Expanding Technological Capacity to Support Instruction and Services: Technology Plan 2015-2020

INTRODUCTION

Jefferson State Community College's Technology Plan, *Expanding Technological Capacity to Support Instruction and Services*, was developed through a multi-stage committee process that involved all functional areas of the college. A Technology Plan Committee was appointed by the president and chaired by the associate dean of Institutional Effectiveness. The committee developed an   approach for expanding involvement of college personnel that would analyze current status and   future needs in five functional areas: Infrastructure and Administrative Systems, Enrollment   Services, Learning Support Services, Distance Education, and Program of Instruction.
Committee memberships are listed below.

Technology Plan Committee:

Amanda Kin, Chairperson	Barbara Goss	Julie Emmerich
Danielle Coburn	Nader Zandi	Hal Harris
Stephen Moore	Mary Watson	Venus Riley Smith
Mike Hobbs	Linda Hooton	
Norma Bell	Alan Davis	** Sally Holley

The committee analyzed needs and suggested actions that were then reviewed and evaluated by the Technology Plan Committee. The committee attempted to balance realistic expectations of resources with vision for what the college could be within this time period.

The Implementation Team for Technology Plan 2015-2020 will be chaired by the associate dean of IE and composed of the following five members. Each of the five members will serve as   Team Leader for the achievement of goals and measurable objectives in five areas presented in   the plan as Parts I-V. The current plan continues to demonstrate the college's commitment to   using technology to enhance and expand the educational experiences of its students.

Technology Plan Implementation Team:

Amanda Kin, Chair

Nader Zandi, Part I Team Leader	Barbara Goss, Part IV Team Leader
Mike Hobbs, Part II Team Leader	Alan Davis, Part V Team Leader Linda
Linda Hooton, Part III Team Leader	Danielle Coburn, Part VI Team Leader

PART I – Infrastructure and Administrative Systems

As Jefferson State Community College strategically evolves its technology infrastructure, several key initiatives for systems and services are required to support the long-range goals of the institution.

Goal I-1: Upgrade Campus Network Infrastructure.

In order to maintain current service levels and allow for expansion as service demands increase, an upgrade to the existing network infrastructure is required. By upgrading the existing equipment, the network will provide security, redundancy and reliability with an increase in bandwidth and the optimized delivery of data across our network. The ability to provide consistent, predictable data service delivery to satisfy application requirements is critical to ensure data integrity and a positive user experience. Several characteristics of an optimized network include the capability to minimize delivery delay, reduce delay variations, and provide consistent data throughput capacity.

<u>Objective I-1-1</u>: Upgrade core routers, datacenter switches and edge switches.

Replace the all four campus core routers to provide a more robust and reliable network while simplifying management, and protecting existing technology investments. The upgrade will provide increased bandwidth and speed of the backbone network to 10 GB. Many of the core routers are 'end of life' according to the manufacturer and are on extended support. They directly serve SANs and individual campus servers and need to have comparable speeds. The new routers and switches will be installed and functioning within 36 months. A proposed rotation cycle of 5 to 6 years will be investigated.

Replace edge switches in Intermediate Distribution Frames (IDF) in all buildings and examining the addition of routing. These switches will provide a faster backplane and 1 GB to the desktop at all locations. There are many switches in the current network that are over a decade old. An immediate investment over the next 36 months should be made to eliminate switching of that age and a replacement schedule should be implemented. This replacement will be on a rotation schedule of approximately 8 to 10 years.

A cycle of Uninterrupted Power Supplies will be integrated into the IDF infrastructure to protect this investment. There are a limited number of datacenter switches that should be made current with the router replacement cycle. This integration should be completed with a rotation schedule in 12 months.

Objective I-1-2: Upgrade wireless controller and continue to expand wireless access.

Wireless LAN access for students, faculty, staff, and guests has become a strategic as well as economic initiative for colleges. The trend of "Bring Your Own Device" (BYOD) and the growth in demand for wireless access is a driving force in the addition and replacement of the access points to provide high density and high capacity wireless access to our network. Applications range from providing Internet access for students and guests, to providing secure records access to students, faculty and staff. There is also the possibility of expansion of access to device wireless networks that will make equipment local to the college available for use such as projectors and TV displays. There is the possibility of segments of the wired network that may be replaced by wireless cutting cost of the physical infrastructure.

The current controller is highly expandable but has reached its limit in capacity. A second controller on another campus would increase capacity, increase redundancy and distribute the load of wireless traffic. The Aruba controller has been quite effective and continues to be very feature rich. Another controller will be installed within 24 months followed by an additional doubling of capacity within the following 36 depending on growth trends.

Technologies in the 802.11 wireless standards continue to change. In less than a decade the standard has changed over three times from 802.11B to 802.11AC. In order to keep up with demand and changes in technologies a cycle of change as well as expanding the coverage to a saturation level will need to be implemented for wireless nodes. This should be reviewed and planned for in the next 36 months.

Objective I-1-3: Evaluate, map and upgrade physical wiring plant.

The fiber optic backbone and CAT5e distribution network has been in place for over two decades. The physical plant has quite a lot of longevity built into it, but it is incapable of handling 10 Gigabit networking. A physical survey on a building and campus level needs to be completed. Where applicable and needed some of the fiber optic plant will need to be replaced with more current standards. Where applicable some of the distribution network will need to be upgraded to modern CAT standards or replaced with wireless where that is effective. The installation and implementation of this survey will take 60 months.

Objective I-1-4: Upgrade the existing Internet and Intercampus links.

The internet connection and intercampus network rely on services from telecommunications companies. These services need to be examined and upgraded as traffic demands increase. Redundancy should be reviewed as a possibly.

With the increased usage of the Internet our existing link has become congested. To provide the bandwidth needed for the continued growth of our Distance Learning initiatives, reliance on web and growth of cloud services then additional bandwidth is needed. The current internet link is 100 Megabit. It is likely that 500 Megabit or 1 Gigabit will be required in five years. The dropping of price in internet services may allow for distribution of traffic outgoing a viable option as well as setting up redundant links to our services from the internet, possibly over multiple campuses.

The intercampus network will have to keep up with internet and distribution networks. As the enrollment of other campuses increases the connectivity between the campuses will become saturated. It is likely the entire intercampus network will need to go from 100 Megabit to 1 Gigabit to match the internet usage at the very least. Higher speeds to account for local traffic may be required. If redundant internet links are implemented, it may be possible to multilink the local connection through a VPN trunk for local traffic. This will allow for increased reliability of services such as web and the ERP. These installations will be reviewed and accounted for within five years along with a network traffic study.

Objective I-1-5: Continually improve network security.

The entire network including the internet, intercampus, distribution, wireless and datacenter all have very sensitive data in the traffic. Steps need to be taken to insure that this data is safe from intrusion. A variety of appliances and procedures should be implemented to ensure this safety. The internet firewall, VPN and email security appliance need to be kept very current and reviewed periodically for configuration issues. Web technologies need to be continually updated to close vulnerabilities. The identity management strategy need to be integrated with all security solutions and regular procedural review of access should be implemented. Investigations into the viability of SAN and Wireless firewalls along with Intrusion Detection appliances should be made. The procedural plans should be met within six months and the hardware implementations should be completed within 24 months with a replacement policy implemented.

Goal I-2: Upgrade the existing administrative software systems.

Due to the continuous changes in higher education, the college will be required to manage its finances, payroll and student information systems more effectively. As this transition continues, the college will upgrade and implement systems to perform these essential operations and processes.

The college's implementations will aid in the institution's continued recognition as a leader of two-year institutions; provide the opportunity to improve institutional effectiveness and efficiency through Business Process Analysis, and improve services to the community through implementation of self-service technologies.

Objective I-2-1: Replace campus portal and implement identity management for SSO.

In the effort to remain a digital campus, the college must upgrade our existing portal to provide solid foundation of infrastructure, enterprise applications, and portal features required to support the institution. The current web portal is almost a decade old and compatibility with mobile devices and modern browsers is becoming a major issue. Ellucian Portal combines our administrative solution with portal, integration, information access, and academic solutions. It natively supports current web and mobile standards.

Ellucian Portal will integrate with Banner and Microsoft's Active Directory to provide identity management for all populations of the campus. Student, faculty, staff and administration can leverage its ability to maintain a Single Sign On infrastructure. This will ease the management of access into the colleges many varied integrated computer systems.

This upgrade is dependent on the SAN's new hosts, but that project is on target and should be completed on time. The Ellucian Portal along with integration with all systems should take place and be completed by 2017.

Objective I-2-2: Virtualize the existing physical Banner database.

The virtualization of the Banner servers will provide reliability, business continuity and disaster recovery for our mission critical applications. The virtualization will reduce the investment in physical servers needed to support our future growth. The implementation should be completed by 2016.

Objective I-2-3: Upgrade Banner's Oracle relational database to Oracle 12C.

The implementation of Oracle 12C is necessary for the continued support of the Banner software systems. This will be a part of the migration into the virtual environment. A management system of the databases will be reviewed as a possibly to make management of the colleges data more effective. The implementation will be completed by 2016.

Objective I-2-4: Implement the next generation of our existing administrative systems software, Banner XE.

The implementation of Banner XE will provide a new technology platform that will evolve the solutions to support the College's future needs. The new platform will provide a new user interface with feature rich functionality and features. The aging forms services will begin to be phased out as Banner XE replaces banner 8. The move to XE depends heavily on the direction of the identity management solution takes. The implementation should be completed by 2017.

Objective I-2-5: Implement email solution.

The email solution for the college is just as old as the portal system and they are integrated tightly currently. A new system will have to be delivered side by side with the implementation of Ellucian Portal. The Sun One system is almost a decade old and has the same issues as portal with mobile and browser compatibility.

Any new system will have to integrate with Ellucian Portal and fulfil the features that the employees and students expect from a modern email system. The possibility of cloud services will be considered along with local installation of simple to manage systems. Microsoft Exchange will be heavily considered due to the college's dependence on Microsoft Office. This project will have to be completed at the same time as the portal project and will be completed by 2017.

Objective I-2-6: Implement Automic.

Automic is an enterprise-level job scheduler that can decrease the labor-intensive processing associated with submitting Banner jobs and performing other manual procedures. Automic also handles delivery of output from those jobs and can facilitate moving files within the system. Automic allows many processes to be run simultaneously.

Since our end users no longer manually run Banner jobs that are scheduled through Automic, much of their workload is eliminated. In addition, end users do not have to deal with system resource concerns for jobs run by Automic. Our staff can control how jobs are run via conditional statements to ensure that jobs are run properly and that any error conditions are detected and handled. Automic's job scheduling ability allows jobs to begin at specific times, including off hours. Faster delivery of reports is available through Automic, as Banner reports can be distributed via fileshare, email, fax, or printer.

Automic is beneficial to our institution for several reasons:

- "Event-based" processing, not just "date- or time-based" processing
- Decreased number of jobs, scripts, and processing errors
- Error detection and immediate email notifications
- Automated restart and recovery of jobs
- Prioritization of on-demand jobs submissions
- Object-oriented approach for simplicity and reusability
- Balanced workload
- Optimized use of computing resources due to dynamic queuing
- Automation of Banner job processes, server overload prevention, and improved report generation and distribution

Implementation of Automic will require the planning and testing of jobs submission. Automic is scheduled to go live by the end of 2015.

Goal I-3: Improve telecommunications infrastructure.

The age of analog telecommunications is almost over. Nothing will be the same about the way telephone traffic travels by 2020. The entire campus infrastructure needs to be improved to make way for these trends. VoIP provides a comprehensive solution to a wide array of business problems. Some important features are capacity on demand, reduced calling costs, more powerful traditional features, impressive advanced features, reduced support costs, integration with other protocols, and the ability to link with instant messaging and email.

Objective I-3-1: Replace distributed PBX with modern native VoIP system.

The PBX had been centralized and IP enabled, but the continuing of decades old technology in the system has created limits. It really needs to be replaced with a system completely in order to shed some of these limits. Newer IP office systems come with a lower cost that can easily be shown by analysis. Management is far simpler and maintenance costs are far lower. The advent of SIP phones should make this move even easier. This project will be completed by 2020.

Objective I-3-2: Replace voicemail system to one with modern interfaces.

Callpilot voicemail system is a decade old. It has served its purpose, but due to its coming 'end of life' due to the manufacture and the necessity of spending money on an upgrade synchronous to MS Office a new solution needs to be implemented. This project may have to be with the PBX project but there is the possibility of integrating a solution that will work with the next system earlier. This objective will be achieved by 2020.

Objective I-3-3: Replace most all faxes with current Electronic Fax system.

As analog technology gets replaced by switched networks faxing as a communication method will decline. However, there will continue to be a need for faxing to be integrated into the rest of the network. The capacity and usability of the Callpilot faxing has some glaring feature defects. A standalone faxing server that makes Electronic Faxing more usable and integrated with the computer network, such as email and file storage, is needed. This project will need to be completed before the voicemail replacement. This objective will be achieved by 2020.

Objective I-3-4: Change the analog infrastructure to IP or cellular.

Analog has become problematic due to aging physical plant and the many disadvantages compared to switched networks. Over the next five years the majority of the analog and digital lines need to be replaced with IP enabled phones. Special care will need to be directed to faxing, credit card lines, elevator lines, emergency phones and alarm systems. Cellular lines will be preferable to 1FB lines currently in use due to increased reliability and lowered cost. This objective will be achieved by 2020.

Objective I-3-5: Migrate to virtual PRIs or Internet voice trunks.

PRI systems used to direct calls off campus are slowly being replaced with virtual PRI trunks. Vendors will lead the push to this direction. Any new VoIP system purchased will have to account for this trend. The possibility of using the internet as a voice trunk will have to be investigated. The PRIs will be gone and phone service will be redirected in five years. This objective will be achieved by 2020.

Goal I-4: Expand Datacenter and SAN.

The main datacenter at the Jefferson Campus and the other three satellite datacenters have gone through many technology changes. The physical plant, data recovery, SAN infrastructure and system operations will all be affected. There are some cases where college organization, system virtualization and cloud based technologies would architecturally change the way the datacenter is managed. All of these issues need to be addressed and the technology of the datacenter kept current.

Objective I-4-1: Evaluate and update the physical plant of all four campus datacenters.

The main campus will need the Generator replaced and modernized in the next five years. It needs to include IP connectivity for monitoring purposes. The generator, UPS and air conditioning infrastructure of the satellite datacenters needs to be examined. The viability of adding a generator to the Pell City campus should be considered. All three systems (generator, UPS and air) for all four campuses need to be put on a reasonable life cycle plan. This objective will be completed by 2020.

Objective I-4-2: Continually improve data backup and disaster recovery.

The backup system recently purchased should cover the college's data for the next five-year term. Upgrades need to be kept current and there is the possibility that backup disk storage may have to be expanded. When the new SAN is upgraded in the coming year the old system can be moved to the Shelby campus and an emergency datacenter can be setup to restore servers in case of a site failure. This will allow for faster recovery of service. The data recovery plan also needs to be completely overhauled with considerations given to offsite storage, cloud services and procedures. This objective will be completed in 24 months.

Objective I-4-3: Enhance hosts, disc arrays and network core for SAN.

The main datacenter SAN has three major components. They are the hosts with its VMware operating systems, the disc arrays with redundant subsystems, and the network core of 10 Gigabit capacity. The discs and network components will last for the five year time frame but the hosts for the core main campus SAN are approaching a five year age. New ones to accommodate the memory and processing limitations of the current setup are required for future growth. The possibility of expanding the disk system to accommodate solid state needs to be addressed as well as the option of adding a host to the entire system for flexibility. Using the SAN has at the very least allowed us to go without purchasing individual servers during this entire time. The cost savings alone are worth the maintenance of this system. The new hosts should be in place within 12 months.

Objective I-4-4: Reorganize Active Directory.

The network logins for all employees, classroom computers and labs are controlled by active directory. The current implementation of active directory with its distribution into multiple domains, user security groups, login scripts and users has been around since WindowNT was the network operating system. In also includes a domain name system with names that need to be expired and sites schema that needs to be collapsed. The entire system need to be completely reorganized and consolidated. When finished the project will consolidate all domains into jeffersonstate.edu and be integrated into whatever SSO solution that has been implemented. This reorganization should take place in 24 months.

Goal I-5: Improve client technologies and policies.

The college is committed to supporting the technologies that are constantly changing on the edge of the network. The success of server virtualization has indicated the many advantages of making operating systems portable over hardware platforms. Mobile devices such as laptops and tablets are changing the way the network operates. Services taken for granted such as printing, file sharing, classroom computing and videoconferencing has changed and need to be reviewed. The complexity of technologies has increased to a level that the support of end users requires increased orientation and a central point of contact for technical support.

Objective I-5-1: Implementation of a virtual desktop infrastructure.

Managing of client software, documents and profiles over the many PCs and devices owned by the college can be made simpler by implementing a virtual desktop infrastructure similar to what has already taken place in the datacenter. It will make implementations go faster, management easier, loosen restrictions on current computers and protect data better. This will require a SAN separate from the server SAN with its own hosts, network ports and disk arrays. All areas of client PCs can be improved with this from classroom computers, lab computer and employee computers. This project should be implemented in 36 months with a pilot program in place in 18 months.

Objective I-5-2: Implementation of mobility device management and inventory.

Mobile devices such as tablets are increasingly joining standard laptops as a device in demand by faculty, staff and students. This poses many challenges keeping up with inventory, managing software, network security and network availability. The wireless infrastructure to support these devices is already in place. A policy of recommended mobile devices (both tablets and laptops), inventory management procedure, possible management software piece and a communicating to users the procedure for connecting these devices to the network and projectors should be implemented. These policies and procedures should be in place within twelve months.

Objective I-5-3: Implementation of printing policy and procedure.

Student lab printing, employees' windows printing, banner printing, copiers, the print shop, and print on demand services are all available and added many layers of complication and increased in cost over the last decade. Education of the end users, oversight of printing costs and management of the various printing procedures should be reviewed and polices put in place to simplify and lower costs of the vast amount of printing done at the college. Several software packages and vendor services will have to be reviewed and implemented followed by communicating to users the procedure for using these services. This will be completely implemented in six months.

Objective I-5-4: File sharing improvement.

Sharing files between users is critical for employee collaboration as well as the security and availability of such files and the data they contain. There are more expectations in flexibility of newer file sharing technologies. The old drive mapping method has become more difficult to manage and currently poorly reflects the organization of the college. The entire system need to be reviewed with technologies such as Microsoft SharePoint, file transfer protocols, distributed file systems, future desktop virtualization and future active directory security systems in mind. The overhaul of this system including education initiatives for the end users should be completed in 36 months.

Objective I-5-5: Implement classroom technological standards.

The classrooms have seen a rise in technological developments in the past five years. Currently it is expected to have devices for showing audio and video including projectors and televisions. It is also expected to have a computer installed and available for instruction. The increase of mobility devices has created problems for connectivity to both wireless networks and the audio/video equipment in the classroom. There are over a hundred classrooms in various states of technological development. New standards need to be developed so that all expectations from the faculty and staff can be met. Other than obvious wiring and equipment standards various technologies need to be reviewed in the coming years. Early adoption of desktop virtualization or integration of computing with the audio video equipment should be considered. These standards should be adopted and educational initiative for end users for the standard equipment should be completed in 24 months.

Goal I-6: Improve campus security and physical plant through advances in technology.

Jefferson State Community College has grown from one location to having two campuses and two sites, each located in a different county. Considering the distance between the counties, the growth of the student population, and budget restrictions, the Security Department must use advances in technology to make its' operation more efficient and effective. Operations and Maintenance also must use technologies to manage its power, air conditioning and other major physical plant equipment to handle this growth demand.

Objective I-6-1: Upgrades for emergency notification system.

Currently the college uses the E-2 Campus Emergency Notification System to provide emergency notification to the campus community.   The system sends text messages to cell phones and emails provided by participants in the system. Currently we utilize a system that users have to request the service.   Consideration should be given to an opt-out to insure that emergency communication is provided to everyone in the campus community.

A secondary aspect of our emergency notification system is provided by the Alertus Corporation. When an emergency notification is made, the Alertus system activates emergency beacons in the hallways of the building that contain classes. These beacons have a visual notification system which used strobe lights and an audio notification system which used a siren to notify the campus community that an emergency notification has been made.   The Alertus system also allows the emergency notification message to be sent to all computers logged onto the Jefferson State system.   Further, the Alertus system can send messages to Facebook and twitter accounts.

Our current system works effectively and efficiently. In order to maintain our present capabilities, routine test of the system have to be performed to insure that the Alertus beacons are functional. Inoperable beacons need to be replaced.

Objective I-6-2: Upgrades for video surveillance system.

The Police Department currently has thirty- two video recorders to record 321 surveillance cameras. The cameras are located at all of the four campuses. The majority of the system is seven years old. The expected life of the video recorder is twelve years provided that we replace the hard drives when required. The expected life of a hard drive is three to five years.   Standard dome surveillance cameras have a life expectancy of fifteen years. Surveillance cameras with IR light sources have a life expectancy of ten years. There is a potential for as many as fifty cameras to be replaced during the next five years.

Twenty of the video recorders operate currently deployed operate with an analog system. The remaining video recorders operate with a digital system. Because of the difference in the two operating systems, we have to utilize two different software systems to view live and stored video. Purchasing a software system that allows viewing of both analog and digital video systems would make viewing video from the cameras more efficient and effective.

Objective I-6-3: Implement key management procedure.

The key management system that the college uses needs to be updated. Currently, key request are made in writing, the request is stored in a file, and the keys are issued. We do not have a list of what keys are issued to individual employees. Implementing an automated key management system would simplify the process of issuing keys and increase accountability.

Objective I-6-4: Implement Photo ID management.

The Campus Police Department provides photo identification to all members of the campus community. We currently utilize Zebra Print software and printers. We have photo identification stations located at each of the police department offices located at each campus. The computers that operate these systems were donated to the college by the Tarrant Police Department. These computers were seized as a result of an illegal gambling operation. We have utilized the computers for three years. The computers were approximately five years old when we received them. As they approach the end of their expected useable life, the computers will need to be replaced.

The software that operates the photo identification system will also need to be updated. The system needs to be updated to provide a common database for depositing photo so the system can be merged with Banner. We are currently having problems with the software that can be related to the computer operating systems lack of memory.

Objective I-6-5: Upgrade for intrusion alarm system.

The Police Department has installed intrusion alarms at the Shelby, Pell City and Chilton campuses to assist in securing the building during nonoperational hours. To maintain these alarm systems, batteries in the alarm panel need to be replaced annually. The life expectancy of motion detectors utilized by this system is ten years. Several will need to be replaced during the next five-year period.

Objective I-6-6: Implement server system to manage power systems and HVAC.

The college has an extensive power and HVAC systems that can be integrated over the network. Steps need to be taken to ensure that all of them can be managed and secured with central software. Currently each is managed individually. As new systems are brought online the possibilities of integrating these new systems needs to be reviewed.

Objective I-6-7: Implement inventory system for physical assets.

The college has extensive physical assets that are currently tagged with a bar code. An assessment needs to be made to see if this data can be integrated into a database that is useful for locating and reporting these assets. The possibilities of technologies including simple bar code readers could make this process easier and need to be evaluated for possible implementation.

PART II - Enrollment Services

The Jefferson State Community College (JSCC) Enrollment Services office continues to meet the growing demand for technology for both students and the community, by providing as many digital services as possible in an accessible and user-friendly manner. The Enrollment Services technology plan will focus on several goals, with supporting objectives; however, updates/revisions may be needed as technology develops and student needs change. Also, as technology advances, the Enrollment Services office will meet industry standards and create robust benchmarks to be fully effective. Lastly, the most recent processes will maintain cutting edge and vigorous forms of technology. This will allow the college to make data driven decisions. Description of future needs in the form of goals and objectives will be outlined in this technical plan.

(A) A technology task force was created to position Enrollment Services as a technological force in making the enrollment process as cutting edge and efficient as possible. The original task force consisted of members from several areas of the college that included: Admissions, Advising, Financial Aid, ADA, Computer Center, Business Office, and the Vice President's Office. The taskforce now includes the Graduation and Records Office. The task force will continue to meet quarterly to brainstorm and research creative ways to be more effective in day to day processes. With each follow up meeting, the task force will continue to create new procedures and modify

existing ones to technically redefine a stronger and more advanced means of delivering communications, information, and tools to students, faculty, and staff members.

(B) The Advising Center's Online Services, located on the institution's web page assists students with finding information about the matriculation process. These services include providing information for all degrees offered at the college, including Associate's in Applied Science, Associate's in Arts, and Associate's in Science degrees, Advanced and Short Certificates. DegreeWorks is operational and is used as a tool during advising sessions. It is accessed through self-service banner by students and advisors to monitor the matriculation through a degree program. DegreeWorks, partnered with Argos, plays a pivotal role in notifying all students if they are registered for courses that do not apply toward their major. This extension of the Advising Center is a vital resource for current students and potential students. Students also use the Advising Center's Online Services when selecting majors as well as providing tools for discovering potential career paths. (C) Enrollment Services supports numerous e-mail services and processes to funnel and facilitate appropriate student e-mail requests. Students are able to e-mail **help@jeffstateonline.com**, **advising@jeffstateonline.com**, and **admissions@jeffstateonline.com**, for information regarding advising, user information for online services and general enrollment questions. Students generally receive a response within 24 working hours.

(D) Implementation of Banner Document Management Suite (formerly Xtender), the process of collecting and processing documents has been changed for Enrollment Services including Admissions, Advising, and Financial Aid. The process has significantly reduced the time it takes to collect and assimilate all admissions related documents, especially transcripts. With the initial launch, college and high school transcripts were scanned and processed. Most available documents in Enrollment Services are imaged and processed accordingly.

All campuses are equipped with the scanning tools and Enrollment Services staff have been trained in the daily scanning and indexing processes.

Currently, most digital services are accessible 24/7, as well as the online application and registration. The following goals and objectives support the use of technology in the delivery of enrollment services.

Goal II-1: Continue to facilitate the task force to explore new technologies and processes to expedite current procedures and develop new ones

Continuing to expand the task force will not only bridge multiple areas of campus together, but will also bring about new ideas from different perspectives and opinions. By brainstorming with inside and outside parties, different ways of performing tasks can be discussed and rehashed to develop a better understanding of each function. Automic, a cutting edge technological innovation was purchased in 2015. The software will offer the functionality that can help reduce manual processing associated with job submission and manage a delivery of application output. Training is ongoing.

Objective II-1-1: **The Technology Taskforce will continue to meet quarterly to explore, develop, and expand technological advances and best practices in providing student services. The Taskforce includes departments such as Admissions, Advising, Records, Financial Aid, ADA, Graduation Office, Information Technology, and the Business Office.**

Meetings will continue to take place quarterly as time permits as well as the availability of all areas to be represented.

Objective II-1-2: **Develop strategies to implement new software packages and equipment   to manage the delivery of day to day technical operations for the College.**

The Taskforce will continue to review operational procedures and survey users to determine the efficiency of software packages and equipment. Full implementation of Automic should increase workload processing efficiency and ensure compliance with a centralized audit trail of processes, errors and remediation.

Goal II-2: Continue to upgrade and expand the document scanning and imaging process.

Enrollment Services will continue to upgrade and expand Banner Document Management Suite (formerly Banner Xtender) to create a document scanning, imaging, and processing process. This process will streamline the receipt of all Admissions and Financial Aid related documents submitted by students.

Providing this functionality to Enrollment Services will also eliminate chances of lost paperwork. It will also provide staff members with instant access to digital copies of all student related documents. Kiosks have been set up at each campus location. This goal requires continual review of software as well as placing additional scanners in high traffic areas.

Objective II-2-1: Identify locations for additional document scanners and kiosks in high traffic areas.

To reduce the number of hand delivered documents and increase electronic processing, additional scanners in high traffic areas are needed.

Goal II-3: Continued student opportunities through partnerships and expansion of technologies.

Students are searching for links to entities associated with Jefferson State and partnerships will be developed and refined as a result. Also, advanced methods of technologies to assist in the Admissions process will be cultivated and introduced to assist students in the enrollment process.

Objective II-3-1: Collaborate with outside entities to link students with Jefferson State Community College.

Collaborative agreements with parties including higher education institutions such as UA, Montevallo, Snead State, UAB, Huntingdon, secondary high schools associated with dual enrollment and accelerated programs, and technical companies such as Automic, Hyland, OnBase Solution and Credential Solutions. These joint partnerships will continue to reinforce the institution's goal of delivering educational services to students via technological collaborations.

Objective III-3-1: Inventory equipment at four primary locations and purchase replacements as equipment becomes inadequate or new technologies are available.

An annual inventory of equipment at the four primary campus locations will be conducted by the ADA Accommodations Director and recommendations regarding equipment replacements will be submitted as part of the annual budgeting process. Currently all ADA Office student data supporting service delivery for academic accommodations are physically located at either the

Jefferson or Shelby-Hoover campuses, which are not readily accessible from other campus locations for daily operational functioning. Having the necessary supporting data available electronically would enhance the efficiency of ADA accommodation service delivery for students with disabilities equally at all four campus locations, provide an online format for obtaining services and provide a key benefit to institutional effectiveness.

Objective III-3-2: Increase efficiency of ADA service delivery for all four campuses by initiating a paperless service registration and records management system.

All current ADA supporting service documentation materials are physically housed at the Jefferson and Shelby campuses and all data record search functions must be completed from either location. Because the director operates on a rotational basis between campuses and must be able to access data immediately, having the information available electronically is crucial. Increasingly ADA students communicate for academic accessibility requests through electronic means.   An automated records management system would make critical information available equally at all campus locations and provide an online format for students to request services; thereby, increasing efficiency of appropriate ADA service delivery for students.

Goal II-4: Evaluate Enrollment Services personnel to determine the best professional development conferences and activities.

It is very important to continue to send staff to outside professional development activities in order to find out the latest state and national policies, as well as the best practices for the profession**.**
Objective II-4-1: Send Enrollment Services staff to conferences, workshops and training sessions for professional development.

- ALACRAO – Alabama Association of College Registrars and Admissions Officers
- AACRAO- American Association of College Registrars and Admissions Officers
- SACRAO – Southern Association of College Registrars and Admissions Officers
- NACADA - The National Academic Advising Association

- ALBUG – Alabama Banner User Groups
- ADA Conference – Americans with Disabilities Act
- Ellucian Live & DegreeWorks Forum (Banner) National
- NAFSA- National Association of Foreign Student Advisors
- NASFAA- National Association of Student Financial Aid Administrators
- AASFAA- Alabama Association of Student Financial Aid Administrators
- SASFAA- Southern Association of Student Financial Aid Administrators
- FSA- Federal Student Aid Conference
- AVAA- Alabama Veterans Affairs Association
- WAVES- Western Association of Veterans Education Specialists
- AAIE- Alabama Association of International Educators
- AACC- American Association of Community Colleges
- AHEAD- Association of Higher Education and Disability
- ACCA- Alabama Community College Association
- Diversity Conference
- ADSAA Alabama Deans of Student Affairs Association
- AACRAO Technology & Transfer Conference
- NACAC- National Association of Admissions Counselors

Goal II-5: Expand the development of digital advising resources.

Technology has increased the demand for advanced advising resources. There is still a high demand for personal interaction between advisors and students.   The information is the same, but the various digital means in how they are delivered are expanding. Although our students can register online without ever speaking to an advisor, this does not excuse us from providing accurate information and advice to students regarding their majors. In addition, based on the number of "help" and "advising" e-mails that are received, Enrollment Services must continue to look to technology to assist students with advising. As technology becomes more secure and the computing proficiency increases for students, faculty and academic advisors, there is little reason to continue to maintain paper and pencil degree plans in individual student files.

Objective II-5-1: Continued development of "live" degree audits with Degree Works.

Review and develop additional DegreeWorks applications as well as maintain updated curriculum requirements.

  Continuous training for students, faculty, and staff is needed to ensure maximum usage of DegreeWorks.

Objective II-5-2: Use Degree Works to communicate issues with degree plans with students

  The technology and computer software for degree audit programs will be used in conjunction with our current ARGOS and Banner Student System. A communication e-mail process will be built to communicate with students daily during registration periods that notify students of registered classes that do not belong in their degree. This will greatly help in the financial aid process of disbursing aid as well as informing non-financial aid students of courses outside of their major.

  ARGOS is a software program in which information from Banner can be retrieved based on certain information required. Enrollment Services will use these reports to troubleshoot any data information issues and also perform communication plan initiatives. Together with the Computer Center, reports designed in ARGOS will assist Enrollment Services in many functions.

  Furthermore, additional ARGOS reports will be created to assist staff in quickly verifying class attendance verification forms submitted by students. This report will show any errors, duplicate courses, or course taken outside of degree plan.

Goal II-6: Update online tools for financial aid on Pipeline.

  To allow for students to quickly get access to their financial aid status, online services will be updated to reflect the live status from Banner. Also, required forms and instructions will be posted to expedite student financial aid processing

Objective II-6-1: Online services will be linked with Banner Financial Aid forms to reflect live processing status.

Financial Aid will continue to work closely with Information Technology to develop and implement various options for students to have a more detailed understanding of documents required to complete their financial aid process.

Objective II-6-2: Online services will have linked forms for students to download and complete.

Continue to work closely with the Information Technology Department to develop proper instructions on downloading and completing online forms for students. These forms will be pdf's and will be faxed or e-mailed to financial aid for processing. Financial aid is researching various Banner Schools to determine new methods that will allow students to submit their information through Banner Self-Service instead of submitting a hardcopy to the Financial Aid office.

Goal II-7: Train Admissions staff on NSLDS verification process.

The National Student Loan Database System is a federal database of historical financial aid for all students who have received federal aid in the form of loans or grants. The Office of Financial Aid checks this while processing student files. If a student has ever received loans or grants from any institution, it is recorded in this system. To expedite the financial aid process and assist students in getting their aid completed faster, Admissions staff will be trained to check this database against the information from the student's admissions application. If there are discrepancies, the student information is updated and a request for the additional transcript (s) is made.

Objective II-7-1: Apply for specific admissions staff members to be approved for NSLDS access

Admissions staff personnel will be recognized as individuals who will be granted access to NSLDS.

Objective II-7-2: Train approved admissions staff members on how to lookup students in NSLDS procedures and make adjustments and changes in Banner.

Admissions staff personnel will be trained by Financial Aid staff in retrieving and verifying NSLDS information and updating information in Banner.

Goal II-8: Develop and Test Instructor Verification of Class Attendance Verification.

Implement a more efficient procedure for the disbursement of financial aid to students. Class attendance verification can be confirmed by instructors using Banner Self Service. There is no "class attendance verification" field, but other institutions have used the "mid-term" function on Banner Self-Service to notate when a student has attended class.

An indication of "1" for a student who has attended or a "0" for a student who has not attended, in the midterm function on Banner Self Service (for instructors only) will create a series of ARGOS reports. These reports can be utilized to verify class attendance by instructors. This could take the place of student submitting hardcopy class attendance verifications and speed up the disbursement process. Further research and ongoing meetings are needed to explore Class Attendance Verification.

Objective II-8-1: Work with computer center to research and develop process.

Work with Information Technology Department to identify correct fields in Banner. Develop a written process for instructors for loading class attendance through Banner Self-Service.

Objective II-8-2: Perform three test pilot semesters of running the process to test the process.

Detailed instructions will be sent to all instructors before the beginning of the semester on how to load class attendance. An ARGOS report will be used to e-mail instructors these instructions, followed up with additional reminder e-mails to verify class rosters.

PART III – Learning Support Services

As Jefferson State Community College expands to include four locations, technology that supports student learning is viewed as an opportunity to maximize resources and learning outcomes. The following goals relate to student-learning support.

Goal III-1: Enhance instructional effectiveness of adult education at all instructional sites by providing equipment to support computer-assisted learning.

Jefferson State Community College provides adult education services at twelve locations in Jefferson, Shelby and St. Clair counties. Instructional sites are expected to keep up-to-date with technology, including services that allow the use of "mobile" devices. This allows students to bring their own devices for use in the classroom, in addition to access of the classroom computers. Updating the infrastructure at the Jefferson Campus, Shelby Campus and Pell City Campus with Wi-Fi and current switches will allow for delivery of more advance services.

Objective III-1-1: Annual inventory checks will be performed to ensure technology is up-to-date and utilized in a way that promotes efficiency and instructional effectiveness in the classroom.

Adult education classrooms provide instruction via a variety of technological resources; computers and a SmartBoard are currently used on a regular basis. To ensure that the technology is up-to-date and is being used in the most efficient way with the latest tools, an annual inventory check on three campus sites and nine non-campus sites will be performed. Inventory will be maintained in the director's office for review.

Objective III-1-2: Purchase equipment to update the infrastructure of the Jefferson State, Shelby and St. Clair campuses for the more efficient use of computer resources.

To ensure the efficient use of the SmartBoard and computers located in the classroom, equipment needs to be purchased. Switches will be added at the Jefferson, Shelby and St. Clair campuses to accomplish this. Additionally, Wi-Fi capabilities will be added to the Jefferson campus first floor to accommodate classroom use.

Objective III-1-3: Purchase additional devices for classrooms such as tablets and laptops to bring the adult education classrooms more in line with current "mobile" technology.

To assist the classrooms in becoming more "technologically" savvy, tablets and laptops will be purchased. Tablets can be used both by the instructor in teaching and in conjunction with the SmartBoards, and also by the students. In addition, laptops with the latest AE software can be used by the student.

Goal III-2: Provide equipment for technology-supported instruction in computer lab settings.

Technology-supported instruction has been incorporated in several courses, such as biology, nursing, and history, on the college's Jefferson and Shelby Campuses. Access to instructional and laboratory software in a computer lab setting has allowed students to expand on concepts presented in class and to complete laboratory exercises in a safer, more cost effective manner. To ensure continued growth of the technology-supported instruction by various disciplines, computer labs will be available at the College's four locations with assurances that academic courses have priority in scheduling these labs. An annual review of the equipment in these computer labs and analysis of emerging technologies that support delivery of technology-supported instruction will be conducted to ensure that up-to-date equipment is available. Requests for equipment upgrades will be processed if equipment is determined to be inadequate.

Objective III-2-1: Establish technology-supported instruction as a priority in at least one lab at each of the four locations.

Academic classes and labs are enhanced when technology-supported instruction is implemented. Technology-supported instruction will be established as a priority in at least one computer lab per location by September 2016. Although the labs may be scheduled for activities other than technology-supported instruction, a policy will be established that affords priority to academic classes needing the labs for technology-supported instruction.

Objective III-2-2: Inventory equipment in designated labs on an annual basis and recommend replacements as equipment becomes inadequate or new technologies are available.

An annual inventory of equipment in the designated labs will be conducted and recommendations regarding equipment replacements will be submitted as part of the annual budgeting process.

Goal III-3: Provide up-to-date equipment required to support delivery of ADA services at the college's four primary locations.

Equipment required to support delivery of ADA services to students is available on the Jefferson, Shelby, Pell City and Clanton campuses. This equipment is current technology and adequate for delivery of services at the present time. A replacement schedule of 3-4 years is established to maintain adequacy of the equipment. The ADA Accommodations Director will conduct an annual review of existing equipment at all campuses that support delivery of accessible technology for students to determine the adequacy of the equipment. Requests for equipment upgrades will be processed if equipment is determined to be inadequate.

Currently all ADA Office student data supporting service delivery for academic accommodations are physically located at either the Jefferson or Shelby-Hoover campuses, so is not readily available from other campus locations. Having the necessary supporting data available electronically would enhance the efficiency of ADA accommodation service delivery for students with disabilities equally at all four campus locations.

Objective III-3-1: Increase efficiency of ADA service delivery for all four campuses by deploying a paperless service registration and records management system.

Because all current ADA registration and supporting service documentation materials are physically housed at the Jefferson and Shelby campuses in hard copy format, all data record search functions must also be completed at either location. Increasingly students communicate for services through electronic means which requires immediate service delivery for appropriate academic accessibility. Because the director operates on a rotational basis between campuses and must be able to access data immediately to efficiently enhance accessibility for students with disabilities on each campus simultaneously, having the information available electronically is crucial. An automated records management system would make critical information and statistical data available at all campus locations; thereby, increasing efficiency of appropriate ADA service delivery equally for each campus, as well as provide a rapid turnaround of services for all students with disabilities.

Objective III-3-2: Inventory equipment at four primary locations and purchase replacements as equipment becomes inadequate or new technologies are available.

An annual inventory of equipment at the four primary campus locations will be conducted by the ADA Accommodations Director and recommendations regarding equipment replacements will be submitted as part of the annual budgeting process.

PART IV – Learning-Resource Centers

Goal IV-1: Continue to provide up-to-date equipment and convenient, easy user access to online information resources and services sufficient to support the college's programs at all campuses and instructional sites.

An annual inventory of equipment that supports user access to online information resources and services will be conducted by the Director of Learning Resources. Based on analysis of the efficiency of the equipment and emerging technologies that impact the effectiveness of services, requests for equipment upgrades will be processed.

Objective IV-1-1: Inventory equipment on an annual basis and recommend replacements as equipment becomes inadequate or new technologies are available.

The systems utilized by the library in delivery of online information resources include the SirsiDynix Symphony Library Management System, the SirsiDynix Enterprise Content Management System, the EBSCO Discovery Service with Integrated Search and Link Resolver, OCLC EZ Proxy Remote Authentication Tool, and the Mosio "Text-A-Librarian" Virtual Reference Services.

- Symphony Library Management System: this system provides circulation services including user control, cataloging, and inventory control for all campus libraries. This system runs on an IBM AIX server which is currently under maintenance with an expected life through the 2015 planning period. The library system server was re-evaluated in July 2015 and was determined to be in sufficient condition to continue operation through at least the end of 2016. Prior to that period, the library will begin the process of procuring an alternate system and migrating all data. These activities will be conducted behind the scenes and the use and access of library resources will not be effected.

- OCLC EZ Proxy: this piece of software provides remote authentication to the library's vast electronic resource collection and is run on a Windows server located and maintained by the IT Department. This small piece of software will run on virtually any Windows or Linux server. The libraries respectfully request its continued use on the current server on which it resides. This plan reflects the estimated annual subscription fees for maintenance and software.

- All other library systems are hosted by the respective vendors and the Learning Resource Centers maintain active software and annual maintenance contracts for each of these services. This plan reflects costs associated with maintaining maintenance and software

contracts. No other equipment or services is requested of the IT Department in the use and maintenance of these systems.

- All campus libraries make use of one to two Dell computers running Windows 7 or greater for use by library staff in running the SirsiDynix client for the Symphony Library Management System. These machines are maintained by the Information Technology Department and updated/upgraded according to their protocol. We do not anticipate any issues in regards to the continued use of these machines for our existing or future library systems.

- Student computers in the campus libraries provide student access to the library's content management platform and electronic resources and are maintained by the Information Technology Department. These machines are maintained by the Information Technology Department and updated/upgraded according to their protocol. We do not anticipate any issues in regards to the continued access of library resources for our existing or future library systems.

PART V - Distance Education

Jefferson State Community College makes effective use of educational hardware, software and web services that increase access to college courses and enhance learning. The college will continue to meet the needs of its diverse student population by investing in, and promoting the use of, instructional technologies and services that support its high-quality distance education program and create opportunities for innovative instruction.

Goal V-1: Provide Effective Interactive Videoconference Classrooms.

Objective V-1-1: Maintain/Upgrade Interactive Videoconference Units.

The college has at least one room at each campus equipped with Polycom interactive videoconference (IVC) hardware. IVC rooms meet instructional needs, and provide a means for intercampus collaboration. The college will maintain resources needed to prevent long-term interruptions in classes that rely on IVC instruction. The college will regularly assess room-based IVC hardware, and advances in collaborative technology, to determine effective ways to meet broad institutional needs.

In addition to room-based IVC hardware, the college will explore web conferencing services, and supporting hardware, that expand video collaboration to include office-based video meetings, interactive virtual tutoring/office hours and synchronous web-based video instruction.

Objective V-1-2: Maintain/Upgrade Presentation and Lecture Capture Equipment in IVC Classrooms.

Document cameras, computers, projectors, and flat-panel monitors are standard presentation equipment in the college's IVC rooms. These tools also provide a platform for lecture capture in IVC rooms, allowing for creation of content that can be delivered online to enhance instruction. The college will maintain and upgrade presentation equipment in IVC rooms to insure effectiveness.

Goal V-2: Upgrade infrastructure and technology to support distance learning and innovative classroom instruction.

Objective V-2-1: Upgrade Learning Management System.

The college's learning management system (LMS) is a central component for its distance education program, and is increasingly used to enhance instruction in on-site courses. The LMS is upgraded, as needed, to insure consistent and effective delivery of high-quality instructional resources. Blackboard has provided a reliable platform and meets current needs. The college will study trends in the LMS market and will consider change as needed. Meeting the needs of students and faculty who increasingly rely on mobile devices to meet their computing needs will be part of future considerations.

Objective V-2-2: Upgrade LMS and Lecture Capture Servers.

The college LMS and lecture capture servers are virtualized on the college's primary server array. Adequate resources are being allocated to meet the needs of the college's distance education courses and increased use of the LMS in traditional courses. The IT department regularly assesses the need for on-site server upgrades. Beginning fall 2015, the college's lecture capture provider will host all recorded content on a cloud-based service.   The trend toward software as a service and cloud-based content hosting will be part of future considerations.

Objective V-2-3: Continue to study emerging and improved technologies.

All college personnel who use instructional technologies are encouraged to participate in staff development activities, with the goal of maintaining currency and relevancy.   Increased availability of mobile devices, and best educational uses, are areas of active interest.

Objective V-2-4: Evaluate and upgrade classroom technology to facilitate creation of online course materials.

Equipping classrooms with document cameras, microphones and computers creates opportunities for instructors to develop online learning materials during regularly scheduled class meetings. This includes class notes that can be posted in the LMS and web-based recordings of class meetings that can be viewed on demand. The college will continue to promote innovative instruction by work with departments to upgrade classroom technology.

Objective V-2-5: Evaluate new technologies and practices that are effective in verifying student identification in distance education courses.

The college will continue to study technologies and practices that are effective in verifying student identity to demonstrate that a student who registers in a distance education course or program is the same student who participates in and completes the course or program and receives the credit.

Goal V-3: Develop resources for distance education faculty and students.

Objective V-3-1: Ensure effective support for faculty and students.

Growth in distance education courses, and increased use of the college's LMS in traditional courses, necessitates effective technical support. The college's instructional technology specialists currently provide technical support through a dedicated email account available to faculty, staff and students. While this has proven effective, the college will explore other options that will increase the effectiveness of its technical support system.

LMS and lecture capture resources for students and faculty are also available through the Distance Education webpage on the college's website. These resources are updated as upgrades occur.   The Distance Education Student Resources webpage contains helpful links to tutoring services, academic advising, ADA resources, bookstores, library services, etc. A link to the Distance Education Student Resources webpage is included on the LMS welcome page, and within distance education courses.

Objective V-3-2: Continue to provide faculty training opportunities.

The college continues to provide training and professional development opportunities for faculty. An online training course, provided through the college's LMS, is available to instructors who use, or want to use, the LMS in their courses. The course will be updated and further developed. Faculty and student resources are available through the college's Distance Education webpage. These resources will be upgraded, as needed. Instructional technology specialists will provide on-site workshops and ongoing individual assistance to faculty.

Goal V-4: Enhance the distance education curriculum.

Objective V-4-1: **Continue to provide motivation for instructors to develop and teach online courses.**

The college supports faculty teaching distance education courses, and demonstrate its ongoing commitment through 1) efforts to provide compensation for creating distance education courses, 2) course ownership policy, 3) maintaining caps on class sizes, 4) support for flexible schedules and office hours, 5) providing updated computers, software, and hardware, 6) providing funds for professional development on IAP plans and 7) including distance education faculty in the planning process.

Objective V-4-2: **Increase the number of career and technical courses and programs available online where appropriate.**

The college will continue to increase access to quality educational programs by developing distance education options for career and technical courses that can lead to immediate employment. Providing students with opportunities to complete entire career and technical degrees online is an ongoing effort.

Objective V-4-3: **Conduct effectiveness and comparability evaluations of distance education courses at JSCC.**

Evaluating the effectiveness of distance education courses is an ongoing process. To insure integrity, quality and comparability with on-site courses, individual distance education courses are evaluated upon development, and periodically thereafter. The Distance Education Course Evaluation form, which is reviewed and updated by the Distance Education Program Committee, is used in this process. Online surveys of students and faculty, and the college's Student Evaluation of Instructor process are used to identify areas where improvement is possible in the delivery of distance education courses. The college will continue to study, and incorporate, best practices for distance education in its evaluation processes.

PART VI – Program of Instruction

Jefferson State Community College must continue to maximize its use of technology in order to continue to meet the college's mission of providing accessible, high quality education to students, the community, and other target audiences. All institutional efforts towards upgrade of the technology infrastructure, such as the campus portal, will support student learning. In addition, goals specific to support of the program of instruction follow:

Goal VI-1: Continue to provide appropriate technologic equipment and physical resources to support the program of instruction.

Objective VI-1-1: Evaluate needs for physical resources and equipment at all campus sites and make recommendations regarding requirements in instructional facilities.

- Evaluate usage of existing multimedia classrooms and equipment and develop and implement a plan to designate appropriate physical space(s) and purchase equipment, at all instructional sites, by the end of the 2019/2020 academic year.

- Assess instructional space for the Communications Department; create a designated space for a Writing Center, and purchase/upgrade computers and other equipment as required, by the end of the 2018/2019 academic year.

- Renovate physics lab and incorporate appropriate computer technology and wiring, etc. for multimedia access, by the end of the 2019/2020 academic year.

- Purchase/upgrade computers and other technologic equipment as required, by the end of the 2018/2019 academic year.

Objective VI-1-2: Continue to acquire or replace computers and other hardware as needed to support the program of instruction.

- Continue to replace and/or upgrade computers and other hardware to support CIS & OAD curriculum as noted in existing Computer Replacement Plan. This is an ongoing process that will continue throughout the timeframe of this plan.

- Develop an inventory of available technologic equipment used to support instruction (e.g., data projectors, videoconference units, etc.), assess additional equipment needs, and develop a plan for acquiring needed equipment, at all instructional sites, by the end of the 2019/2020 academic year.

- Continue to upgrade/maintain overhead projection units that have been added to classrooms to enhance classroom instruction.

Objective VI-1-3: Enhance the quality of instruction offered to students in our health and biological sciences programs through the use of appropriate technology.

- Nursing Program:
  - Provide nursing students on each campus/site with computerized pre-programmed mannequins for patient care simulations and update oldest lab equipment as needed. Jefferson and Shelby simulation labs target completion date 2016-2017.
  - Purchase additional Sim Pads for Jefferson and Shelby to provide high fidelity simulation.
  - Purchase multi-media lecterns for Shelby and Jefferson to enhance large class size.
  - Program adoption of Electronic Health Record Software.
- Biology Department
  - Both the Jefferson and Shelby campuses have at least one Biology laboratory equipped with a minimum of eight computers for use in virtual laboratory experimentation. Both campuses are able to provide instruction through the use of computer and projector combinations either permanent to the classroom, or on moveable carts. The computers in the Biology Department on the Jefferson and Shelby campuses will require an update by 2018-2019.
  - In an effort to increase student learning opportunities in the physiology laboratory, the department needs to upgrade the BioPac Systems. These systems allow students to conduct physiology experiments that focus on the circulatory system, respiratory system, neurophysiology, etc. Both the Jefferson and Shelby campuses have the MP 30 models (4 total) that were purchased in 2002. All units will need to be replaced with upgraded systems.

Objective VI-1-4: Upgrade technology in programs of the Center for Professional, Career and Technical Education in support of expanding program offerings, revising curriculum, and improving instruction.

- **Child Development**

Providing instructional materials including materials for classroom instruction and the program's Resource room at both the Jefferson and Shelby campuses, and updated classroom equipment and technology (BDH 111 and GSB 204) continue to be important in assisting this program to teach the concepts required by its accrediting body (NAEYC). This can be accomplished by:

- o purchasing appropriate instructional materials such as videos, DVDs to supplement lectures
- o purchase smart boards for classrooms (BDH 111 and GSB 204) to aid with classroom instruction

This will be accomplished by fall 2017

- **Construction and Building Science Technology**

Provide the Construction and Building Science Technology program with updated classroom and laboratory technology and equipment, including computer software and hardware, and other technologies, to better meet faculty and student needs and to meet accreditation and industry standards. To accomplish this, the program will:

- o continue to upgrade the computer laboratory every 3 to 5 years or as needed to accommodate advanced software requirements
- o replace/upgrade technology such as large format plotter (by fall 2015), 11X17 laser color printers for computer lab (by fall 2015), 8.5X11 lab and office printers (by spring 2016), to accommodate upgraded software and/or due to age
- o continue to ensure appropriate infrastructure needs are in place to support technology
- o identify and begin to purchase needed equipment and technology to support the needs of the program's labs including the concrete testing lab, surveying lab, and the woodshop

This will be accomplished throughout the timeframe of this plan with the exception of specific time listed.

- **Clinical Laboratory Technology Program**

Provide the Clinical Laboratory Technology Program with updated and/or new equipment, technology, instructional materials, and software needed to implement new course

offerings, maintain current offerings, and enhance instruction to provide quality learning experiences for the students. To accomplish this, the program will:

- o Continue to enhance instructional classroom designated for Phlebotomy instruction by equipping it with appropriate technology, equipment, materials, and software needed to support new offerings such as for-credit Phlebotomy certification and existing offering, to include items such as computer, ceiling projects, and smart board, interactive tutorial software
- o Update current mobile instructional unit used for classroom instruction. Current laptop will no longer run software or DVDs
- o updated faculty office technology including computers, scanners, and printers as needed
- o provide laboratory technology needed to teach lab concepts effectively to include items such as urine strip reader analyzers, Clay Adams Serofuge, document camera, microhematocrit centrifuges, etc.

This will be accomplished by fall 2017

- **Emergency Medical Services**

Provide the program's faculty and students' access to appropriate technology sufficient to meet program and accreditation standards. To accomplish this, the program will:

- o continue warrant on two high fidelity EMS mannequins in to cover damage
- o provide new/upgraded equipment, technology, and software needed to improve or enhance instruction to include items such as power lift stretcher, iPads with protective cases, video laryngoscopes, etc.
- o upgrade and/or replace faculty and classroom computers and technology as needed

This will be accomplished throughout the life of this plan.

- **Hospitality Management/Culinary**

Provide the program with updated faculty, classroom and laboratory technology, equipment, and software to enhance instruction. To accomplish this, the program will:

- o upgrade and/or replace classroom and laboratory equipment used in the program as needed at Jefferson and Shelby campus locations

- replace equipment as needed for the Bistro ProVare laboratory to include items such as the freezer, the outdated point-of-sale system, program utensils/appliances, scales, etc.
- replace and/or upgrade faculty computers and office equipment as needed

This will be accomplished by spring 2016.

- **Fire Science**

  Provide the Fire Science program with the equipment, technology, and software needed to enhance, improve, and effectively deliver online and traditional classroom instruction. To accomplish this, the program will:
  - Provide computer and other technology and software needed for effective instructional delivery
  - Upgrade full-time faculty computer as needed

- **Funeral Service Program**

  It is important to ensure that the classroom instructional technology, equipment, and software are upgraded and operational for the effective delivery of instruction to both distance learning and traditional students. The technology and the software needs to be compatible to maximize instructional delivery associated with the delivery of audio, visual, and written information during lectures. This can be accomplished by:
  - Replacing and updating classroom instructional equipment, technology, and software to accommodate the needs of distance learning students and traditional students to improve the quality of instruction provided to all students. Items such as new classroom computer, ELMO, wireless presenter, recording devices, camera, appropriate interactive software and others will be required.
  - Replacing and upgrading faculty computers as needed
  - Renewing the annual software license for the Mortician's Assessment and Testing Simulator software and/or supporting the use of similar software to aid in student preparation for the workplace and the national licensure exams
  - Purchasing the required technology needed for potential new Crematory Certification offering that will lead to student credentialing/certification

  This will be accomplished by fall 2016 (with the exception of item 2).

- **Law Enforcement**

  The Law Enforcement Program will provide faculty computer for part-time L19 instructional staff. To accomplish this objective the program will:
  - Provide faculty computer for part-time instructional staff (L19)
  - Upgrade full-time faculty computer as needed

  This will be accomplished by fall 2015. Exception on item 2.

- **Radiologic Technology Program**:

  Provide the Radiologic Technology Program with new and upgraded instructional technology, equipment, and software to support classroom and laboratory instruction. To accomplish this, the program will:
  - purchase items need to support existing technology and equipment to allow for maximum utilization of equipment, to include items such as lead aprons, protective covers, grid covers, and others
  - continue to support the purchase of classroom and laboratory equipment, technology, and software needed to improve and enhance instruction, to include items such as darkroom processor and supplies, skin replacements for IV simulator arms, etc.
  - replace/upgrade faculty computers, printers, and other technology used for program operations as needed
  - support training for program faculty in the use of new technology and equipment

  This will be accomplished throughout the life of this plan. Some items may be needed immediately.

- **Physical Therapist Assistant Program**

  Provide the Physical Therapy Assistant program with new and updated technology, equipment, software, and instructional materials that will enhance and improve online and traditional instruction. To accomplish this, the program will:
  - Provide educational equipment, technology, tools, and software to enhance student learning reflective of contemporary physical therapy practice, to include items

> such as web-based physical therapy electronic medical record, TENS Select, Auscultation Trainer, wheelchairs, leg models, crutches, videos, etc.
> - o provide a classroom and lab environment that is reflective of contemporary physical therapy practice and that stimulates student learning, to include cubicle track curtains, eye wash stations
> - o provide new and/or upgraded faculty and program computers and other technology as needed

This will be accomplished by fall 2017 or as needed.

- **Manufacturing and Technology (Bio-Medical Equipment Technology Option, Industrial Technology Option, Automotive/Automated Manufacturing, Electronics, Computer Aided Drafting/Design, Welding Certificate)**

Provide the Manufacturing and Technology program with appropriate office and instructional classroom/laboratory equipment and technology, including software, to enhance instruction and student learning and further develop the program's recently approved AAS degree offering at the St. Clair/Pell City location. To accomplish this, the program will:
- o continue to purchase new equipment, software, and technology, and upgrade existing equipment, software, and technology used in classrooms and labs at the above campuses
- o Further develop existing classrooms/laboratories by purchasing the necessary equipment and other technologies as identified by the program to fully implement new offerings and existing offerings
- o support faculty professional development in learning new technology by providing funds for training
- o support dual enrollment dual credit classes offered in partnership with local secondary systems by purchasing and/or reimbursing secondary systems equipment purchases as special funds permit

This is an ongoing effort and will be accomplished throughout the time frame of this plan.

- **Veterinary Technology Distance Education Program**

Provide the program with the educational tools, equipment, software, and technology needed to continue to improve student learning and enhance online instructional delivery. To accomplish this, the program will:

- o Upgrade faculty computers and technology as needed
- o Provide educational software and laboratory equipment to support instruction and improve student learning to include items such as the use of realistic animal manikins in lab instruction

This will be accomplished by fall 2016.

Goal VI-2: Enhance student learning through the integration of technology into the curriculum.

Goals specifically for distance education are addressed elsewhere in this report, but classes taught in more traditional formats also benefit from the integration of technology into the curriculum. The following objectives will assist in meeting this goal:

Objective VI-2-1: Develop a follow-up evaluation for faculty currently integrating technology into courses taught in traditional formats and for identifying best practices.

The academic area will work with Instructional Technology Services and Institutional Research to devise a follow-up survey to be completed by faculty regarding the use of technology in traditional classes. This objective will be completed during the 2017/2018 academic year.

Objective VI-2-2: Create a method for sharing this information with other faculty.

The academic area will implement a symposium or roundtable discussion regarding identified best practices for using technology in traditional classrooms. The objective will be implemented during the 2018/2019 academic year.

<u>Objective VI-2-3</u>: Provide hardware, software and training to assist faculty in meeting this goal.

With the integration of technology into traditional classes, additional hardware, software and training will be required. This is an ongoing process that will continue throughout the timeframe of this plan. We need to continue to maintain/replace/upgrade the microphones and cameras associated with the Tegrity lecture recording technology for use in traditional classrooms.

Goal VI-3: Provide professional development activities to assist faculty in the integration of technology into the curriculum.

Technology is ever changing and the need to ensure that our students are provided quality instruction from both part-time and full-time instructors is critical. The college will continue to ensure that faculty obtain the required training needed to implement new and updated technologies. In order to do this, the following will need to occur:

<u>Objective VI-3-1</u>: Assess technology training needs of faculty.

The academic area will work with Instructional Technology Services to continue established assessment process. Provide training to faculty and staff as needed for upgrades/changes to Blackboard and Banner. Standardization of the format for online courses should be included in this training. This is an ongoing process that will continue throughout the timeframe of this plan.

<u>Objective VI-3-2</u>: Implement training for faculty.

As technology training needs change or software is updated, there is an ongoing need to develop and implement appropriate professional development activities. This training should include all full-time and part-time faculty. An orientation for new faculty members, full-time or part-time, should be developed. This process will continue throughout the timeframe of this plan.

Goal VI-4: Enhance faculty effectiveness through the availability of technology.

In order for technology to be used effectively by faculty, they must have access to

appropriate computer technology. In order to meet this goal, the following must occur:

<u>Objective VI-4-1</u>: Continue to provide access to computers to all faculty, with assignment of computers based on utilization patterns.

Faculty who utilize computers to develop Internet courses or other technology based instructional tools will be provided with a computer with additional functionality, based on need. This is an ongoing process that will continue throughout the timeframe of this plan.

<u>Objective VI-4-2</u>: Continue to provide appropriate technology support to meet needs of faculty.

Effective support is currently provided to faculty through Information Technology and Instructional Technology Services. This support must continue to enhance faculty effectiveness through the use of technology. This is an ongoing process that will continue throughout the timeframe of this plan.