Diablo Valley College

Technology Master Plan

2020-2025

Approved May 20, 2020 by College Council

Introduction

The Diablo Valley College Technology Master Plan guides the direction, focus, alignment, initiatives, and investments of the Information Technology and Services Department and Instructional Technology to achieve the mission of Diablo Valley College.

This plan aligns with the College-wide Educational Master Plan (EMP) to advance the goals and values expressed in the EMP. The Technology Master Plan intends to articulate and further the mission, vision, and direction of the College to achieve student success, operational excellence, and innovation.

This Technology Master Plan provides a roadmap for technology-related decision making and initiatives at Diablo Valley College for the next 5 years. It takes into consideration current and projected academic and administrative technology needs.

DVC IT vs. District IT Responsibilities

The DVC Information Technology and Services department collaborates with District IT to develop and implement policies and procedures for the use and management of information technologies for student learning and institutional effectiveness. District IT is responsible for Districtwide administrative systems (Student, HR, Payroll, Finance, etc.), network infrastructure and interconnectivity, and system security. The DVC Technology Master Plan delineates goals and objectives based on the responsibilities outlined below:

	DVC IT	**Districtwide (DW) IT**
Functional Area	**Responsible for...**	**Responsible for...**
Network Support	College domain and stand-alone servers	Network authentication (single sign-on)
	Network applications	Consultations for network installations
	Network services (DHCP, DNS, Printing, etc.)	Wireless network
		College LAN and WAN
		VLANS and network services
		POS system
Student/Employee Support	PC support to employees	Cloud-based Microsoft 365 (email, apps, storage, calendaring)
	PC replacements for student computer labs and FT employees	Student/employee web portal (InSite) - registration, grades, financial aid, HR, etc.
	Help Desk services for employees	Police Services Report System
	Computer lab technical support	Keyless entry server
		Help Desk service and software
DW System Support		Document imaging system
		Enterprise Resource Management (ERP) - Student, Payroll, HR, Finance
		Data warehouse and decision support tools
		Telephone system
		Telephony emergency broadcast system
Internet/Intranet	College internet site	
	College web applications	
Security	College desktop and laptop computers, servers, and college-specific apps	Firewalls and servers
	VLAN configuration	VPN services

	Destroy data on disk drives before E-waste	Desktop security via account management
		PCI security scan
		DW license for anti-virus software
		Surveillance equipment infrastructure
Equipment and Media Services	AV equipment	
	Smart classroom operations, maintenance, and installations	
	Audio studio	
	Television studio	
Instructional Technology and Distance Education	Drop-in, email, and emergency support for faculty	Network infrastructure for distance education (authentication-single sign-on, enrollment data)
	Consult with Canvas 24/7 support	Software for distance education (LMS Canvas, online tutoring, student evaluations, Office 365, Starfish, Cranium Café, and more)
	Flex activities and technology Workshops for employees	
	Online instructor training and certification (LMS and pedagogy)	
	Accessibility support with DSS	
	Staff Development Lab	
	Testing and vetting online and classroom software/hardware	

College Governance, Information Technology and Services (IT&S) department, and the Information & Instructional Technology Committee (IITC)

At the College-level, the mission of IT&S department is:

> To provide leadership and guidance, service and support, educational and technical expertise required to establish and maintain information technology systems for the college community in accordance with the values, vision, mission and goals of DVC.

The advisory body for the IT&S department is the Information and Instructional Technology Committee (IITC). IT&S vets planning and initiatives through IITC for approval. IITC then reports recommendations to DVC's College Council. The IITC was re-envisioned in 2015 and its name changed to include an increased emphasis upon instructional technology. College Council approved IITC's expanded charge and mission statement, which reads:

> Diablo Valley College integrates technology planning with college planning through its institutional planning model and shared governance committees. The IITC disseminate information to the campus community; empower students, faculty, and staff through the deployment and availability of technology resources; consider the concepts of planning and building physical, learning and work environments so that they are usable by a wide range of people, regardless of age, size or disability status (universal access and design); reviews/approve college technology and provide direction for technology that advances and supports our strategic plans.

The integrated relationship of District IT, the DVC IT&S department, the IITC, and College Council is essential to understanding the goals and objectives of this plan.

Strategic Alignment with the Educational Master Plan

The Technology Master Plan aligns with the Educational Master Plan to provide a high-level, long-term framework in order to promote equitable student success, operational excellence, college transformation, and community engagement. By focusing on technologies and services that help DVC achieve the structural and cultural conditions it seeks, technology planning will then influence the four stages of the student experience, promote increased desirable college outcomes, and impact long-term community outcomes.

Through technology DVC's goal is to maintain a high level of support; use resources efficiently; enhance accountability; maintain open communication with all users; and provide innovation and planning.

Finally, the IITC will review current trends and changes in information technology and education and then will make any necessary recommendations for modifications or additions to the activities listed under each of the goals. The IITC will evaluate the Technology Master Plan in its entirety towards the end of the 5-year cycle. Using survey data and other qualitative assessments, the IITC will evaluate progress and currency of all planning elements and make recommendations for plan revisions if necessary.

Technology Defined and Scope of Plan

Technology is a broad subject that applies to many aspects of teaching, learning, research, communication, and operations at DVC. Technologies are typically categorized as instruction or information. The former is associated with teaching and learning (academic) and the latter is associated with communication and operations (administrative).

Information technologies typically include computers, servers, printers, networks, storage devices, video projectors, and many more. Most technologies are used for both academic and administrative purposes, so it is necessary for the Technology Master Plan to address information and instructional technologies.

The Technology Master Plan does not address industry or discipline specific technologies. Many programs at DVC require specialized technologies and consult with external advisory councils to ensure that appropriate technologies are used and taught. Program review is the process by which these specialized technologies are allocated and supported.

The Technology Master Plan is focused on technologies that have a broad application across the college not specialized technologies. However, this plan addresses how specialized technologies will be integrated within the technology infrastructure and technology support.

Current Technology Assets and Status at DVC

This plan builds upon this current list of technologies at the College. Each technology functional area and status is listed below:

Technology Asset	Primary Functional Area	Environmental Scan area	Timeframe	Status at DVC
Hardware				
Projectors/ Cameras/ presentation – Zoom	Instructional Faculty and Administration	Wireless presentation technologies	Ongoing	All employees
Discipline-specific technologies	Instructional Faculty	Advancing cultures of innovation	Ongoing	Ongoing usage, innovation, training
Digital Signage	All College Operations	Communications	Ongoing	Ongoing implementation
Software				
Virtual Desktop Infrastructure (VDI)	All College Operations	Infrastructure – Operational/ Functional	1 year	Pilot Implementation Jan 2021
Cornerstone	Professional Development	Infrastructure – Operational/ Functional	3-6 months	Active: Design, testing, and adoption
Starfish	Student Services / Instructional Faculty	Predictive Analytics	Ongoing	Active; Early adopters
Career Coach	Workforce Development	Career software	Ongoing	Ongoing use
OmniUpdate	All College Operations	Website administration	In place	Ongoing use; trained users only
eLumen	Instruction	Instruction administration	1-2 years	Ongoing adoption
Portfolio software (Folio in Canvas)	Instructional Faculty	Student cross-life cycle – career/ relationship management	In place	Early adopters and training
Turnitin.com	Instructional Faculty	Academic Integrity	In place	Active
Proctorio	Instructional Faculty	Academic Integrity	Ongoing	Pilot phase / CVC-OEI negotiated product
NetTutor	Instructional Faculty	Academic Support	Ongoing	Student use
EvaluationKit	Instructional Faculty	Infrastructure	Ongoing	Active; In progress use for online and f2f classes

Tableau	Administration and Instructional Faculty	Growing focus on measuring learning	In place	Active; Early adopters
25Live	All College Operations	Room Scheduling and Inventory	In place	Active
Cranium Café	Student Services	Online Counseling	In place	Active; Early adopters
MS Office 365	All College Operations	Productivity	In place	Active; All employees
OneDrive and SharePoint	All College Operations	Productivity	In place	Active; User adoption ongoing
Adobe Acrobat DC	All College Operations	Productivity	In place	Active; Ongoing adoption
Screencast-o-matic	Instructional Faculty	Instruction	Ongoing	Early adopters
Hypothesis	Instructional Faculty	Instruction	In place	Early adopters
Zoom	All College Operations	Communication	In place	Active: Ongoing use
DVCSync	Student Services	Collaboration	In place	Active: Ongoing use
SurveyMonkey	All College Operations	Assessment	In place	Active
Badging software	Instructional Faculty	Digital credentialing	1-2 years	Exploration/ Vendor demos
CVC-OEI Finish Faster Catalog	Instructional Faculty	Cross-enrollment (Quotley & Excel)	1-2 years	Pilot (CCC system)
Covid-19 implementations *(March-April 2020)*				
Adobe Creative Suite	All College Operations	Productivity and Instruction	Ongoing	Active; Early adopters
Respondus	Instructional Faculty	Productivity - Instruction	In place	Active; Early adopters
Blackboard Ally	Instructional Faculty	Accessibility	In place	Active
Labster	Instructional Faculty	Instruction	In place	Active; Early adopters
Relay	Instructional Faculty	Instruction	Pilot	Active pilot; Early adopters
District-wide				
Single Sign-on	All District Operations	Security	In place	Active
Wifi upgrade	All District and College Operations	Infrastructure	2-3 years	In process

Metrics and Assessment

The IT&S department and Information and Instructional Technology Committee (IITC) use a variety of metrics and assessment strategies to identify the effectiveness of the Technology Master Plan goals and for continuous improvement of IT at the College. Examples include:

- Classroom demonstration setup and feedback,
- Equipment trials (e.g., Surface Pro laptops),
- Software pilots (e.g., Proctorio, Relay),
- Usage statistics (e.g., Screencast-o-matic licenses, Canvas adoption),
- Cost/benefit analysis (e.g., EvaluationKit cost vs. usage),
- Quantitative data (e.g., computer lab usage, network load),
- Satisfaction surveys (e.g., Faculty/Staff technology survey),
- Student Technology Survey,
- SysAid support logs,
- Network capacity analysis (e.g., Colleague registration usage),
- Milestone achievements (e.g., classroom alert system installation, WiFi upgrade),
- Analysis of Program Review technology-related requests,
- Face-to-face meetings with end-users,
- Feedback from governance bodies,
- Focus groups and more.

Each of the goals and objectives in this plan will use one or more of these assessment strategies to analyze effectiveness and value to the College and to student success.

Goals and Objectives

Goal: Increase Equity and Access

A major goal in the Educational Master Plan is to reduce the equity gaps that affect traditionally underrepresented student groups. Access to courses and quality educational facilities is part of the strategy to close equity gaps. Technology and training are key to helping DVC achieve these goals.

Objectives

- Improve Accessibility for all classes and online content
  (Requires ongoing training of all employees including adoption of workflow practices and technologies, such as Adobe Pro, to comply with ADA and Section 508. Increasing adoption of Universal Design for Learning (UDL) principles will benefit all students' success)

- Move towards 100% faculty adoption of the Canvas Learning Management System – Student require access to learning content, assignments, and grades online 24/7. Continued adoption by DVC faculty is necessary

- Increase courses using Open Educational Resources (OERs) – OERs mitigate cost barriers for students and promote use and adoption of learning materials. Increasing ZTC courses is a statewide goal

- Implement Classroom Design Standards – IT&S must assure the implementation of the Classroom Design Standards as new buildings are constructed or old classrooms renovated

Goal: Enhance DVC Student Experience in all four stages

The EMP identifies 4 stages of the student experience: Connection, Entry, Through, and Out. Technology impacts every one of these stages and can work to improve each stage.

Objectives

Promote Connection - Potential students will be knowledgeable about and engaged with opportunities at DVC, find it easy to access the information they need about the college, and see themselves as DVC students. Technologies that engage and outreach to students are critical.

- Continuous improvement of DVC website through review, content auditing, usage data and College goals outline in the EMP

- Increase digital signage with clear messaging

Support Students through Entry into DVC - Students are supported as they enter a path and are assisted to identify their educational and career goals, develop a plan to achieve them, and enter their pathway within the first year.

- Redesign website to EMP model (e.g., CCCApply now aligned with meta-major Interest Areas)

- Adopt and support software adoption and use that increases analysis of student success analytics and interaction by faculty/students, students/faculty (e.g., Starfish)

Through and Out - Students participate in a challenging, dynamic, collaborative, and supportive learning environment to complete their academic and career goals. Students leave DVC feeling empowered, transformed and prepared for their future.

- Upgrade WiFi across College

- Adopt relevant Software as a Service (SASS) products, e.g., Career Coach, Portfolium, Proctorio, and more

- Technology adoption and integration to support Career Education pathways
- Implement reliable and secure Payment Gateway (e.g., student printing)
- Improve cloud-based student pay-per-print printing and copying
- Develop more collaborative “linger and learn” spaces

Goal: Maximize impact of Instructional Technologies

Instructional Technology adoption and use will promote creative, engaging, and effective teaching and learning for face-to-face, online, or hybrid modalities.

Objectives

- Invest in technologies that enhance the online classroom experience
- Upgrade classroom technologies to be scalable and sustainable and that facilitate engaging pedagogy.
- Promote and train faculty to use technology creatively to increase student engagement

Goal: Improve IT Operations and College Productivity

Enhancing IT operations will increase the productivity of College employees who continually seek to improve their efficiency and effectiveness.

Objectives

- Increase IT staffing to sustainably support growing needs of College
- Improve IT Purchasing policies and procedures
  - Adopt a districtwide Voluntary Product Accessibility Template (VPAT) for ADA-compliance
  - Develop and adopt a privacy and security IT policy and process for evaluating software and hardware for purchase
- Leverage improved inventory management and control software and procedures to improve budgeting and planning
- Create infrastructure to effectively manage increasing influx of mobile devices
- Increase employee productivity through trainings via Grow@4CD (LinkedIn Learning) and software demonstrated to be effective

- Deploy Virtual Desktop Infrastructure (VDI) to DVC-owned computers (VDI will reduce hardware replacements, better support computer labs, and increase IT support effectiveness, flexibility, and efficiency)

- Make wireless printing work for employees when using personal devices to print via campus network, especially for part-time/adjunct faculty

- Increase adoption of existing technologies, e.g., SharePoint, OneDrive, Office 365, Adobe Acrobat Pro, Tableau, and more

- Increase investment in PD opportunities for IT employees

- Assure all Measure 'E' new construction projects employ an infrastructure that allows for technological growth and development

- Continually investigate emerging software, practices, and trainings that improve productivity by faculty and staff

Goal: Maximize IT Security

Continue adoption and implementation of CCC Information Security (IS) Standards across physical equipment, data, and network infrastructure.

Objectives

- Assure policies and procedures secure all physical IT hardware and equipment

- Implement continuous software and practices to safeguard to secure network infrastructure and data (e.g., antivirus and anti-spyware software, password updates/changes; usage of VPN; educating employees on common security pitfalls, scams, and phishing attempts)

- Develop policy and procedure when purchasing and/or adopting technologies that assures security, privacy, and transparency

- Increase training opportunities for IT security practices by all employees

- Audit and develop disaster back-up protocols and resources to assure operational continuity in the event of an emergency or catastrophic outage.

- Educate, understand, and adopt procedures to comply with Family Educational Rights & Privacy (FERPA)

Goal: Increase Technology Trainings

Assure employees' access to training on all software, hardware, and equipment, especially productivity software and classroom equipment, to promote operational and teaching excellence.

Objectives

- Implement Grow@4CD PD management portal (aka, Cornerstone)
- Redesign staff development training lab to become a Center for Teaching Excellence
- Continue development of trainings for effective use of instructional technologies
- Increase training opportunities on currently licensed software tools such as, Teams, Sharepoint, OneDrive, Office 365, and more
- Develop strategies to enhance training opportunities for part-time/adjunct faculty

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Appendix

Data and evidence:

2014-2019 Tech Master Plan Closure Report

Link to Report

IT&S uses a variety of metrics to measure progress and completion of the previous IT Plan. They include: Key Performance Indicators (KPIs) on system and service performance; surveys and focus groups on customer satisfaction; and milestone completion on projects. Communication is provided to faculty, staff and administrators through dashboards, executive reports, website postings, updates in the bi-monthly IT&S newsletter, and face-to-face meetings.

Student Tech Survey

https://www.dvc.edu/about/governance/committees/rpec/report-archive.html

In spring 2019, a survey about technology was emailed to all students; 1,586 students replied. We have learned the following from this survey:

There were several pieces of data that were important in the production of this plan:

- Only 0.4% of the students did not have any internet capable devices. 99.6% of the respondents had one or more devices. Of these devices, a laptop was the most used by a large margin.
- 38.5% of the students are satisfied or very satisfied with the Wi-Fi on campus. 33.3% are somewhat unsatisfied or very unsatisfied.
- 58% of the students felt that instructors used technology effectively in their face-to-face classes and 50% felt that in their online classes.
- In the open-ended questions, students had many recommendations for improvements in technology for accessing student services and improving instruction. Many students noted that they wish all faculty used Canvas for course materials, calendaring, and grades. Students also expressed strong opinions on the cost of textbooks.

Faculty/Staff Tech Survey

https://www.dvc.edu/about/governance/committees/rpec/report-archive.html

In spring 2019, a survey about technology was emailed to all college employees; 172 faculty members and 75 classified staff replied. Complete survey results are on the RPEC Archive reports site.

From this survey, we found the following:

- 56.65% of faculty rated their overall technology experience at the college as good or excellent. 31.79% rated it as poor or fair.
- 82.9% of classified staff rated their overall technology experience at the college as good or excellent. 11.84% rated it as poor or fair.
- Faculty were motived to use more or better technology with the purpose of becoming a better teacher and to become more productive/efficient in their work.
- Classified staff were motived to use more or better technology with the purpose of becoming productive/effective and by having the opportunities to learn new technologies.
- Both groups of employees prefer to receive technology trainings in face-to-face workshops.
- In the open-ended questions, employees found the IT staff generally helpful, yet it was noted that they seem to be understaffed; and at times the response time is long.

More reference reports:

Classroom Design Standards Survey (very large file, download required)
Program Review critical needs analysis
Information and Instructional Technology Committee Meeting Minutes