INFORMATION TECHNOLOGY STRATEGIC PLAN
2015-2017

Community College of Allegheny County
This plan describes the services, technology initiatives, goals and accomplishments of the Department of Information Technology Services at the Community College of Allegheny County.
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Executive Summary

Technological innovation significantly impacts the way educational institutions operate, faculty teach and students learn. The rapid and constant pace of change in technology is creating both opportunities and challenges for educational institutions. In order for the college to be effective in its operations, technology solutions must be carefully selected, implemented in a timely manner and fully adopted by college users.

This document presents the Information Technology Strategic Plan for Community College of Allegheny County (CCAC) for 2015-2017. The purpose of this plan is to provide a “roadmap” for the Information Technology Services (ITS) Division to implement and deliver technology services that support the strategic mission and goals set by the college.

This planning document:
- Establishes a shared vision for ITS that is consistent with the college’s vision, mission and goals
- Aligns the technology initiatives with institutional priorities
- Disseminates knowledge about technology needs and constraints
- Addresses academic and administrative needs through the innovative use of technology
- Identifies the required funding levels for desired technology solutions

This strategic plan develops a series of specific objectives and actions to enhance the effectiveness of the College’s information technology services in three central domains:

1. **Foundation**: Those initiatives required to run the college academic programs, services and business operations, requiring a solid infrastructure which is scalable, reliable and secure. These are essential for any progressive academic institution to conduct its daily business in this digital era. Initiatives include wireless expansion at all locations, online learning system upgrade, replacement of optical network to improve network connectivity for all campuses, replacement of campus LAN switches, business continuity center critical infrastructure upgrade, etc.

2. **Enhancements**: Those initiatives required to drive enrollment and retention by leveraging the available technology to improve business processes, reduce costs and improve virtual environments. These enhance college services to make them more seamless, transparent and efficient. They promote excellence in teaching, process driven business outcomes across the college and enable students, faculty and staff to take full advantage of the college’s digital resources. Initiatives include Ellucian Enrollment and Student Success systems (unfunded), lecture capture expansion, self-service for financial aid and student planning, digital signatures for college operations, intranet/employee portal, etc.

3. **Innovation**: Those initiatives provide the ability to differentiate ourselves and gain competitive advantage in higher education, support the technology vision while taking advantage of leading edge technology. The initiatives may require significant business reengineering and creative systems thinking. These include the Virtual Campus, predictive analytics to improve student outcomes, strategy management system, delivery of business & operational insight, business analysis and process improvements, etc.

The intended benefits of these planning initiatives cannot be achieved without the integration of people, processes, and technology throughout the planning, implementation and life-cycle of these projects. This process-driven approach will streamline processes; make the institution more agile,
adapting changing business conditions more easily and improve access to accurate information to make better decisions. In the end, this may allow the institution to deliver more value-added services to its constituents less expensively, automate significant business processes, and improve the institution’s efforts with ongoing recruitment and the retention of students.

Over the previous planning cycle, the Information Technology Services management team depended on a strategic planning process to meet the challenges of delivering quality services to the college community. Similarly, to gain insight into customer needs, the Information Technology Department conducted a technology services survey to measure customer satisfaction in order to target desirable new technology services.

This plan will be continuously evaluated and updated, allowing the opportunity to review and adjust to changing business conditions. As college needs evolve, its needs and priorities will change, and this plan will be revised accordingly to reflect those changes to priorities and goals.

In the end, the power of any strategic plan lies in its clear vision, level of adoption by its institution, adherence to its proposed implementation schedule and proper funding of its initiatives. With all these aforementioned components in place, ITS believes that this strategic plan will deliver the intended benefits to the college constituents to have a positive impact on teaching and learning, continuous professional development, as well as operational resiliency to makes the college ready for the digital challenges of the 21st century.

Scope
The purpose of this plan is to provide a strategic framework for institutional information management in a manner that maximizes the college’s effectiveness at delivering services and programs to college constituents. This strategic plan also documents the change initiatives that the IT organization will lead and participate in to deliver its intended benefits to the college.

As the digital gatekeeper of the college’s information resources, ITS effectively manages information management processes, sets priorities based on the information needs of the college’s programs, and manages IT resources efficiently while maintaining the safety and integrity of the information in its care.

The CCAC Information Technology infrastructure environment consists of a variety of information, computing, and telecommunication systems designed to meet the needs of a highly complex and distributed higher education institution.

The Strategic Information Technology Plan for 2015-2017 reflects the mission of our college and offers to support for both an excellent campus experience for college constituents and the extensive and growing distributed online learning opportunities for students throughout the region, country and world.

This plan is intended to update and replace the College’s previous technology plan. Additionally, the plan strives to support the college’s Strategic Plan 2016 and its many goals. If the college’s strategic plan or goals changes over the course of the implementation of this plan, the information technology plan will be updated to reflect those changes.
Background

Information Technology Services (ITS) covers a broad spectrum of both academic and administrative support services in order to support the college's mission and goals. Academically, the ITS department enables the college to enrich the student learning experience through technology. Administratively, the ITS department enables the college to operate, organize, gather and analyze data in order to make expert business decisions.

Distributed by Design

The college structure is designed for convenience and flexibility, and as a result is highly distributed throughout the community and online. ITS serves the needs of four campuses, four centers, and additional locations throughout Allegheny and Washington Counties. Information Technology Services strives to work together with all departments to provide technical innovation and quality support for students, faculty, staff and external stakeholders in any given location. This distribution of physical locations creates the need for increased levels of staffing and creative use of resources.

Support Services for Students

ITS typically provides the following user support on over 80 services to its constituents (annual statistics reference 2013-2014 academic year). While a single system is utilized to maintain a centralized approach to managing workflow, the ever increasing demand for additional support hours continues to provide challenges with creative support scheduling for the department.

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<th>ITS Department Statistics</th>
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<td><strong>Visits to Open Lab</strong></td>
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A survey of students was implemented in Spring 2015 to further inform ITS to the needs of students. Results of the student survey indicate our students are using technology more than ever to supplement their academic learning materials, assignments and communication while enrolled at the college. Ongoing support, development and enhancement of instructional technologies will be critical for the ITS department in order to support the demand of the students. By supporting this demand, ITS will have a great impact with retaining current students and recruiting new students each semester. The support, development and enhancements to new and current services will involve key stakeholders to ensure these services are beneficial in supporting student success and achievement. Full survey results are available at https://my.ccac.edu/mytechnology.

Digital Services

In addition, ITS offers technology-based workflow processes that expand the capacity of the institution to deliver digital services which improve upon business processes and enhance business decisions. Services provide include:
- Develop software tools to increase student success and enrich the student learning experience.
- Provide academic departments with information regarding students’ academic progress
- Communicate changes of academic and financial systems to all affected students and faculty
- Create, maintain and enhance web-based applications to improve business processes and provide a vehicle to enable faculty and administrators to evaluate and analyze data for making informed business decisions
- Maintain and support the college’s ERP system (Colleague) and provide custom modifications to improve the usability of the system
- Evaluate, implement, test and maintain new product offerings from Ellucian and their partners to enhance effectiveness of both administrative and academic support
- Facilitate the processing of the daily business transactions and provide reports to all appropriate departments
- Responsible for ITS contracts, technology related project purchases, and applicable inventories
- Interface with external partners to provide and receive information based on organizational need

In order for ITS to enable the college to accomplish its mission, and continue to provide reliable, quality and innovative technologies in the future, the department must remain fully staffed with innovative, responsive and dedicated employees. Additionally as technology needs increase, staffing will need to be continuously adapted to meet demands. A staffing plan is attached in the appendix.
Strategy and Direction

The strategic goals of this plan preserve and enhance the effectiveness of information technology services over three central domains:

- **FOUNDATION** includes the initiatives that are essential for any progressive academic institution to conduct its daily business at this digital era. The initiatives under this group emphasize the importance of **reliability**, **scalability**, and **security** of the ITS technology resources in the college. There are numerous foundational programs in progress needed to elevate the current platform to levels ready to support the “One College” and Virtual Campus concepts. Without a solid foundation, point solutions may be possible but not scalable nor reliable. To support cost optimization efforts, upgrades and replacements on the foundation are often postponed in favor/demand of cost savings.

- **ENHANCEMENT** identifies the initiatives that enhance the college services and make these services more **seamless**, **transparent** and **efficient**. The initiatives in this group promote excellence in teaching, process driven business outcomes across the college and enable students, faculty and staff to take full advantage of the college’s digital resources. Some of these initiatives represent extensions or enhancements to current systems, some initiatives represent the introduction of completely new technology. These new or improved tools can be leveraged to improve business processes.
INNOVATION may be the most difficult to achieve since change may require significant business reengineering, thinking out-of-box for creative solutions. Some initiatives in this group may require institutional buy-in in order for full benefit realization. This category also includes the efforts required to obtain the goal of the Virtual Campus.

Central to all three domains are the development of people, processes and skills throughout the organization. Ensuring foundational stability, enhanced services and innovative solutions is dependent on how well stakeholders and end users adapt processes and adopt technology. Communication, training and support become a critical success factor to all technology plans.
Mission
The CCAC Information Technology Services (ITS) Division provides reliable and quality technology services and systems that provide:

- College constituents with a technology-rich teaching and learning environment in both college facilities and a virtual campus
- Technology tools that enable collaboration and improve productivity in academic and business operations
- Robust database and web applications for student services and business analytics
- A comprehensive support system and training services for students, faculty and staff
- A reliable secure infrastructure to support these technologies

Vision
The ITS Division will support and drive the progress of technology and innovation throughout all physical and digital environments. We will lead the exploration of the latest technology trends in higher education, and will involve all constituents in the planning and implementation of systems and solutions that meet their learning and operational needs. We are dedicated to building scalable, highly integrated and extremely reliable IT systems, undergirded with top-notch support and training. These accomplishments will allow the college to remain competitive among its peer institutions and other regional players to meet students’ expectations and deliver a quality and affordable education.

The goals and strategies of ITS will be deeply ingrained into the fabric of all college operations in order to provide transparent and seamless technology services that support “one college”, accountability, data-driven decision-making, productivity and effectiveness of the institution.

Goals
In order to support the College’s mission and provide the competitive technology solutions, the ITS Division establishes the following technology goals for the 2015-2017 plan. Each goal indicates the related College Strategic Priorities in parentheses.

- Enhance teaching and learning through instructional technology and learning solutions (SP 2,3,4,5)
- Ensure students and employees anytime/anyplace access to the College's teaching and learning resources (SP 2.5)
- Maintain and improve technology infrastructure and solutions to improve communication, collaboration and productivity (SP 1,3,6)
- Provide leadership and stewardship to analyze and reengineer business processes in conjunction with the evaluation and implementation of technology solutions (SP 1,2,6)
- Expand comprehensive support services, knowledge, training and learning tools for students and employee (SP 6,7)
- Assure information security on accessing the College's electronic resources (SP 6)
- Enhance and expand the use of existing and new technology for administrative operations (SP 2.6)
IT Stewardship
Effective stewardship of technology acquisition and deployment will be absolutely necessary for the college to move onto these new directions as “One College” and achieve the strategic objectives of this plan. Additionally, a focus on people, processes, and technology from the beginning for all these initiatives is imperative. Without proper, systematic professional development opportunities for the college’s current workforce and assessment framework to measure the technology adoption by the college users, there will be a little benefit to the institution.

People, Processes, and Skills Development

**Vision:** to empower users to build skills and respond proactively to technology changes through a variety of methods for targeted training and information resources.

With upcoming changes to business processes and ITS systems, training plans are a necessity to develop users and provide the tools that aid in helping them to be more efficient with the new processes and systems. ITS trains employees to acquire knowledge, skills, and behaviors that can be applied in day-to-day activities.

**Business Case:** ITS can procure, build and/or deploy a myriad of productivity tools, online services and technology solutions, but learning and college operations will not fully benefit from them if users are not prepared to use them effectively. Users require effective training plans and well-designed learning paths in order to learn and apply the skills necessary to meet the upcoming needs of changing technology trends in higher education. This includes the skills necessary to interact, support and serve students, faculty, staff and administrators in a diverse college community.

A large proportion of training and information resources has been designed and promoted to employees. ITS currently provides students with an array of training and resources to increase their engagement with technology which supports their learning. As tools and services are deployed, there needs to be a seamless coordination to communicate change, deploy information/documentation and deliver training when appropriate.

**Continuous Process Improvement:** ITS realizes the importance of continuous improvement and the results from aligning people, process, projects, and skills development. Trainer development is necessary to provide tools and skills to make process improvements successful. ITS plans to focus on the continuous development of a variety of tools that are offered in order to support these college wide initiatives. These tools will be expanded in order to consistently support and provide improved quality of skills, learning, and knowledge. Methods for process improvement include:

- Project management
- Process improvement
- Flow charts
- Documentation
- Best practices
- Facilitated trainings
**Processes to be developed:**
The following procedures and work processes need to be redesigned to support a variety of training modes, information distribution, and to meet the needs of an increasingly mobile workforce. To reach the greatest number of users with appropriate and cost-effective training, we should:

- Develop more documentation, communications and training for our **student** population, using tools such as Moodle (learning management system), wikis and blogs, etc.
- Develop, produce and deploy more instructional videos using Camtasia or Panopto lecture capture
- Develop an online training course in a team site for students to learn how to navigate and use the new student portal
- Develop a variety of **online resources**, including more “Talkin’ Tech” pages, “Tech-torials”, wiki content, new instructional technologies, new educational apps, and knowledge articles
- Collaborate with the CAT (Colleague Advisory Team) and other **governance** groups to support and enhance quality assurance and communication of changes in the technology environment.
- Increase the use of eLearning for learner-initiated training by continuing to develop and promote courses in the Moodle system.
- Develop a strategy for select training courses to be delivered on mobile devices.

**Resources Needed:**
The following resources are needed to address the in-person and online training needs for students, employees and new technologies:

- Procurement of a talent management system
- Panopto licenses for more recording rooms
- Sharepoint team site for creating a centralized collaboration area for training
- Web storage site for technology videos
- Tools for building knowledgebase/ web self-help
- Access to Apple iMac available to create training materials
- Test accounts for administrative software training
- Access to the newest hardware to develop training materials
- Access to test account to develop training materials on new software and upgrades

**Risks and Issues**
Since there are dependencies between some of the initiatives outlined in this plan, there are several potential risks and issues involved in executing them in succession to bring these initiatives to successful completion in the proposed timeline. Some of these risk/Issues are listed below:

- Funding constraints will prevent the college from implementing some of the initiatives in this plan.
• The delay of the campus electrical/power grid viability assessment and its remedial work to improve any deficiencies & inefficiencies will delay the dependent initiatives and create a ripple effect on other mission critical initiatives (i.e. installation of new UPS & emergency power, replacement of campus LAN switches, unified communications to replace PBXs).

• Inability to fill open positions in a timely fashion and find new qualified staff for the identified areas in ITS may delay the completion of these initiatives.

• Other college priorities may take precedence and defer some of these initiatives.

• Successfully implementing multiple high profile system-wide projects will require total coordination and commitment from college leadership and staff. Making timely decisions on issues when they are discovered will be critical.
### ITS Roadmap – Planned Projects

Projects identified for the 2015 – 2017 academic years are shown in the grid below. Complete list of projects is shown in Appendix B. This roadmap will be adjusted as needed to address college priorities.

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<th>PROJECT ROADMAP 2015-2017</th>
<th>Foundation</th>
<th>Enhancement</th>
<th>Innovation</th>
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<td>Portal Phase I</td>
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<td>Online Learning System Upgrade</td>
<td>Team Sites, Enhancements</td>
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<td>Apple Lab, Apples in Open labs</td>
<td>Lecture Capture</td>
<td>Instructional Tech for New programs:</td>
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<td></td>
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<td>Expansion</td>
<td>CyberSecurity Center and Filmmaking</td>
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<td>Elevate for Workforce Dev</td>
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<td>EIC Center Opening</td>
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<td>Space Scheduling &amp; Platinum Analytics</td>
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<td>New AL Open Lab</td>
<td>Ellucian Pilot - Student Success System</td>
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<td>Ellucian Recruiter for Enrollment</td>
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<td>Cellular Coverage</td>
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<td>Financial Aid Self-Service</td>
<td>Ellucian Go Mobile App</td>
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<td>Improve inquiry and admissions</td>
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<td></td>
<td>Upgrade College Internet Connection Capacity</td>
<td>Migrate Student Email to Office 365</td>
<td>Improve Spam Filter for Employees</td>
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<td>TouchNet Paymt Ctr, e-Refunds, collections</td>
<td>Appointment Central Enhancements</td>
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<td>Enhanced Digital Environments</td>
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<td>Admin</td>
<td>Intranet/Employee Portal</td>
<td>Digital Signatures for College Ops</td>
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<td>Productivity &amp;</td>
<td>Strategy Mngt System</td>
<td>Windows 10 Pilot</td>
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<td>Collaboration Tools</td>
<td>Document Imaging expansion and upgrade</td>
<td>Office 2016 Pilot</td>
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<td>Room based Lync systems</td>
<td>Video Conferencing Bridge</td>
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<td>Lync 2010 to 2013 Upgrade</td>
<td>Lync 2013 to Skype for Business</td>
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<td>Replacement of Email, File &amp; Print Servers</td>
<td>Projects Accounting</td>
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<td>Exchange 2013 Email Upgrade &amp; User Migration</td>
<td>Kronos Upgrade</td>
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**Business Intelligence**
- Enhance reporting and data analysis
- Business Analysis & Process Improvements
- Build Continuous Improvement Skills
- Project Management Tools and Skills
- Support One College via Technology solutions

**Connectivity, Infrastructure, Security Risk Mgt**
- Internet Web Security Gateway
- SSL Virtual Private Network
- Replacement of Optical WAN
- West Hills WAN Upgrade
- Increase WAN Capacity to Centers
- Security Incident & Event Monitoring
- LAN Switches BO & SO
- UPS & Emergency Generator BO & SO
- Malware Prevention
- Connectivity to KINBER
- Internet Bandwidth Upgrade
- New Firewalls
- Intrusion Detection and Prevention Systems
- Unified Communications at BO & SO (PBX Replacement)

**Support, Knowledge & Training**
- Remote Support Tools
- YouTube IT-TV Channel
- FOS Training Enrollment Services
- New Cherwell Ticketing system
- Contact Center for ServiceDesk
- ITS Communications Newsletter
- Training to Support all New Solutions
APPENDIX A - ITS S.W.O.T Analysis

Strengths:

- Dedicated and motivated staff
- Centralized IT operations to provide standardized services throughout the college
- Reliable network infrastructure
- Abundant computing resources for students, faculty and staff
- Ability to adapt to changing industry needs
- Low staff turnover
- Willingness to take on challenging projects & issues
- Proven record of delivery of custom applications to meet the college’s needs
- Demonstrated capability to deliver business insight into college operations
- Ability to assist college departments to re-engineer and streamline business processes to improve efficiency
- Centralized and on-demand delivery of training for faculty and staff

Weaknesses/Challenges:

- Insufficient campus infrastructure to deploy technology projects (i.e. utility and emergency power, HVAC, lighting, building etc.)
- Slow pace of technology adoption & integration by faculty and staff
- Need for frequent retraining of staff due to rapid changes in technology with little funding for training
- Little career advancement & planning for ITS staff
- Gap accessing IT resources from off-campus and on-campus
- Insufficient staff resources to support new technology initiatives
- Integration challenges with the college’s ERP system (Ellucian Colleague) when a third party software solution is desired or required or the functionality is not provided by Colleague.
- Need for mobile friendly web applications and more interoperability with new technology tools such as Ellucian Academic Portal.
- Limited funding for the replacement of ITS hardware and software replacements, acquisitions and upgrades
- Significant amount of time required to recruit and develop a new ITS employee

Opportunities:

- Enabling the delivery of diversified programs in non-traditional ways to non-traditional students
- Expanding training and support for faculty interested in non-traditional course delivery
- Increasing the use of technology can decrease the cost of instruction
- Increased acceptance of technology which may enhance learning and teaching
Accommodating non-traditional students, including working adults, part-time, evening, and continuing education adults
Understanding and becoming an integral part of the College’s business functions, IT can provide optimization & business process engineering
More people accepting online learning and technology and relying on it. The advancement in use of distance learning technology will have a positive effect on learning and college operations.
Collaboration/sharing of teaching/learning content
Better use of technology to enhance services

Threats:

- Lack of sufficient long-term and consistent state and local funding for higher education
- Accelerating pace of change in campus and education
- Method of education delivery moving toward technology-based teaching, less dependent on brick and mortar
- Increasing need to utilize support services (resource learning, tutors, remedial teaching)
- Technology planning in the past has not been integrated with the college strategic planning process
- Expansion of effective online learning programs by other institutions and its impact on the college and region
- Potential attrition of key ITS staff and its impact on operations; no backup capability for mission critical ITS systems
- Failure to attract and retain qualified and competent staff
- Insufficient resources to have significant impact on technology initiatives
- Expanding security threats such as identity theft, ransomware, malware, etc.
- Negative consequences of unintended use of technology by users, such as loss of information assets due to ransomware infection
- Consumerization of technology and rising expectations of users from institutions
- Inability to keep up with the accelerating rate of change. Increasing demand for anywhere/anytime access to technology services
- Inability to act quickly to meet needs
- Increasing, unexpected demands on ITS resources college-wide