

Information Technology Strategic Plan

FY 17-18 & FY 18-19



Yavapai
COLLEGE
life explored



YC ITS Strategic Plan FY17-FY19 v. 1.2

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Introduction

Yavapai College (YC) relies on various forms of technology to fulfill its mission to provide quality higher learning and cultural resources for the diverse populations of Yavapai County. The technology resources employed are vast and include such things as air traffic control systems, virtualized computer classrooms, cloud services, and state of the art presentation systems.

The Information Technology Services (ITS) Department is proud to provide technology support and services to the constituents of YC. This strategic plan is meant to provide direction to our activities moving forward and encompasses fiscal years 17/18 and 18/19. We are eager to work with our colleagues across the district to bring this plan and its goals to fruition. This plan is a fluid document and can be updated as needed to reflect changes in our environment or institutional priorities. The Technology Advisory Committee (TAC) will be tasked with the initial review of this plan before seeking input from the entire YC community. ITS and TAC will work together to update this plan as necessary.

On behalf of the hard-working professionals in the YC ITS Department, thank you for your continued efforts in support of our shared goals.



Patrick Burns

Patrick Burns

CIO—Yavapai College

YC ITS Vision, Mission, and Values

Vision Statement

The Yavapai College ITS Department will be recognized as a high-performance team which provides technical services that enable our institution to be more effective in the areas of teaching, economic development, and cultural enrichment.

Mission Statement

The mission of the Information Technology Services (ITS) Department is to increase the effectiveness of our institution in the areas of teaching, economic development, and cultural enrichment through the efficient use and cost-conscious management of information technology resources.

Values

Respect – We value the experiences and opinions of our constituents.

Collaboration – We value knowledge sharing, partnerships, and relationships with our stakeholders.

Service – We value providing excellent, consistent, and reliable service.

Fiscal Stewardship – We value technological solutions that are standards-based and cost-effective.

Continuous Improvement – We value the on-going development of our staff and the technologies they support.

YC ITS Teams

The YC ITS Department is organizationally structured into five functional teams: Presentation Technology Support Services, Application Development, IT Security, Technology Support Services (Helpdesk), and Systems and Networking Services.



Presentation Technology Support Services (PTSS) is responsible for designing, implementing, and maintaining all of the district's presentation (audio/visual) systems. This includes multiple levels of classroom technology, video conferencing, large presentation spaces (community rooms), and specialized spaces (e.g. culinary). Additionally, the PTSS team is responsible for live event support at all locations in the district.

YC ITS Teams

The **Application Development (App Dev)** team is accountable for the district's enterprise system (Ellucian Banner). The Banner system facilitates the administrative operations of the College including functions such as Human Resources/ Payroll, Registration, Degree Audit, Financial Aid, Finance, and Advancement. App Dev also develops and maintains custom applications to meet the needs of our constituents.

The ITS Department also has a dedicated **IT Security** group that is responsible for protecting the College's information assets. YC is constantly under attack from 3rd parties trying to gain access to sensitive data. This group stays abreast of the ever-changing cybersecurity landscape and is charged with implementing security tools and best practices to protect our environment.

The ITS Helpdesk is operated by our **Technology Support Services (TSS)** team. These professionals assist students and employees with any issues they might have with the district's technology. Also, this team provides and maintains all of the workstations and computer labs at YC. This team is also responsible for security cameras and key card access at all YC locations.

The **Systems and Networking Services (SANS)** team is responsible for the district's IT infrastructure. SANS designs, implements, and maintains the following: local area network, wide area network, internet access, servers, network storage, wireless access points, virtual desktops, and the IP phone system.

Key Strategic Areas

For planning purposes, the ITS Department organizes activities into five strategic areas: Teaching and Learning, Administrative Applications, Customer Service & Student Support, Security, and Infrastructure.



Teaching and Learning
Administrative Applications
Customer Service & Student Support
Security
Infrastructure

Teaching and Learning

The use of technology in support of **teaching and learning** activities continues to progress at YC. The ITS Department partners with Teaching and eLearning Support (TeLS), Teaching Learning Committee (TLC), and other key stakeholders to promote technology use and innovation related to academic pursuits. Research into new technologies and best practices are embedded into our daily pursuits. We look forward to implementing new and innovative ways to use information technology to support teaching and learning.

The **teaching and learning** strategic area encompasses both physical and virtual environments. The design of our physical spaces (classrooms and labs) is the cornerstone to creating the best possible in-person educational experience. Faculty input is very important as we design or redesign instructional spaces.

The Canvas learning management system houses the majority of content for our online and hybrid courses. The TeLS group is responsible for ongoing training and support for the Canvas platform. ITS maintains integrations between Canvas and internal systems such as Banner and Central Authentication Service (CAS). Our virtual learning environment is extended by specialized products such as MyMathLab and Turnitin.

Zoom (web conferencing software) is being embraced as a replacement to our traditional point to point video conferencing (Cisco telepresence) system. TeLS and ITS are collaborating on this important initiative. A new instructional modality (WebLive) has been adopted for classes that use the Zoom platform.

Key Strategic Areas

Administrative Applications

The Ellucian Banner ERP system is the foundation of our **administrative applications**. Banner is utilized for many administrative functions such as student registration, paying employees, tracking donors, financial aid, and identity management. The College began utilizing Banner in 2009, and we are presently in the midst of our 2nd major upgrade (Banner 9). Several other important tools that help the institution operate connect to Banner as an authoritative source of information. These tools include the Salesforce CRM system, Touchnet payment system, Everfi training system, and the Canvas learning management solution. The College is looking to expand the utilization of the Salesforce platform to enhance our student engagement and student success initiatives.



Key Strategic Areas

Customer Service & Student Support

The ITS Department is a service organization. The satisfaction of our customers (students, faculty, and staff) is of the utmost importance. To provide high-quality **customer service** and support, our organization must build upon our strengths and address our weaknesses. The ITS Department has been retooling our helpdesk to match the changing needs of the College community. We seek to adapt current industry best practices (e.g. Information Technology Infrastructure Library) to our unique environment to enhance our service levels.

ITS will develop a catalog of services and adopt service level expectations in aid of continuous and data-driven improvements. Also, the ITS Department is slated to conduct a survey that will help us identify areas in need of improvement.

Security

The ITS Department remains committed to protecting the YC community by adhering to industry standards and best practices. We are committed to the continued enhancement our IT **security** infrastructure as threats increase and gain in complexity. The College has a small team dedicated to IT **security** that is charged with overall risk management and increasing security awareness.

We rely on industry frameworks such as NIST (National Institute of Standards and Technology) 800-53 and CIS (Center for Internet Security) Critical Security Controls to help guide our initiatives. ITS will continue to leverage these tools and adapt them to our environment. In addition, we continue to be involved with the higher education cybersecurity community. That community shares information related to new threats and methods to combat the criminals that wish to profit from cyber-crime.

ITS will continue to roll out new **security** tools such as multi-factor authentication (MFA) to mitigate our exposure to compromised credentials. We aim to introduce necessary additions to security while minimizing any disruptions new processes might introduce.

Key Strategic Areas

Infrastructure

As our reliance on technology continues to grow, it is imperative that our technology infrastructure is robust, reliable, and flexible. Continuing infrastructure enhancements ensure that YC can adapt to the future needs and goals of the institution.



The ITS Department will continuously evaluate our local area network, wide area network, and internet links for performance and capacity. Adjustments are made as capacities are reached, or new service offerings are introduced that are in the College's best interest. We have made significant investments in our wireless network and will continue to expand coverage throughout the district.

Yavapai College heavily utilizes virtual desktop infrastructure (VDI) to operate computer labs and classrooms. VDI gives us the ability to provide specialized desktop environments and applications at all district locations and to our constituents at home. ITS will continue to make improvements to the environment as the technology progresses or as instructional needs dictate.

The ITS Department will continue to leverage virtualization environments both on-premise and in the cloud. The College will continue to employ a 'cloud-first' philosophy when implementing new services. Utilizing Software as a Service (SaaS) options can free up valuable capital and human resources that can be used to further other initiatives.

Planning Meets Progress

This plan details updated goals and priorities for the Yavapai College ITS Department. We look forward to working with our colleagues throughout the district on the initiatives outlined. This document will be updated as necessary to reflect any changes to our environment or a change in College priorities. We will work with the Technology Advisory Committee and update the College community on our progress when appropriate.

Please feel free to contact Patrick Burns, Chief Information Officer, for more information.



Goals, Objectives, and Action Items

Teaching and Learning

Goal 1 – Collaborate with institutional partners to enhance physical and virtual learning environments.

Objectives	Action Items
Work with Facilities, TeLS, TLC, Instructional Support, Student Development, and other key academic stakeholders to evaluate existing physical learning spaces and identify possible enhancements.	<ul style="list-style-type: none"> • Develop a process to evaluate key physical classrooms, create a budget recommendation for changes, and implement recommendations if funded. • Research various models for physical learning spaces.
Work with TeLS, TLC, Instructional Support, Student Development, and other key academic stakeholders to evaluate and enhance existing virtual learning environments.	<ul style="list-style-type: none"> • Conduct a usage review of currently deployed technologies; gather input from key stakeholders. • Promote usage of existing platforms and adoption of new services. • Support institutional initiatives (e.g. Quality Matters).

Goal 2 – Collaborate with institutional partners to transform synchronous distance instruction.

Objectives	Action Items
Work with TeLS, TLC, Instructional Support, Student Development, and other key academic stakeholders to replace our current ITV system with Zoom (WebLive).	<ul style="list-style-type: none"> • Update existing telepresence rooms to a new standard that accommodates Zoom (WebLive) as an instructional modality. • Research and develop best practices for Zoom (WebLive) as an instructional method. Assess effectiveness of new methodologies. • Promote the use of Zoom for employee meetings, office hours, remote consultations, and webinars. Support training needs.

Goals, Objectives, and Action Items

Administrative Applications

Goal 1 – Collaborate with internal stakeholders to upgrade the Banner ERP system.	
Objectives	Action Items
Design and create a replicable environment for the Banner 9 system utilizing the latest standards and best practices.	<ul style="list-style-type: none"> Design and create an appropriate server, storage, and database environment for the new Banner 9 system. Deliver Banner 9 test environment (Banner databases, auxiliary databases, configurations, custom APEX applications) for functional area testing.
Work with cross-functional Banner 9 team to test and release new environment.	<ul style="list-style-type: none"> Form Banner 9 testing team comprised of key stakeholders from each area. ITS to coordinate high-level activities and communication. Organize ‘go-live’ activities and communicate with YC constituents.
Goal 2 – Update website technologies to increase stability and ease adoption of new functionality.	
Objectives	Action Items
Convert existing Classic ASP web applications to the .NET framework	<ul style="list-style-type: none"> Design and create a structure to rewrite existing web applications, test new applications, and release applications using the latest Microsoft tools and best practices. Collaborate with key stakeholders to prioritize application release order. Establish a methodology to gather testing feedback, user acceptance, and ‘go live’ support.
Update and enhance web server environments and architecture.	<ul style="list-style-type: none"> Design and implement new test and production web environments in aid of a structured deployments, redundancy, and scalability. Research load balancer options. Implement new load balancer solution if necessary. Provide support to Marketing related to website redesign efforts.

Goals, Objectives, and Action Items

Administrative Applications

Goal 3 – Ensure enterprise applications reviewed for effectiveness and alignment with the College’s strategic plan.

Objectives	Action Items
<p>Develop a process to review existing enterprise applications and recommend action based on findings.</p>	<ul style="list-style-type: none"> Engage third-party resources for a review of specific Banner modules annually. Implement changes based on recommendations. Internally review existing non-Banner applications, develop evaluation criteria, record results, and create recommendations for future considerations. Develop informational materials on software systems, relationships, dependencies, and current effectiveness. Provide recommendations for any changes needed.
<p>Review current Banner and related processes for effectiveness. Implement recommended changes and new functionality when appropriate.</p>	<ul style="list-style-type: none"> Review and document priority processes with stakeholders. Draft ‘What If’ scope of work statements for desired functionality (e.g. wait lists). Implement Civitas College Scheduler software to enhance current class search and registration. Assist Instructional Support in the implementation of DegreeWorks Student Educational Planners.
<p>Ensure new enterprise software acquisitions are appropriate.</p>	<ul style="list-style-type: none"> Develop a process to review new enterprise software acquisitions, evaluate implementation needs, compare against existing and competing projects. Evaluate current market related to ERP platforms and explore future RFP for a new enterprise system.

Goals, Objectives, and Action Items

Customer Service & Student Support

Goal 1 – Working with ITS, Student Development, and our YC partners, enhance existing technology support model.

Objectives	Action Items
Refine ITS helpdesk structure, processes, and tools to create a better customer experience for the district to improve their use of technology.	<ul style="list-style-type: none"> • Review current processes, operational hours, workflow, personnel, and software for helpdesk ticketing. Based on the review, make necessary changes to enhance service. • Create service catalog entries for repeatable tasks. Establish service level expectations for service catalog entries. • Improve self-support tools and documentation.
Seek input from YC community related to ITS service levels and offerings	<ul style="list-style-type: none"> • Work with Institutional Effectiveness and Research to survey employees and students. Based on the review, make necessary changes to enhance service and offerings.
Research/benchmark best practices from peers and evaluate current YC online support services.	<ul style="list-style-type: none"> • Support efforts surrounding digital and/or open source textbooks, online tutoring, online advising, and other areas to promote both online and in-person student success.

Goals, Objectives, and Action Items

Security

Goal 1 – Advance YC’s information security infrastructure and processes using best practices and industry standards adapted to the needs of the institution.

Objectives	Action Items
<p>Continue to enhance security for end users using leading tools and best practices.</p>	<ul style="list-style-type: none"> • Develop and execute a plan to rollout multi-factor authentication (MFA) to all college employees. All employees will be required to use MFA when rollout is complete. • Continue cybersecurity awareness efforts. These efforts include mandatory online training, optional in-person classes, phishing tests, and ad-hoc informational efforts.
<p>Continue to enhance internal and external network security following best practices such as Center for Internet Security – Critical Security Controls.</p>	<ul style="list-style-type: none"> • Implement a robust Network Access Control (NAC) solution to identify and secure endpoints. • Implement an application whitelisting solution to help protect the YC computer network from potentially harmful applications. • Explore options for penetration tests to simulate attack scenarios including social engineering. • Investigate options to enhance internal and external DNS security.
<p>Continue to strengthen email security controls to mitigate potential fraud and security incidents.</p>	<ul style="list-style-type: none"> • Fully implement Sender Policy Framework (SPF) and Domain-based Message Authentication, Reporting, and Conformance (DMARC) to reduce spam, fraud, malware, and phishing attacks. • Review current email security tools and services.

Goals, Objectives, and Action Items

Infrastructure

Goal 1 – Improve YC’s infrastructure and application services to meet the evolving needs of our constituents.

Objectives	Action Items
<p>Evaluate local area network, wide area network, wireless, and internet connections for capacity and redundancy.</p>	<ul style="list-style-type: none"> • Consider augmenting connections based on usage and constituent needs. Explore changes to introduce redundancy for internet connectivity. • Expand outdoor wireless coverage at all district locations based on student needs and current availability. • Develop a plan to increase core and edge switching speeds. Explore transition to 40Gb for core switching and 10Gb for edge capacity.
<p>Continue ‘cloud-first’ approach when exploring new applications and service options. Expand use and service of internal ‘cloud’ offerings.</p>	<ul style="list-style-type: none"> • Explore the use of IaaS (Infrastructure as a Service) options, where appropriate and cost-effective. • Increase capabilities of virtual desktop infrastructure (VDI) environment. Refine use of VMware UEM (User Environment Manager) for employee workstations.
<p>Detail current infrastructure elements and identify strengths/weaknesses.</p>	<ul style="list-style-type: none"> • Create an overview of current technological infrastructure. Categorize elements into strengths/weaknesses and provide future recommendations.