization by improving operational and workflow efficiency.

Benefits:

- More effective utilization of limited resources.
- Greater employment of data-driven decision making.
- Promotes professional development across the organization.

Proposed Actions:

a.   Develop and implement survey instruments to regularly measure and gauge technology utilization and needs from areas representative of students, faculty, staff and administration.

b.   Conduct Business Process Analysis (BPA) for high-level organizational departments/divisions around the utilization of technology within existing job functions as deemed critical to the operation of the college.

c.   Implement application software projects to add efficiencies and improvement to organizational workflows such as: Ellucian Portal, Student Planning, Microsoft System Center, document imaging, enterprise-level workflow automation, catalog generation, customer retention management (CRM), student printing solutions, mobile application, online appointment systems, and web/video conferencing integration.

d.   Evaluate existing IT organizational structure and support models with a consideration of Total Cost of Ownership principles in determining staff requirements for existing and growing technology needs.

e.   Consider physical space needs for IT department including staff and data center with respect to future growth and support requirements.

f.   Identify and construct and/or update appropriate IT policies and procedures which address efficiencies and operational best practices such as: Service Level Agreements (SLAs), Change Management procedures, Inventory management, Project Initiation and Prioritization/Management, Accessibility plan, Backup and Retention/Restoration policies, Security plans, and Disaster Recover Plans.

g.   Establish training initiatives for both IT department staff and general campus employees in the utilization of technology resources.

3. Infrastructure and Access Improvement

A telecommunication infrastructure is a combination of physical connections, hardware, and software that provide for the transmission and reception of voice, data, and video information and services. Planning for expansion of the telecommunication network is critical if the District continues to grow in both technology and facilities. A strong telecommunications infrastructure is an essential backbone to ensure that students, staff, and faculty have access to the best technology available for teaching, learning, and overall productivity.

Benefits:

- Readiness to support growing technology demands faced by the organization to support student learning.
- Reduces IT staff time devoted to supporting aging equipment and outdated network design.
- Allows for ability to employ cutting-edge technology solutions without unnecessary limitations or delay.

Proposed Actions:

a. Upgrade the existing data center core to leverage more bandwidth for network growth and redesign for true redundancy through multiple circuits while consolidating less-powerful devices into a converged and scalable infrastructure model.
b. Perform a fiber verification and upgrade for the main campus to update existing pathway diagrams and identify and replace poor performance areas with updated fiber or design.
c. Develop and implement plan to replace existing edge switching to current hardware and provide greater visibility to network traffic problems and reduce risk in operating aging and outdated equipment in critical buildings and service areas.
d. Replace existing wireless access points with higher performance, next generation models to increase access.
e. Explore options to leverage improved infrastructure to support projects related to enhanced campus communications, video collaborative integration, distance learning, and student engagement via technology.

4. Safety and Security

Protecting the assets of an institution – intellectual property, infrastructure, network, and computer resources – is becoming more important and more difficult with the rise in the number and sophistication of cyber threats and as the network evolves to accommodate distance education, on-demand courses, social networking and global collaboration. IT staff face increasing challenges around security agendas.   The institution needs to develop and implement security infrastructure; create a culture in which security roles and responsibilities are understood such as how to prevent breaches and how to address breaches when they occur as well as education about the risks of social networking services. Security is not strictly an IT matter today; indeed, it is a foundation of any institution and is everyone's responsibility.

Benefits:

- Reduction of risk from malicious attempts to threaten vital institutional data and systems or loss via natural disaster.
- Avoid unnecessary financial loss or erosion of public trust through establishing appropriate safeguards for physical safety and security.

Proposed Actions:

a. Develop and implement a district IT security plan in conjunction with disaster recovery/business resumption procedures for critical applications.
b. Expand campus video surveillance system.
c. Implement advanced end-point protection system to reduce threat of cyber-attack and prevent exploits using known techniques which can bypass standard security measures.
d. Conduct regular, on-going security awareness training for all faculty and staff as well as provide resources for students who interact with district technology systems.
e. Evaluate public address systems for emergency warnings both indoors and outdoors on all campuses.
f. Assess physical security and stability of primary server room (aka MDF) and all existing building connection areas (aka IDFs) on all campuses.

APPENDIX A

As a "living document" the following elements are components of the plan which are in continuous or regular review and exist as resources provided on the NVC website in the Institutional Technology department web pages. Given the gap between the former Technology Master Plan and the current plan, several of the resources below are still in development or in need of establishment as part of the charge of the Technology Committee in collaboration with the IT department staff.

- 2017-18 Strategic Technology Initiative Implementation Plan
- 2017-20 Completed Initiatives Report
- Accessibility (504/508/ADA Compliance)
- Glossary of Technology Terms
- Institutional Technology Department Organizational Chart
- Institutional Technology Governance
- Institutional Technology Unit Plans
- Inventory of Technology
    - Classroom Equipment
    - Computers
    - Network Infrastructure
    - Printers
    - Specialized Equipment
- Procedures
    - Computer and Network Use (AP 3720)
    - Equipment Procurement
    - Network Access & Account Creation
    - Network Account Deactivation
    - Specialty Technology Procurement
    - Technology Project Initiation
- Security & Disaster Recovery Plan Outlines
- Service Level Agreements (SLAs)
    - Audio/Visual
    - Helpdesk
- Standards
    - Classroom Technology
    - Computers
    - Network Management
    - Software
    - Specialty Technology
    - Website
    - Wireless Hardware
- Technology Refresh
- Technology Surveys