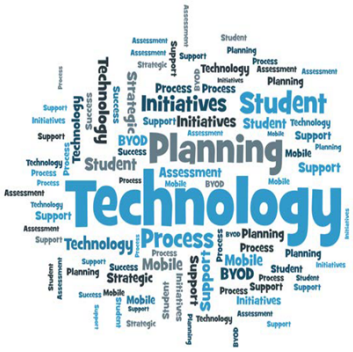

Executive Summary

The Community College of Philadelphia Technology Plan 2021-2025 is constructed using guidance from the 6 Pillars for Strategic Growth, Guided Pathways strategies, and the Classroom Technology Plan, as well as input from the members of the Technology Coordinating Committee and the college community.

The purpose of the Technology Plan is to establish and communicate 1) technology guidelines and standards, 2) a set of prioritized goals for technology, and 3) a set of action steps that will help direct the Community College of Philadelphia as we prepare for the future. This plan contains recommendations for technological enrichment within the College that will occur during the years 2021 through 2025.

The Technology Plan is presented in four sections, starting with a brief introduction. Then overviews of four operational units having major responsibility for critical technology resources are provided. The status of technology at the College follows, organized into seven categories of technology elements crucial for meeting the strategic, operational, teaching/learning, and relational demands of the College. The final section of the CCP Technology Plan 2021-2025 presents six Technology Goals, each based on a CCP strategic pillar, with accompanying high-level action items and the primary units responsible for achieving them.

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Introduction

The Community College of Philadelphia Technology Plan 2021-2025 is constructed using guidance from the 6 Pillars for Strategic Growth, Guided Pathways strategies and the Classroom Technology Plan as well as comments from the members of the Technology Coordinating Committee and the college community.

- *Student Experience*
- *Community Engagement*
- *World Class Facility*
- *Workforce Development*
- *Fiscal Stability and Sustainability*
- *Diversity, Equity and Inclusion*

The purpose of the Technology Plan is to establish and communicate 1) technology guidelines and standards, 2) a set of prioritized goals for technology, and 3) a set of action steps that will help direct the Community College of Philadelphia as we prepare for the future. This plan contains recommendations for technological enrichment within the College that will occur during the years 2021 through 2025.

This plan begins with a brief highlight of the current status of technology at the College, focusing on seven major technology elements that are crucial for meeting the strategic, operational, teaching/learning, and relational demands of the College. The intention is to state the context in which the following technology guidelines and standards, prioritized goals, and action items are recommended. The seven major technology elements include:

- Technology Policies, Guidelines and Standards
- Technology-involved Professional Development
- Emerging Technology
- Electronic Workflow, Hardware and Software
- Administrative Systems
- Infrastructure and Data Security
- Data Reporting

The next section provides a brief overview of three operational units of the College responsible for critical technological resources that serve foundational needs across the institution. The seven major technological elements that serve as an organizing structure for the Technology Plan are then described. Technology Goals for 2021-2025 are then presented.

Operational Units Responsible for Critical Technology Resources

Information Technology Services

The Information Technology Services staff at CCP is under the direction of the Business and Finance Division. This division, led by Vice President Jacob Eapen, has a broad set of goals and aspirations that are aligned with the College's Strategic Plan.

The ITS staff member team is comprised of support personnel for desktop, network, ERP applications and telecommunications. Amassing degrees and certifications that support all the current and future technology that drive teaching and learning.

The College has over 4,500 desktop workstations that provide access to Microsoft Office, the Internet, and teaching/learning discipline-specific specialized applications. These student classroom and open lab areas also house printers and copiers that allow for printing. The faculty offices are supported by desktop computers and centralized printing, as are the administrative areas. All desktop systems are refreshed based on the software demand of the area.

The core network farm which supports our Active Directory environment is on-prem and comprised of multiple virtual environments that provide for fail-over functionality. In addition, the Enterprise Resource server farm is also housed on-prem and is comprised of multiple virtual environment servers for fail-over functionality. All servers are refreshed on a 4-year cycle.

The data network is based on industry standard routers and switches, which are kept vibrant through a refresh cycle that provides for current technology support for wired and wireless systems.

Video conferencing is now supported through group meeting software, webcams and speaker phones. Multiple conference bridges exist for use by all departments and divisions.

Flexible Learning Options and Academic Technology

The Flexible Learning Options and Academic Technology (FLOAT) staff at CCP is under the direction of the Academic and Student Success Division, led by Vice President Dr. Sam Hirsch. The FLOAT team supports online learning, academic technology, and multimedia services at the College.

Classroom technology is expanding and now includes the use of interactive systems as we move beyond the projector and screen approach. This interactive approach allows for everyone to participate.

Students encounter and utilize technology continually, from their initial contact with the college, in classrooms and labs, all which helps support their success. Additional student support is provided using Internet-based services. These include enrollment and registration applications and routing, and transcript requests.

Faculty have access to the Canvas course management system. Students can access the system from home and from numerous locations on campus, including the open computer labs and via mobile apps. Students also use a variety of devices for online test-taking and research for their courses.
Most classrooms are now “smart classrooms” utilizing a networked computer with a digital projector, presenter, and sound system. Technology-based courses such as Digital Media, Computer Aided Design and Drafting (CADD), and Computer Science (programming) use personal computers extensively to simulate their work environments. Hardware and software used in these courses are periodically assessed and upgraded to meet current industry standards, as expected by the faculty and students in these courses.

Community College provides full-time faculty members with an office computer and the Microsoft Office Suite and other software as needed. Adjunct faculty have access to similar equipment in a designated workspace. Faculty use the Banner system for student and scheduling information, class rosters, and for final grade entry.

Academic Technology provides instructor technical support. Many tutorials are online and staff are available for personal instruction and various training sessions provided by FLOAT.

Multimedia Services provides services for the College and external constituents including: providing technology support for events at the college; design, installation, implementation, and maintenance of display technology; and the development of media and educational TV in support of instruction and for airing on CCPTV.

Institutional Research

The Institutional Research staff at CCP is under the direction of the Enrollment Management and Strategic Communications Division, led by Vice President Dr. Shannon McLaughlin Rooney. The Institutional Research staff member team provides comprehensive data analytics to support:

- Data stewardship and integrity
- Institutional planning
- Evaluation of effectiveness
- Informed decision making
- External accountability, and
- Collaborative research.

The staff provide quality data and reports to the College community, collaborate with college leadership and faculty on analytical projects in support of student success and institutional effectiveness, and to provide the data and reports needed to meet state, federal, accreditation and funding compliance requirements.

Marketing

The Marketing staff at CCP is under the direction of the Enrollment Management and Strategic Communications Division, led by Vice President Dr. Shannon McLaughlin Rooney. The Marketing staff member team supports the web presence and associated technologies at the College, which include three online properties: www.ccp.edu, www.myccp.online, and myccp.ccp.edu.

www.ccp.edu

The College's homepage and main domain, sometimes referred to as the "College's Marketing Site." The pages at www.ccp.edu are for the express purpose of introducing the College to interested parties such as, but not limited to, prospective student and parents, alumni, donors, government officials, and prospective employees. The site's goal is to provide information about the College and inform the

public. The site is controlled by the Marketing department. The College catalog and other mandatory public information is posted on this site.

www.myccp.online

Sometimes referred to as the "Internal Site," this domain holds site sections that cater to those that have business with the College: students, faculty, staff, regulators, etc. The pages and the information within are directly related to one's time at the College. Department pages, governance, policies and procedures can all be found on this site. Information that is public, or semi-public, which does not require a user login for security, is placed on this site and sections. The College's Marketing department maintains the site, but each department controls the content of their site sections. Some tools are built here, and minor crosslinking from ccp.edu to myccp.online is present. The site's navigation changes per a self-select or audience selection for each department to either student- or staff-focused.

myccp.ccp.edu

This domain is the gateway to sites and services that are business-oriented, and is the gateway to the College's Single Sign On User Authentication. Once the user is verified, they are taken to a domain that is commonly referred to as "The Portal." From the portal, the user has access to the business tools and services maintained by the College Information Technology Services department. The services behind the portal tend to deal with personal identifiable information and require various security layers. Students will interact with these services to register for classes, check grades, access email and check their academic progress. The sites and services behind the portal may have different URLs, but the proper way to access these services is via the login that can easily be accessed from https://myccp.ccp.edu.

Major Technology Elements at CCP

The Technology Coordinating Committee, the College-wide governance standing committee at the College, is responsible for recommending College-wide technology guidelines and standards, as well as developing and maintaining a College-wide technology plan. To effectively carry out these responsibilities, seven major technology elements have been identified as a means of organizing, planning for and monitoring College technology.

Technology Policies, Guidelines and Standards

Policies
The following College Policies address technology or technology-related resources or activities at the College.

Policy Governing the Use and Duplication of Software (Memorandum #305)
Policy for Responsible Computing (Memorandum #306)
Acceptable Use Policy for Interactive Systems (Memorandum #307)
Hardware and software Support Policies On-campus (Memorandum #309)
Identity Theft Detection and Prevention (Memorandum #312)
Standards for Distance Education Courses (Memorandum No. 14)

Records Management and Retention Policy (Memorandum #313)
Sign-Out Procedure for Long-Term Audiovisual Equipment (Memorandum #155)
Policy on Inclusion on Digital Course Materials (Memorandum #220)
Chosen Name Policy (Memorandum #360)

Guidelines and Standards
Guidelines and standards are established or recommended in the following areas.

New construction or facility upgrades
College Facilities and the ITS department reviews standards for new classrooms, offices, and other meeting spaces annually.

Accessibility
All technology purchased and implemented within the college should meet the minimum standard outlined by WCAG 2.0 AA, guidelines for accessibility. All distant education classes are reviewed for compliance with accessibility requirements.

Disaster Recovery and Backup
The Information Technology Services Department uses a UPS (uninterrupted power supply) battery backup for the on-premise datacenter to allow operation in the event of a power failure. The server operating system is patched at minimum every quarter and physical access to datacenter is restricted to ensure safety and security of hardware, software, and information. College ITS staff work in collaboration with Facilities staff to address on-site and off-site backup and disaster support of campus systems.

To address the requirement for off-site backup and disaster recovery, the campus uses IBM Spectrum products for warm and cold backup and has engaged an external resource to support backup and data retention. Critical campus files for faculty and staff are accessible within 24 hours in the event of a complete loss of on-premise servers. The backup and recovery plan will be tested at least twice a year to ensure recovery of data is possible.

The Disaster Recovery and Recovery Plan (DRRP) can be found via the following link
https://bit.ly/3oDUcLK

Bring Your Own Devices (BYOD)
Faculty, staff, and students have the capability to connect to the college WiFi. For security, WiFi access is restricted to the Internet. No internal WAN connection is permitted via WiFi.

Personally Identifiable Information (PII)
The data that contains information that is regarded as PII is maintained behind our college Firewall. PII data that is held in system that are CLOUD-hosted or SaaS are required to meet standards of security in order to be used by the college.

Interest Free Computer Loans
Interest free loans for faculty and staff purchase of computers are available through the College. Additional information is available at this website: ***http://path.ccp.edu/vpfin-pl/CompPurchAsstPlan.pdf***

Social Media Guidelines

Information regarding social media guidelines for the College can be found at this link: https://myccp.online/division-marketing-and-communications/brand-guidelines/social-media .

Refresh Model

Equipment Type	**Cycle**
Computer Lab (General Use)	5 years
Computer Lab (Advanced)	3 years – upgrade or replace as funding allows
On-Premise Servers	5 years
Staff Laptops/Desktops	5 years – See below regarding mid-cycle upgrades
Network Infrastructure	5-10 years – depending on physical layer (copper, fiber, wireless) and network load, congestions and equipment obsolescence.
Technical Staff Computers	2 years – machines are more heavily used and perform advanced functions (virtual imaging, test environments) directly related to providing service to the rest of the campus. Upgraded machines will be cycled to other uses.
Classroom AV infrastructure wiring	10 years
Projectors Updated	5 Years
Phones (VoIP)	As needed when phones are end-of-life (EOL) or as a result of a upgrade
Printers	As needed
Interactive Touchscreen Displays	10 years

The above recommendations do not preclude mid-cycle upgrades such as improvements in RAM or HD capacity. Whenever possible, refreshed computers will be cycled to other uses. For example, refreshed staff computers may be used to expand student computer access or support CIS classes.

Technology Professional Development

Organizational processes and the work conducted by a majority of employees across the college require or are enhanced by the use of technology. Therefore, it is critical that all employees whose work can benefit by the use of technology have access to technology-related professional development. A primary purpose of professional development in technology related areas is to enable the College to ensure high levels of student success through the provision of highly effective and efficient academic and administrative services throughout the College.

The Flexible Learning Options and Academic Technology division provides professional development for faculty and staff in the areas of online course development, the learning management system, open educational resources, and other academic technologies.

The college uses surveys and other assessment tools to examine the employees' technological needs to ensure that the faculty and staff are receiving the essential professional development to prepare student for competing in a global economy.

The Human Resources department provides access to professional development opportunities for all employees through an online portal. Information Technology Services coordinates and provides basic employee training on the SIS/ERP system and related reporting tools.

Emerging Technology

As technology continues to develop, improve, and diversify in its application, CCP staff and faculty are encouraged to request and implement technology tools in support of increased student success. Hands on, tactile experience is a critical component of the learning process. We need to provide students real world access to software and cloud-based solutions. As the world has migrated to Cloud and SaaS solutions, it's increasingly important for CCP to offer experiences that align with the real world.

Electronic Workflow, Hardware and Software

The College strives to reduce paper and inefficient processes by moving to electronic methods of providing services, including further review of administrative hardware and software to support innovation. Reviewing processes for improvement through electronic workflows, and implementing the associated hardware and software, should be an ongoing activity with yearly recommendations.

The College should look for opportunities to use Employee and Student Self-Service and strive to keep self-service actions consistent in look and feel.

The intent is to utilize our current administrative systems to their maximum potential where we are not already doing so. To that end, we should:

- ensure current processes mapped out in detail, kept up to date, and reviewed periodically.
- ensure annual review of processes, including a way to collect and review suggestions or pain points, duplications of efforts, etc., in order to identify and prioritize improvements.

Administrative Systems

Technology is used extensively by administrative and student services departments to meet the needs of the College community. All Enterprise-wide applications are accessible via MyCCP or through SSO (single sign-on) authentication. This means that access to each application is driven by who you are as an individual and what access rights you have to each system. For a detailed listing of applications available, please click here (here will take people to a link/page that has a listing of applications available).

Our SIS/ERP integrated database is used for all of the major ~~district~~ functions, such as Human Resources/Payroll, Finance, Financial Aid and Student Records. This database feeds information to all other systems, such as the learning management system, student retention and success systems, and customer relationship management systems, and is the source of state and federal report content and

institutional research data. Faculty, staff and administrators utilize the SIS/ERP extensively on a daily basis to perform necessary administrative functions. Students interact with the SIS via MyCCP or the mobile app when completing transactions such as registration, payment and financial aid, for example.

The administrative systems in use are reviewed periodically and updated to reflect business needs and emerging trends.

Infrastructure and Data Security

Technology Infrastructure

Ensuring current and future computing requirements are realized

- As the needs for technology on campus continue to change, our ability to provide a technology infrastructure that is reliable, scalable, and flexible is of paramount importance. An adaptable and agile infrastructure upon which Information Technology can deliver services to the College community will ensure our ability to meet growing user needs and support strategic goals of the College. ITS selects projects for investment that support the continuous improvement and operational efficiencies of our infrastructure while anticipating the future technology needs of the entire College community.
- Network and system security with regards to infrastructure is an ongoing challenge which requires continuous improvement.

Identity Access Management

- ITS will continue our efforts to implement and leverage federated identity services to enable and support secure collaboration with our colleagues both on campus and at other institutions and improve access to applications and systems for members of the College community. Following the Identity and Access Management (IAM) strategy and architecture developed for the College, we will continue to adopt and implement initiatives including Multi Factor Authentication (MFA) and Single Sign On (SSO).

Virtualization and Cloud-Based Technologies

- Virtualization and cloud-based computing efficiencies continue to influence and shape our ability to improve service and support delivery to our users.
- ITS will continue to achieve efficiencies in providing IT services by leveraging virtualization and cloud-based technologies where and when appropriate. We will explore the use of Virtual desktop infrastructure –(VDI) and IaaS (Infrastructure as a Service) options, where appropriate and cost-effective. We will continue to build out our SaaS (Software as a service) cloud solutions and continually evaluate the efficiency and viability of such options and continue to expand the use of virtual servers in the Data Center in support of the College's strategic initiatives as appropriate.

Capacity Planning and Continuous Improvement

- The growth and expansion of College support services and applications require an ongoing commitment to investments in our infrastructure. A thoughtful review of, and measured planning effort for, infrastructure investments will ensure an efficient, reliable, future-proof and scalable technology infrastructure.

Enterprise Infrastructure Applications

- Enterprise applications are the key components of infrastructure services provided to the College community. Employees can find more information at this link: (To Be Added)

- Enterprise and administrative applications at Community College of Philadelphia need to subscribe to the following design principles:1) cloud-based preferred; 2) user-centric interfaces; 3) MyCCP authentication; 4) accessible to all users; 5) web-based; and 6) an architecture that values analytics, agility, and integrated service focus. All departments must review business critical problems and work to develop possible solutions with ITS before beginning a new solution investigation. ITS is then able to consult on possible existing solutions that can be leveraged to meet the need or to assist with evaluating how a new solution would fit within the College's technology ecosystem and the workload pipeline to ensure that value is fully realized in a timely manner. Our administrative systems must facilitate the core mission of the College, provide appropriately secure access to services and information when they are needed, and be as frictionless and adaptable as possible (easy to use, find, develop and support.)

Mobile Infrastructure

- The demand for location and device-independent access to CCP applications, services, and information by members of the College community are continually driving our efforts to deliver new and improved services.
- The MyCCP Mobile app is available to all employees and students. Several modules, such as the Learning Management System courses, and grades, required authentication and access to person specific data. There are other additional vendor interactive services such as admissions, registration and add/drop and the campus MazeMap that are now available.

Data Security

- Data continues to be one of our strategic assets. Our commitment to data security and integrity is strongly supported by all College senior management. The protection or stewardship of data is the responsibility of all members of the College community.
- The Data Breach / Security Committees evaluate the security of Personally Identifiable Information (PII) across the college and provide recommendations for improvements based on best practices.
- ITS will continue to work to strengthen the overall data security posture by enhancing College business practices so that consistent data security practices are in place throughout the community.

Data Reporting

Data available for College-wide reporting purposes are stored in multiple systems across the College. Generally, there are three ways to access reports generated from this data – through scheduled reporting, through self-service portals or dashboards, or through a process of requesting a customized report from the appropriate unit.

Scheduled Reports

There are College units that provide data reports to organizational members at regularly scheduled intervals. For example, the Budget and Business Services unit provides regular budget reports that are

distributed to appropriate budget managers across the College. These reports include quarterly budget reports for college units and reports that support the annual budgeting process.

Other examples of scheduled reports include:

- Master schedule provided through the MyCCP portal
- ARGOS/Tableau Enrollment
- Device Loaners
- Helpdesk

Self-service Portals and Dashboards

Institutional Research maintains a set of dashboards available to the public that report on student-related data at the College. These dashboards include:

- Enrollment Dashboards,
- Graduation Dashboards,
- Academic Outcomes Dashboards, and
- Student Life and Other Dashboards.

The link to the dashboards maintained by Institutional Research is: https://www.myccp.online/institutional-research/facts-stats.

Master schedule, enrollment, and financial data from the SIS/ERP system can be accessed through reporting software maintained by the Information Technology Services area. Access permission must be granted, and training is required before employees are able to access this reporting tool.

The College-wide assessment system houses assessment data from academic units and administrative, educational and support units. This system includes a reporting tool that provides various reporting options for running assessment reports. Access permission is needed for the assessment system and training is required before employees are able to access this reporting tool.

Requesting Customized Data Reports

Customized data reports can be requested from specific units of the College. Customized data report requests should reflect data requests where the data is not already available through a scheduled report, self-service portal or dashboard, or reporting tool. Customized data report requests can be one-time requests, or a request to create a report that can be run on demand using a data reporting tool.

Add list of where and how to make requests??

TECHNOLOGY GOALS for 2021-2025

As stated in the College 2017-2025 Strategic Plan, overall success will be achieved by reaching three broad goals by 2025:

1) Increase credit and non-credit enrollment by 20%
2) Double the graduation rate.

3) Double the number of opportunities for students to enroll in career programs resulting in the attainment of marketable skills leading to placement in the local and regional economy.

The technology goals for 2021-2025 support achieving these goals through enabling attainment of the strategic pillars outlined in the College's strategic plan, as it has been updated as a living document. These pillars include:

- The Student Experience
- Workforce Development, Readiness and Economic Innovation
- External and Internal Community Relations
- World-Class Facilities
- Fiscal Stability and Sustainability
- Diversity, Equity and inclusion

Technology Goal 1 – Provide access to technology and technology services that support the student experience.

Action Items	Unit(s) Responsible
Develop and deploy a data analytics strategy to enable data informed decision-making in all areas of enrollment management.	**IR, ITS, AASS, EM/SC**
Investigate and implement technology solutions to facilitate enhanced communications and interactions with students, advisors and counselors.	**ITS, EM/SC, AASS**
Research, evaluate, and promote innovative uses of academic technology, including the development of roadmaps to guide faculty and student adoption of innovative technologies.	**ITS, AASS**
Fully implement the College assessment tool to enable efficient and effective assessment data collection, analysis, reporting, and close-the-loop activities.	**IR, ITS, EM/SC, AASS**
Research and implement re-launch of the College website to improve stakeholder communications and ultimately enhance the student experience.	**EM/SC, ITS**

Technology Goal 2 – Provide access to technology and technology services that support workforce development, readiness, and economic innovation.

Action Items	Unit(s) Responsible
Implement systems and procedures that enable broad access to industry and employer data in support of workforce programs, curriculum development and maintenance.	**Workforce, M/SC, AASS, ITS**
Review and refresh as needed Career Connections technology to effectively support student access to up-to-date career data, effective employer-student connections, and student employment and other work-based learning experiences.	**WEI, ITS**

Technology Goal 3 – Provide access to technology and technology services that support external and internal community relations.

Action Items	Unit(s) Responsible
Develop and implement a strategy for managing the relationships between ITS and its user base across the College.	**B&F leadership, ITS**
Fully implement a scheduling system to provide college-wide calendaring and event optimization.	**EM/SC, ITS**

Technology Goal 4 – Provide access to technology and technology services that support having world-class facilities at the College.

Action Items	Unit(s) Responsible
Audit existing ITS infrastructure, services, and support to determine current status relative to industry standards and best practices to define and implement plans for improvement.	**B&F leadership, ITS**
Develop a BYOD strategy for integrating personally owned devices through a secure methodology to the college WAN.	**ITS, General Counsel**
Ensure secure computing and networking environments utilizing technology, training, and procedures within the College and through remote access.	**ITS**
Implement college-wide hardware and software technology purchasing process to ensure compatibility and avoid duplication of competing products across the enterprise.	**Purchasing, Budget, ITS**
Develop a collaborative process to evaluate existing applications and recommend standardization on core product functionality independent of areas.	**Purchasing, ITS**
Research, evaluate, and implement Virtual Desktop Infrastructure (VDI) and cloud computing strategies to support classroom and administrative technology needs.	**ITS**
Annual report examining two or three technologies recommended for College review and consideration.	**ITS, TCC**

Technology Goal 5 – Provide access to technology and technology services that support fiscal stability and sustainability.

Action Items	Unit(s) Responsible
Expand the use of Document Imaging to assist in managing, searching, and archiving digital assets.	**ITS**
Establish, staff, and determine the operations of a college-wide data governance structure.	**IR, ITS**
Review and map workflow processes and fully document details through a central repository.	**All Units (ITS Lead)**
Enhance self-service technologies for student success data access and reporting.	**ITS**

Develop and implement data systems to support internal knowledge sharing about local businesses, organizations, philanthropies and community groups.	**IR, ITS, IA**

Technology Goal 6 – Provide access to technology and technology services that support a diverse, equitable and inclusive environment at the College.

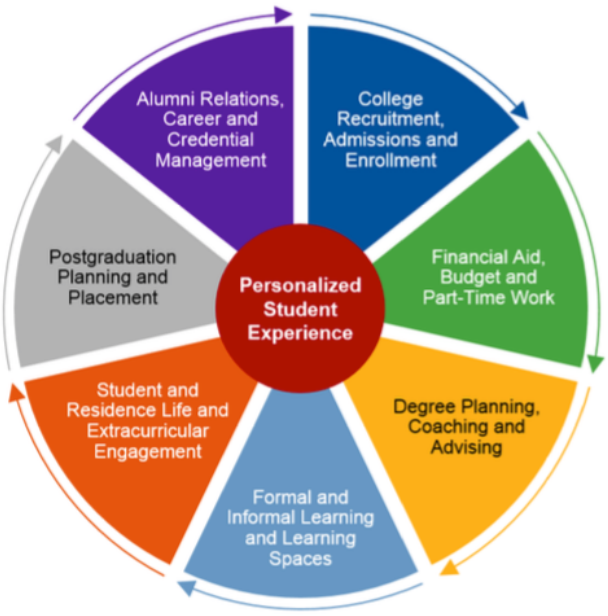
Action Items	**Unit(s) Responsible**
Develop a professional development plan to establish baseline standards for technology competency and training for all FSA employees.	**HR, AASS**
Research and implement an information system to track employee professional development across the College.	**HR, AASS**
Formulate detailed Web Accessibility Plan in accordance with District Web Accessibility Policy and the recommendations outlined by WCAG 2.0AA Standard	**FLOAT, ITS, EM/SC**
Develop and collect standardized diversity, equity and inclusion metrics for College-wide data reporting.	**Diversity Office, General Counsel, IR, AASS, EM/SC**

Information Technology Services (ITS) undergoes a strategic planning initiative every five years. This process includes establishing a set of goals to guide the development of annual operating plans, setting an overall direction for ITS, and ensuring overall consistency with the mission and goals of the College.

The current plan focuses on delivering the results related to increasing enrollment, improving graduation rates, propelling institutional planning, identifying, and intervening with at-risk students, tracking all types of academic milestones, streamlining curriculum management, and **providing a personalized student experience from recruitment to post-graduate engagement**.

The student experience of the future will be the product of an intensive redesign process based on the liberal use of data, and on utilizing technologies to bring scalable and high-touch (both human and machine) practices to make student interactions with the institution personal, integrated, targeted and student-controlled. Failure to employ these kinds of practices — undertaken as integrated processes and integrated with the processes of other ecosystem members across the value chain — will increasingly put our college at a disadvantage when it comes to attracting and retaining students.

The chart below depicts a personalized, integrated and coherent student experience, which will become a key differentiator for our College and we are starting to build the strategies and infrastructure to make this happen.



Source: Gartner April 25, 2017
The Future of Student is Personal

In the following pages: **Appendix A**, defines the strategic framework and roadmap which will be delivered in 3 broad themes, beginning with plans to improve the technology foundation, extending to application portfolios and targeting technology-enabled transformation of CCP.

Appendix B, outlines the projects that ITS will undertake to demonstrate the alignment of ITS Projects with the TCC recommendation and the college's strategic goals. This is a five-year listing of the planned services, initiatives, and goals of the Information Technology Services Department. Critical to the success of the plan is the funding, project prioritization and sequencing.

Appendix A – Strategic Framework & Implementation Roadmap

Strategic Framework & Roadmap

Foundation | Applications | Trans-formation

The Strategy will be delivered in 3 broad themes, beginning with plans to improve the technology foundation, extending to application portfolios and targeting technology-enabled transformation.

Foundation

- Build and deliver core technology to support ongoing CCP needs. Find efficiencies and flexibility through simplicity, consolidation and cloud delivery.

Focus Areas

- Infrastructure
- Security
- Data

Applications

Update and replace the portfolio of aging applications to enable greater efficiency, scale and operational effectiveness

- Focus on Academic and Administrative Applications
- Develop comprehensive application portfolio strategies for all operational areas
- Standardize common processes and move to common platforms requiring less resources, complexity and expense

Transformation

Deliver new technologies that create a differentiated experience for our students, faculty, and staff

- Drive proof of concepts to test approaches and tools to change the way we interact and work
- Shift focus towards student facing and educational technologies
- Strategies to be developed across science, data and digital leveraging new technologies (e.g., mobile, internet of things, big data)

Foundation – Short Term (0-12 Months)

Stabilize, Control and Enhance

Foundation | Applications | Trans-formation

The foundational initiatives will continue into 2022 with a focus on delivering business value, ensuring stability, exploring new digital opportunities for CCP and transforming the IT organization.

Foundation

Build and deliver core technology assets to support business needs and enhance company performance

Focus Areas

- Infrastructure
- Security
- Data

July 2021 - 2022 Priorities & Tactical Actions

Modernize Technology Infrastructure

Strengthen Enterprise Security

Technology enhanced classrooms

Build New Capabilities To Deliver Business Value

Enable analytics based student success and retention initiatives

Improve the Effectiveness of IT Organization

Data driven business decisions

Applications – Medium Term (12-36 Months)

Optimize and Extend

Focus on academic and administrative applications while standardizing common processes and move to common platforms requiring less resource, complexity and expense.

Applications

Update and replace the portfolio of aging applications to enable greater efficiency, scale and operational effectiveness

2022 - 2025 Priorities & Tactical Actions

Academic Learning Design and Innovation

Mobility and Converged platforms for collaboration

Achieving Student Success Goals

Develop eLearning and Digital Media technologies

Deliver app centric personalized experience for students, faculty and staff

Develop Learning Spaces (Physical & Virtual)

Transformation – Long Term (> 36 Months)

Innovate

Assessing how students, faculty & staff use technology in their learning, research, work, and play environments. This will be the foundation for our work and investments in structured innovation technologies that align to the starting point of our students, faculty & staff and engage them in the process of discovery and the love of learning.

Transformation

Deliver new technologies that create a differentiated experience for our students, faculty, and staff

2024 - 2025 Priorities & Tactical Actions

Cloud based ERP

Uniformed platform for sound business decisions

Measure and anticipate student behavior

Improved metrics and marketing strategies

Improved communication with community

CCP 2.0 - Re-Imagining and Re-inventing CCP

Appendix B – ITS Projects

Technology Projects

The matrix below shows the alignment of IT projects with the College's Strategic Goals and the Six areas of focus. These projects and initiatives are dynamic and accumulative, existing technology continually evolves to the next level of service, support, and functionality. The planned future projects are as follows:

College Strategic Goal	Pillars	Description	Estimated Level of Effort	Priority	Fiscal Year(s)
1	1,4	Deploy Hyper converged infrastructure (HCI) to reduce data center complexity and increase scalability by using virtualization software to abstract and pool underlying resources, then dynamically allocate them. (Compute, Storage, Management, & Networking delivered As-a-Service).	3-Small	1-High	2022
1	1,4	Replace End-of-Life Data Center Core and Edge Switches.	3-Small	1-High	2022
1	4	Migration of Phone Switch from legacy Nortel System to Avaya or Cloud Phone System.	3-Small	1-High	2022-2023
1,2,3	1,4	Virtualization of servers and desktops in computer labs. Build labs that run in the cloud **or** in a virtualized environment.	2-Medium	2-Medium	2022-2023

Technology Projects – (page 2)

College Strategic Goal	Pillars	Description	Estimated Level of Effort	Priority	Fiscal Year(s)
1,2	1,5,6	Data Driven Decision Making – Enrollment Optimization, Admissions Tracking, & Academic Advising (Tableau).	2-Medium	1-High	2022
1,2	4	Explore the use of College-issued cards to serve identification, provide physical access, permit payments, and automate attendance taking. (Digital ID's on smartphones).	3-Small	1-High	2022-2023
1,2	4,5	DocuSign - Paperless and automation of workflow and processes College wide (ex. FLOAT, Institutional Advancement, etc.)	2-Medium	2-Medium	2022
1	1	Implement New Student Checklist using Banner Self-Service.	1-Small	1-High	2022
1	4	Expand, improve, and provide redundancy for Data Center to serve for at least the next five years.	2-Medium	1-High	2022
1	4	Implement Kronos time tracking system. eTime & Labor.	2-Medium	1-High	2022
1,2	1,4,6	Explore ways to enhance Degree Works to provide better student goals and progress towards achieving them. (Academic Pathways).	2-Medium	2-Medium	2022-2023

Technology Projects – (page 3)

College Strategic Goal	Pillars	Description	Estimated Level of Effort	Priority	Fiscal Year(s)
1	1,4	Apply security controls between virtual machines, applications, and data storages to minimize vulnerability against data breach and cyber attacks.	3-Small	1-High	2022
1,2	1,4	Update current digital signage system to an up-to-date, web based, and central management system.	3-Small	2-Medium	2022-2023
1,2	1,4	Explore how to improve teaching and learning experiences, fulfill current pedagogical expectations, and make classrooms more dynamic and interactive.	2-Medium	1-High	2022-2023
1,2,3	1	Coordinated team of staff and vendors in a multi-campus, year-long project to produce an online catalog.	2-Medium	1-High	2022
1,2,3	1,2,4	Hybrid Data Management (Structured and Unstructured Data - Collect, Organize & Analyze). Implement Cloud based Data Lakes to enable evidence based and data driven predictive decision making. Big Data Analytics & Data Lakes.	1-Large	1-High	2022-2023

Technology Projects – (page 4)

College Strategic Goal	Pillars	Description	Estimated Level of Effort	Priority	Fiscal Year(s)
1,2	1,4	Automate the data feeds to SWN (Send Word Now) to facilitate consistency and real time updates.	3-Small	1-High	2022
1	1	Implement Banner Self-Service Forms to replace current student intake survey that is handled by Qualtrics application.	3-Small	1-High	2022
2	4	Fully implement 25Live to include all Users of the College. Campus-wide room scheduling capability & event mgmt.	3-Small	1-High	2022-2023
1,2,3	4,5	Implement all modules of Elliucian Analytics for all key areas including HR, Finance, Enrollment, etc.	2-Medium	2-Medium	2022-2023
1	1	Implement Electronic Transcript Exchange with Temple Univ.	3-Small	2-Medium	2022-2023
2	1	Implement the newly redesigned Drop-for-Non-Payment Process.	2-Medium	2-Medium	2022-2023
1,2	4	Re-engineer business processes (the analysis and design of workflows and processes within and between departments). Redefine services and redevelop operational processes.	1-Large	1-High	2023

Technology Projects – (page 5)

College Strategic Goal	Pillars	Description	Estimated Level of Effort	Priority	Fiscal Year(s)
1,2	1	Implement CPOS (Course Program of Study) – Leveraging Banner Student, Financial Aid and Degree Works to allow financial aid to pay for only courses that exist in a student's degree path.	2-Medium	2-Medium	2022-2023
1,2	1,3,4,5	Explore the possibility of a new CRM and Cloud ERP/SIS System to augment or replace current Ellucian Banner System.	1-Large	2-Medium	2024-2025
1,2,3	1,3,4,6	***People Centricity – Internet of Behaviors – How student's interact with CCP. Total experience strategy. Capturing the Digital Dust.***	1-Large	3-Low	2024-2025
1,2,3	1,3,4	***IoT – Internet of Things & AI Engineering.***	1-Large	3-Low	2024-2025
1,2,3	1,4,6	***Broadening IT Automation and Enhancing the Student Experience***	1-Large	3-Low	2025