

The Strategic Technology Plan
of
Southwest Texas Junior College

2015-2019

SOUTHWEST TEXAS JUNIOR COLLEGE TECHNOLOGY PLAN

I. Executive Summary

II. Mission

III. Southwest Texas Junior College Commitment to Technology

IV. Overview of Technology at Southwest Texas Junior College

V. Technology Annual Planning and Projection

VI. Technology Long Term Forecast

VII. Training and Assistance

VIII. Effectiveness Evaluation

IX. Evaluation and Modification of the Strategic Technology Plan

X. Strategic Annual Objectives and Long Term Goals

Appendices

Appendix A Strategic Technology Annual Objectives for SWTJC (2014-2015)

Appendix B Strategic Technology Long Term Goals for SWTJC (2015-2019)

THE STRATEGIC TECHNOLOGY PLAN OF SOUTHWEST TEXAS JUNIOR COLLEGE

I. EXECUTIVE SUMMARY

The Strategic Technology Plan (Plan) of Southwest Texas Junior College (College) defines the way technology resources will be acquired and evaluated in support of the College mission. The Plan will consider the annual projection and long term forecast of the technology needs of the departments. The Plan will also include Strategic Annual Objectives and Long Term Goals for the College.

The Plan classifies technology into three categories.

1. Instructional Technology that relates directly to the instructional tasks of the instructional departments.
2. Instructional Support Technology includes the areas that provide support to instructional departments in accomplishing their instructional tasks.
3. Enterprise Technology includes the technical systems that connect and support the College community in all of the functions necessary to conduct the business of the organization.

The planning, training and evaluating processes unique to each of the three divisions of technology are considered in the Plan.

The Plan establishes the Technology Committee, in cooperation with the Information Technology Department, as the central point of contact for all technology of the College. Each college department will address technological needs within their respective areas. The Technology Committee will be responsible for requesting the annual technology projections and long term forecasts from each department requesting technology resources. The Technology Committee will be responsible to review the technology requested for compliance with standards and policies and to review the evaluation of training and technology. The Vice President of Finance, who chairs the Technology Committee, will present those technological issues and concerns that have surfaced as priority issues to the President and Cabinet.

The Plan is a dynamic document which will change over time in response to needs and the evaluations. Appendices contain data that will be updated on an annual basis.

II. MISSION

The Strategic Technology Plan of the college establishes a central point of contact for technology and is designed to be the comprehensive and definitive statement of the College's acquisition and evaluation of technology resources in support of the accomplishment of the College Mission. The Plan is understood to be an evolving document which will require annual updating to permit it to respond to the rapidly developing state of technology. The Plan is also understood to be a consensus document which will, over time, focus the technology planning process by providing a clear starting point for the annual planning effort, establishing the mechanisms for campus-wide discussion of technology needs and objectives, and formalizing the process by which identified technology needs are acquired. A method of evaluation of technology training and resources is included.

The plan is organized around several functional efforts in support of the **SWTJC Strategic Plan**:

1. Acquire a one year projection of technology from departments requesting technology that will aid in department budgeting purposes.
2. Forecast technology trends from departments in an effort to form long-term fiscal planning and to avoid technological obsolescence.
3. Establish strategic annual objectives for the acquisition and implementation of technology for the College.
4. Define the strategic long term technology goals of the College.
5. Evaluate technology acquisition, training and technology resources

A. Categorization of Technology

The Plan divides technology into three broad areas:

1. Instructional Technology

Instructional Technology is the technology that will focus on the curricula of the academic and vocational instructional departments. Instructional technology includes laboratories which are integral to departmental teaching. Departmental laboratories with computers, software and other resources specific to departmental curriculum are also considered instructional technology.

2. Instructional Support Technology

Instructional Support Technology is the technology that supports and expands the

instructional functions of the instructional departments. Instructional support technology areas included in the Plan are:

- a. Library Technologies
- b. Audio/Visual Technologies
- c. Computer Laboratories
- d. Distance Learning Technologies

3. Enterprise Technology

Enterprise Technology includes the systems and resources which connect and support the activities of the College community. Enterprise technology areas include:

- a. Infrastructure, including wireless, wired and fiber optic networks and network connections including the SWTNet
- b. Network server resources including VOIP
- c. Microcomputer resources including Help Desk Services
- d. Enterprise resource systems including:
 - i) Employee and student administrative systems
 - ii) Web registration technologies
 - iii) Document imaging systems
 - iv) Data warehousing and reporting systems
 - v) Online bookstore
 - vi) College portal
 - vii) College web content management system
 - viii) Emergency alert system
 - ix) Faculty and student LMS systems

III. Southwest Texas Junior College Commitment to Technology

The College encourages the members of the College Community to make use of technology in realizing the instructional mission of the College. The College will employ systems that are tolerant of diverse technology platforms and provide access to global information resources.

The college will manage technology resources to:

- serve the College's vision and mission
- be responsive to the needs of students, faculty, staff and administrators
- promote coordination of College activities and collaboration with other partners
- clearly state the technology needed, why it is needed and project costs for each long term technology related project
- secure an appropriate return on investment in technical resources and services
- evaluate technology performance and measure success
- achieve continued improvement in the use of technology systems to enhance education

Commitment to Instructional Technology

The College will support a flexible teaching environment that includes traditional instructional technology (white boards and overhead projection) and electronic instructional technology (audio, video, and multimedia presentation capability, and computer software and laboratories) to enhance instructional delivery.

Commitment to Communications Technology

The College will provide communication tools that will promote collaboration among its faculty, students, staff, local communities, and the greater scholastic community. Communication systems will be used to foster a collegial community built upon effective teamwork and commitment that reaches out to the greater community in an effort to further civic, social, and economic development. The College will insure that faculty and staff have adequate communications capabilities, and will encourage the use of electronic communication by students.

Commitment to Broad Access to Technology

The College will provide access to suitable technology for students, administrators, staff and faculty. The College will use technology to broaden access to educational opportunities for all who seek them.

Commitment to Technology Training

The College will insure that faculty and staff have access to training appropriate to permit

full and effective use of technology resources. The College will provide sufficient help desk functions to ensure that faculty and staff are able to obtain timely assistance with hardware and software operational questions and issues.

Commitment to Technology Maintenance and Replacement

The College will provide adequate technical support to insure that technology is reliable and usable. Maintenance schedules and technical support will be provided at a level that will ensure minimum down time for instructional presentation and laboratory systems. The college will adopt replacement schedules that will ensure that administrators, faculty, staff, and students are able to employ current software and hardware to exploit current instructional resources.

IV. Overview of Technology at Southwest Texas Junior College

General

The three divisions of technology at Southwest Texas Junior College, Instructional technology, instructional support technology, and enterprise technology are administered by the Vice President of Academic Affairs, the Vice President of Student Services and the Vice President of Administrative Services respectively which report directly to the President. The Technology Committee, in cooperation with the Information Technology Department, is the central point of contact for technology for each of these areas. The Technology Committee is chaired by the Vice President of Financial Services. The Director and Assistant Director of the Information Technology Department are members of the committee. Sustained and daily technology management is vested in directors and coordinators who head a variety of campus units.

A. Instructional Technology

Each instructional department chairperson advises and recommends what technology is needed to support the instructional activities of that chairperson's department. This determination is a departmental decision that involves discussion with and input from the instructional staff of the department. Vocational departments also receive input from the industrial advisory committees of each department. The industrial advisory committees are mandated by the State and are composed of industry representatives drawn from businesses in the career areas for which the departments prepare students.

Division Chairpersons for the Instructional Departments report to the Dean of College of Liberal Arts and the Dean of College of Applied Sciences. Both of these positions report to the Vice President of Academic Affairs. Instructional technology acquisition is accomplished through budgetary negotiation between the Division Chairpersons and the deans.

B. Instructional Support Technology

Instructional Support technology encompasses four areas:

1. Library Technologies
2. Computer Laboratories
3. Audio/Visual Technologies
4. Distance Learning Technologies

Library technology includes the various information retrieval systems, cataloging systems and audio and video equipment used by library patrons to access the library resources. Electronic computer databases are part of the library technology systems.

Library technology needs are determined by the Library Director. The Library Director

responds to the needs communicated by department chairpersons and library resource groups to insure that needed library technology resources are available to students and faculty.

Computer laboratories that are open for general use are housed in the library. The requirements for the open computer laboratories are determined through consultation with the instructional departments. The College currently operates computer laboratories that are open during the posted library hours and are used for general access by the College community.

Other laboratories are provided by the Student Support Services, Student Success Centers and Testing Center. These labs are available to students that need that particular service.

Audio/Visual Services are administered by the Media Center Coordinator who reports to the Vice President of Student Services but also works with the Library Director. Audio/visual requirements are determined by the Media Center Coordinator in cooperation with instructional departments. The Media Center Coordinator is also responsible for assisting the Distance Learning Coordinator in the installation of classroom equipment for Distance Learning.

Distance Learning Technology is administered by the Distance Learning Services Coordinator with assistance from the Information Technology Center. The coordinator designs classrooms in consultation with the instructional departments. The coordinator reports to the Vice President of Administrative Services. Distance learning offerings are determined by Instructional Department Chairpersons, deans and the Vice President of Academic Affairs.

C. Enterprise Technology

Enterprise Technology consists of technical systems that impact the college community as a whole. Enterprise Technology areas include:

1. Information technology infrastructure, including wireless, wired and fiber optic networks, network connections and internet resources
2. Enterprise resource planning services
3. Information technology help desk services

Infrastructure is administered by the Assistant Director of Information Technology who reports to the Director of Information Technology. The infrastructure backbone consists of the network hardware and software that supports a wide area network with multiple local area networks. Connectivity is region wide within the eleven county area serviced by the college. Connectivity to those communities and entities that are not directly connected to the College is achieved through the internet. On each campus the internet connection, distance learning, and VOIP are available. Interactive Video Conferencing resources include an extensive video network.

Enterprise Resource Planning Services is administered by the Director of Information

Technology who oversees the Information Technology Center Departments and reports to the Vice President of Administrative Services. Enterprise Resource Planning Services utilizes the Ellucian/Colleague administrative software running on a UNIX based system. Enterprise Resource Planning Services supports the student systems, financial aid, human resources, fiscal systems and other related systems applications. The College web content management system is administered by the College Web Presence Coordinator who reports to the Vice President of Student Services.

Information Technology Help Desk Services are divided into several areas of responsibility. The Director of Information Technology provides oversight for this department. The Calls Center Coordinator, the I.T. Support Services Coordinator and supervisors at each of the main campuses work together to provide a central point of contact to help in procurement, installation, and maintenance support for all aspects of administrative and instructional personal computer systems including software.

Technology related training is administered in several ways. Technology related training that is required for faculty to be able to teach appropriate curricula is determined and administered by the Instructional Department Chairpersons in cooperation with the deans and Vice President of Academic Affairs and the Office of Professional Development. Technology training for instructional support departments is the responsibility of each department head working with the Vice President of Student Services. Technology training for enterprise technology is managed by the Director of Information Technology in cooperation with the Assistant Director. Both of these positions report to the Vice President of Administrative Services.

V. Technology Annual Planning and Projection

A. Instructional Technology Planning Process

Instructional departments include technology requests in their budget submissions. The technology needs of the various instructional units are typically identified during departmental budget planning meetings. Many of the technology needs center on instructional delivery and are driven by the instructional media that are available from text book suppliers to support instruction. Computer and Internet resources are often components of the technology requests of these departments. Several of these departments have computer laboratories that support their instructional efforts. These laboratories require replacements, upgrades and software that become part of each department's budget request.

Departments that teach vocational subjects often teach the use of the technologies specific to their fields. Vocational departments must purchase and upgrade the technology that is used to provide instruction so that instruction will be current and will prepare students for work in the industry served by the departments. Technology needs typically derive from recommendations of the industry advisory committees which work with the departments and from the analysis of industry changes observed by departmental staff. Many of these departments have computer laboratories.

A one year projection of technology requirements for each instructional department will be submitted to the Technology Committee. They will be considered in Appendix A. These projections indicate technology needs for the following fiscal year. The Technology Committee will review the technology needs for compliance and will determine which ones will be included on the Technology Committee budget, if any. Those technology needs that are not included on the Technology Committee budget will be submitted on the department budgets and discussed by the Division Chairs with the Dean of College of Liberal Arts and Dean of College of Applied Science. Both of this deans report to the Vice President of Academic Affairs.

B. Instructional Support Technology Planning

The four areas that are listed as instructional support technologies, library technology resources, audio/visual support, computer laboratories and distance learning, report through different administrators and prepare their budgets at the direction of those administrators. Since these resource areas provide direct support for the instructional departments it is important for the instructional departments to have input in the planning conducted by these resource areas. To facilitate instructional department and instructional support area coordination, a meeting or meetings of the instructional department chairs and the instructional support resource areas take place to permit discussion and development of a level of consensus concerning the plans of the instructional support areas. The meeting(s) assist the instructional support areas in finalizing plans for the ensuing year and will serve as support for the budget requests made by these departments.

A one year projection of technology requirements for each instructional support department will be submitted to the Technology Committee. They will be considered in Appendix A. These projections indicate technology needs for the following fiscal year. The Technology Committee will review the technology needs for compliance and will determine which ones will be included on the Technology Committee budget, if any. Those technology needs that are not included in the Technology Committee budget will be submitted on the department budgets and discussed by the instructional support directors and the Vice President of Student Services.

C. Enterprise Technology Planning

The functions of the Enterprise Technology Planning Process impact all members of the Southwest Texas Junior College community. It is important, therefore, that the planning processes of these technology activity areas include opportunities for input from the college community. Each administrative department will meet with their staff to determine any needs or concerns employees may have concerning the Enterprise Technology. A meeting or meetings with the administrative department directors and the Information Technology Department will serve as an opportunity for the administrative department directors to comment on the plans for these important technology functions. The meeting(s) will assist the Information Technology Department in finalizing their planning and will support the budget requests made by them.

A one year projection of technology requirements for the Information Technology Department will be submitted to the Technology Committee. They will be considered in Appendix A. These projections indicate technology needs for the following fiscal year. The Technology Committee will review the technology needs for compliance and will determine which ones will be included on the Technology Committee budget, if any. Those technology needs that are not included on the Technology Committee budget will be submitted on the Information Technology Department budget and discussed with the Vice President of Administrative Services.

VI. Technology Long Term Forecast

A. Technology Long Term Forecast Process

Each year instructional departments, that have technology needs, will be asked to provide long term forecast information to the Technology Committee about the impact of technological changes on the industries they serve and the curriculum they provide. Departments will derive this information by various means including advisory committees, through reading in industry related publications and from contacts the departments have with their industry representatives.

Instructional support areas and enterprise areas will seek information about technology trends by various means including contacts with other colleges and technology vendors. This information will be provided to the Technology Committee.

The Technology Committee will use the accumulated data to forecast the impact technological changes will have on College activities and will recommend actions the College should take in response to the long term forecast.

B. Technology Long Term Forecast

The Technology Forecast for each department will be updated annually and be considered in Appendix B. Once approved, the Technology Forecast will be used for long term technology resource planning.

VII. Training and Assistance

Technology can be used to its fullest potential only if the users are adequately trained in its proper use. The College will include appropriate training in all technology procurement, changes and upgrades as needed. Responsibility for technology training is different for different types of technologies.

The training necessary for full utilization of instructional technology is the responsibility of the instructional department in cooperation with the Office of Professional Development.

The training for systems included in instructional support technology areas are the responsibility of the department heads in cooperation with the Office of Professional Development.

Training for enterprise technologies is the responsibility of the Director of Information Technology and the Assistant Director in cooperation with the Office of Professional Development. Broad training initiatives for enterprise technology will typically be organized and coordinated by the Director of Information Technology and the Assistant Director. These individuals should be included in the planning processes for all enterprise technology so that appropriate training can be included in any major technology acquisition or upgrade. These 2 individuals are members of the Technology Committee.

If technology is to be used most effectively, college personnel must be able to obtain assistance when they encounter technology problems. A Help-Desk system is essential. The Information Technology Help Desk Service system is institution wide and incorporates both administrative and instructional areas. The system provides support for students, faculty, staff and administrators in all areas of computer related activity through an online help desk database that records all calls and allows reporting to determine the efficiency in resolving trouble related issues.

VIII. Effectiveness Evaluation

Technology has become and will continue to be a significant component of the instructional process as well as being central to the operational, communication, and enterprise activities of the College. Technology requires a significant financial commitment. It is imperative that the use and effectiveness of technology be evaluated in support of the **SWTJC Strategic Plan objectives S2-3 and S2-4 evaluation process**. This evaluation must be constant and must result in modifications to the deployment and use of technology to achieve maximum benefit for the accomplishment of the College mission.

A. Evaluation of Instructional Technology Effectiveness

Evaluation of instructional technology effectiveness will be conducted and reported by each instructional department using technology resources. The process of evaluation and the extent of the evaluation will be different for departments that provide academic instruction and those that provide vocational instruction. Unit Action Plans should be included in the evaluation process. Evaluation of these technology resources will consider the following:

1. Are there sufficient technology resources to meet standard demand?
2. Are the resources current technology?
3. Are the technology resources being utilized at a level that justifies the provision of the technology resources?
4. Are the faculty and students satisfied with the technology resources provided?

Each department will develop mechanisms to capture the data needed to accomplish these evaluations. Records of utilization and student complaint files can be established and maintained. The Office of Effectiveness will assist with surveys. The findings will go to the Technology Committee as needed.

B. Evaluation of Instructional Support Technology Areas

The four technology areas included under this category, library technologies, audio/visual technologies, computer laboratories, and distance learning technologies are closely related to the function of the instructional departments. These areas must evaluate the effectiveness of the technology resources they provide by asking many of the questions asked by the instructional departments. Unit Action Plans should be included in the evaluation process. These questions should be addressed to both the instructional departments and the students. Important questions to be considered by these areas are:

1. Are there sufficient technology resources to meet instructional needs?
2. Are the resources current technology?
3. Are the technology resources being utilized at a level sufficient to justify the provision

of the resources?

4. Are the faculty and students satisfied with the technology resources provided?

Each technology resource area will develop mechanisms to capture the data needed to accomplish the evaluations. Records of utilization, and faculty/student comments and complaint files can be established and maintained. The Office of Effectiveness will assist with surveys. The findings will go to the Technology Committee as needed.

C. Evaluation of Enterprise Technology

The departments that use enterprise technologies are diverse in their activities and their contact with the broader college community. Each of these departments will need to develop evaluation plans consistent with the function they perform. Unit Action Plans should be included in the evaluation process. Among the concerns that these activity areas will need to address are:

1. Are there sufficient technology resources to meet the department's needs?
2. Are the resources current technology?
3. Are the technology resources being utilized at a level sufficient to justify the provision of the resources?
4. Are the employees and students satisfied with the technology resources provided?

For the Information Technology Department that provides primary support functions to the college community, the following added concerns must be included in support of the **SWTJC Strategic Plan objectives S2-3 and S2-4 performance metrics**.

1. Number of calls to the Help Desk center, number of calls answered, number of calls missed.
2. Number of tickets for support created, number completed, mean time to resolve, number outstanding. This should be categorized by application function.
3. Number of times the network is down, number of users affected, mean time to resolve. This should be categorized by network function.
4. Total bandwidth, average bandwidth usage, available bandwidth. This should be categorized by different applications such as distance learning classes, VOIP, College information systems, internet videos, internet radio, etc.
5. Number of times a server is down, number of users affected, mean time to resolve. This should be categorized by server function.
6. Server performance, percent CPU average usage, percent memory average usage. This should be categorized by the server function.
7. Number of projects initiated, number completed, number outstanding, number past due. This should be categorized by Network, ERP and Help Desk departments.
8. Number of projects outsourced, cost to outsource. This should be categorized by Network, ERP and Help Desk departments.

Each department will need to develop the mechanisms to capture the data needed to accomplish the evaluations. Records of utilization and employee/student comments and complains files can be established and maintained. The Office of Effectiveness will assist with surveys. The findings will go to the Technology Committee as needed.

Unit Action Plans (UAP) for the Information Technology Department should be completed on an annual basis to evaluate areas of concern for technology. Some UAPs in progress follow:

1. ERP System and related applications: The Informer Reporting Tool software was purchased to replace the end-of-life Query Builder Reporting on the Colleague ERP System. Setup and implementation of Informer will be completed in February 2015 and ready for use by the end users. This new tool should allow the end users to general reports easily and more quickly than with the Query. Informer should be able to produce more informative reports. The UAP will include a survey for the end users to compare and score the ease of use, speed of creation, usability of reports and overall satisfaction to measure the success of the project. This survey will be completed by July 2015 to give end users time to adapt to and use the new reporting tool.
2. Network System: The College has an OC3 Circuit to the internet with a bandwidth of 155 megabits. More and more applications and services with heavy bandwidth requirements are being added that use the internet. The bandwidth is being monitored and there are times that the bandwidth is almost completely used up. A 500 megabit Ethernet Circuit will be installed in the spring of 2015 to replace the OC3 Circuit. The UAP will include monitoring of the new circuit to see the average use, available bandwidth, peak time use, etc. by network function. The monitoring will be continuous and will measure a span of time to determine the effectiveness of the new circuit.
3. Help Desk Services: There is a concern that the Help Desk (HD) is not being able to respond efficiently to calls for help. A new login process, new email addresses, new application software and authentication to Active Directory has increased the calls to the Help Desk for 2014-2015. The UAP will include a satisfaction survey for the administrators, faculty, staff and students to score; ease of contacting the HD, response time, knowledge of tech, follow-up, overall satisfaction. The survey will be completed by May 2015 to include current students.

D. Evaluation of Technology Training

Technology training will be evaluated on an annual basis. The Office of Professional Development will evaluate the adequacy of training by requiring surveys to determine if the perceived training needs are being met. The Office of Effectiveness will assist with surveys. The findings will go to the Technology Committee as needed.

IX. Evaluation and Modification of the Strategic Technology Plan

The Strategic Technology Plan must be adjusted to insure that it continues to properly guide technology procurement, utilization, training and evaluation. The degree to which the plan accomplishes its mission will be evaluated annually. The Technology Committee will consider the data about technology procurement and evaluation that is gathered each year to determine if the plan is the guiding force of technology advancement and that the plan is sufficiently comprehensive to guide all aspects of technology for the College. When the plan is determined to be inadequate, the Technology Committee will modify it to better fit the technology initiatives of the College. Proposed modifications will be submitted to the President's Cabinet for approval before the modifications are incorporated into the Plan.

X. Strategic Annual Objectives and Long Term Goals

A. Strategic Annual Objectives and Long Term Goals Development Process

The Technology Committee will meet to review and use the Instructional, Instructional Support and Enterprise department's technology annual projections and long term forecasts to determine the areas of concern and need that the members of the College community have. This data will be used to update and refine the technology strategic annual objectives and strategic long term goals for the College in support of the **SWTJC Strategic Plan objectives S2-3 and S2-4 priorities and timelines.**

B. Strategic Annual Objectives and Long Term Goals for SWTJC

New technology moves very rapidly so the processes of updating the technology strategic long term goals will be a continuing effort. Once approved the technology strategic annual objectives and long term goals for the College will be updated annually and placed in Appendix A and B respectively each year. These objectives and goals will be made available to the college community.

APPENDIX A

Strategic Annual Objectives for SWTJC (2014-2015)

Objectives

The following objectives represent priority actions that need to be implemented by the end of the 2014-2015 fiscal year, to the extent that the budget permits, to move technology at the College forward. The intent of the objectives is to improve coordination of technology actions at the College, to maximize intercommunications among the SWTJC community, to improve technical support for technology systems, to improve work flow and efficiency, and to stay current with technology evolutions in a cost effective way.

Objective 1: Establish mechanisms and procedures to improve the coordination of the technology planning and implementation process.

Action Step 1.1: Establish the Southwest Texas Junior College Strategic Technology Plan as the guide for all technology actions for the College. Implement the provisions of the Plan and revise and expand the Plan to encompass the college wide operation of Southwest Texas Junior College.

Action Step 1.2: Empower the Technology Committee to be the on-going technology coordination body for technology. Endow the Technology Committee with sufficient authority to permit this committee to secure required technology annual projections and long term forecasts from the departments, establish and enforce standards and policies for computer hardware and software, review the requests for technology purchases to assess compliance with standards and polices, review the evaluation of training and technology, and serve as a central point of contact for the college community for technology advancement in cooperation with the Information Technology Department.

Objective 2: Improve the inter-communication capabilities of the SWTJC community making it possible for all members of the College to better communicate with one another thereby improving efficiency.

Action Step 2.1: Increase the internet bandwidth to assure that the SWTJC community has sufficient bandwidth and to allow for future expansion to better utilize the applications that require internet access. This will be accomplished by replacing the current OC3 circuit with speeds of 155 megabits with an Ethernet circuit at 500 megabits. This technology will also reduce the annual cost of the new circuit.

Action Step 2.2: Replace the three point to point T1 bandwidth circuits in the Pearsall Center with a Gigaman circuit to ensure that there is sufficient bandwidth to hold multiple distance learning classes at the same time and to allow for future expansion.

Action Step 2.3: Replace 2 T1 bandwidth circuits at the Eagle Pass ABE Center with a point to point circuit to the Eagle Pass Campus that has a point to point Gigaman circuit to Uvalde. This would increase the bandwidth, allow for future expansion and reduce the cost of the T1 circuit.

Action Step 2.4 Install the network infrastructure, Gigaman circuit, distance learning classrooms, and VOIP in the Castroville Center. This will give the center access to the needed resources.

Action Step 2.5: Install the network infrastructure, wireless units that are managed with cloud technology and VOIP for the Eagle Pass Technical Center new construction and additions. This will give the center access to the needed resources.

Action Step 2.6: Install Office 365 Lync starting with the administration and their office personnel. Inexpensive cameras will be purchased to allow face to face communication including sharing of the desktops, etc. This will allow better communications and sharing of information by individuals and groups.

Action Step 2.7: Upgrade the VOIP Call Manager and integrate with Active Directory. The VOIP Call Manager is classified by Cisco as end-of-life. The new version will include support for new phone models and fix some bugs that have hindered the management of the current system. It will include Cisco Jabber, an all-in-one communication tool, that allows you to see your contacts' availability and instantly communicate using video, instant messaging (IM), voice, voice messaging, and conferencing.

Action Step 2.8: The current video bridge 5 year lease will expire in March 2015 and this will be a good time to acquire a lease with a new video bridge that has current technology and expanded features to better support the Distance Learning Community needs.

Action Step 2.9: Replace the 1 gigabit fiber backbone with a 10 gigabit fiber. This would be from the main core room in the Library to the server room located at the Information Technology Center. This would speed up the access to our servers.

Objective 3: Improve the security of our network to be sure our data, software, hardware and systems are safe from unauthorized access.

Action Step 3.1: Have an intrusion detection evaluation of our entire network to point out vulnerabilities and take measures to secure our network.

Action Step 3.2: Implement network processes that will assure the College of being PCI (Payment Card Industry) compliant on the Payment Credit Card Industry standards.

Action Step 3.3: Implement Active Directory and an Active Directory Management solution to better manage accessibility to our network and data resources. This will

also make our network more secure from unauthorized access. The Information Technology Support team will be able to troubleshoot and maintain resources from a central location.

Objective 4: Improve the use of the ERP Colleague System and related modules to provide better services for the College community.

Action Step 4.1: Implement the Informer Reporting Tool allowing Colleague End Users to be able to produce their own reports and to generate better and more informative reports.

APPENDIX B

Strategic Technology Goals

Goals Accomplished

Numerous technology advances have been made at SWTJC over the past several years as follows:

- The WebAdvisor online registration system has replaced the telephone registration system. More and more students are taking advantage of registering early online thereby reducing the number of students coming in for advisor assisted registration.
- Distance learning classes keep growing in extent and more distant learning rooms are being added yearly. Internet classes continue to grow to accommodate the students in our 11 county service area.
- A portal system has been initiated that allows communication to all College administrators, faculty, staff and students in one convenient location on the Internet. A Learning Management System (LMS) has been implemented that works together with the portal.
- A web content management system has improved the accessibility and use of College wide information on the web.
- An online helpdesk software system has been implemented that allows online creation of troubleshooting tickets to report on issues and to follow up on the progress of the issues.
- A document imaging solution has been implemented to electronically store and retrieve documents thereby allowing instant retrieval by different campuses and departments and eliminating the need for physical storing of documents.
- A retention alert system has been implemented to notify faculty and advisors when students become at-risk of failing or dropping out and measures taken to correct the issues thereby retaining more students.
- An emergency alert system has been implemented to provide several means of getting emergency messages to the college community. The emergency messages can be with email, text to phone, voice to phone, web page or portal and social media such as face book or twitter.
- Automatic backup and recovery of non-Unix servers has been implemented which has decreased the recovery time when a server or software fails.

- A bandwidth management system has been implemented which allows bandwidth allocation to be assigned to different areas of use as needed.
- The network infrastructure has been improved with the replacement of over one half of the switches on the network with power over Ethernet switches. New routers have been deployed to accommodate VOIP. Stand alone servers are being replaced with rack mounted servers. Virtual Server technology is being utilized where applicable to share the processing power of the servers and to reduce the physical servers needed.
- A VOIP system has been implemented College wide at all campuses and centers.
- Wireless access to our network and the internet has been implemented to most of the buildings of the College. Most of these units do not support Active Directory.
- Bandwidth has been dramatically increased from the main campus to all of the off campus centers by adding more T1 circuits or Gigaman circuits. The internet bandwidth to our internet service provider has been increased from a DS3 to an OC3 circuit.
- A power management system has been installed on the network to power down PCs to save on energy consumption, reducing the cost of energy and extending the life of PC equipment.
- The One-Card ID online system has made it possible for students to be able to have one ID card for use at the library, registrar's office, business office, food services, class rooms, gym and other areas.
- The implementation of a printer management solution has centralized multi-function printers in most office areas and eliminated the use of personal printers providing better management of the printing needs for the College.
- Online purchase requisitions, payment request and approvals have been improved to reduce printing, decrease the processing time for requisitions and save on costs.
- The application process has been greatly improved with the implementation and customization of Apply Texas Online, an online application process allowing students to use the Internet to complete the application process.
- A new Colleague Student Planning Module has been implemented to allow students to plan their classes for every term of their degree in advance, to register instantly and to reduce the time of the registration process.
- Office 365 has been implemented with a new email system that provides more reliable communications with individuals and groups and more efficient sharing of calendars and documents.

- A college wide license for Microsoft Office, Microsoft Windows Server and Microsoft SQL Server has been purchased to reduce the overall cost of buying individual licenses, maintaining current versions of the software and improving the installation process.

Long Term Goals

Goal #1: Hire a Network Security Engineer to better implement and manage the security of our network. It is becoming more and more imperative to be able to secure our network from intrusion. The college community needs to be assured that their personal and other information is secure and that SWTJC has the proper resources to keep the data and network safe. The estimated cost for a Network Security Engineer follows:

Full-time experienced security engineer <u>annual</u> salary:	\$50,000
Annual benefits:	

Goal #2: Install the network infrastructure, wireless units that are managed with cloud technology and VOIP for the Crystal City Campus new construction expansion and additions. This will give the campus access to the needed resources. The estimated cost follows:

Infrastructure:	
Wireless	
VOIP:	
Annual maintenance:	

Goal #3: Install the network infrastructure, wireless units that are managed with cloud technology, distance learning classrooms and VOIP for the Eagle Pass Campus new construction expansion and additions. This will give the campus access to the needed resources. The estimated cost follows:

Infrastructure:	\$107,000
Wireless:	\$40,000
Distance Learning Classrooms	
VOIP	
Annual maintenance:	

Goal #4: Implement a multi-year plan to replace outdated network software and hardware equipment to improve the efficiency and security of our network. Most of these outdated network resources are end of life and there are no more upgrades available. The estimated cost follows:

Replace outdated routers:	
Replace outdated switches:	\$300,000
Replace outdated wireless units:	
Replace outdated bandwidth management system:	
Replace outdated email filter units:	

Purchase a network management solution:

Annual maintenance:

Goal #5: Acquire the needed hardware and software that will improve the recovery process in case of a major ERP Colleague server failure and disaster. The current Colleague UNIX server is 10 years old and end of life. Replacing it with a new server and updating a 2nd server with a redundant backup system would assure that there is minimal downtime in case of a sever failure especially if this was to happen during registration time. The estimated cost follows:

Replace the old UNIX server one-time cost:	\$50,000
Updating a 2 nd UNIX server for redundant backup recovery one-time cost:	\$20,000
Installation and Configuration one-time cost:	\$10,000
Annual maintenance:	

Goal #6: Implement a document imaging system that better integrates with the ERP Colleague System and that has more robust workflows. The current document imaging solution is inefficient and lacking in these features. The estimate cost for a new document imaging system is as follows:

Basic document imaging system one-time cost:	\$115,000
Conversion of documents one-time cost:	
Annual maintenance:	\$23,000

Goal #7: Implement a College-wide mobile app that allows the Southwest Texas Junior College community to use smart phones and tables to access and use information and processes as needed from various information systems. There is not a true mobile app available for the Southwest Texas Junior College Community. As we move forward with technology we need to give the College community an easier, faster and more convenient way to access their needed information. The estimate cost follows:

One-time cost	\$10,000
Annual maintenance	\$18,000

Goal #8: Install wireless units managed with cloud technology in Hubbard Hall Dorm and replace the outdated old units in Garner Hall Dorm with these new commercial units that integrate with Active Directory. Students would like the convenience of being able to use the internet and other network resources from the comfort of their rooms. The estimated cost follows:

Commercial wireless units one-time cost:	\$64,000
Annual Maintenance cost: (included in the cost above for 10 years)	

Goal #9: Acquire a new web content management system that will be more flexible in producing the web pages that are easier to navigate and use the most current technology available to produce the best experience in viewing web pages and getting needed information. The present system makes is cumbersome to locate information quickly and is

lacking in features that would allow the Web Presence Coordinator to produce better web pages. The estimated cost follows:

Web content management system annual cost: \$30,000

Goal #10: License the ERP Colleague Studio (Tool Kit) to be able to outsource needed Colleague Programming. Without the Tool Kit the College has to rely on Ellucian (Datatel) to do any custom programming but it is a slow process and very expensive for each programming request. The estimated cost of the Tool Kit is as follows:

ERP Colleague Studio (tool kit) annual license: \$65,000

Goal #11: Hire an ERP Colleague Programmer to make better use of the ERP Colleague System. Presently the I.T. Department does not have a Colleague Programmer. This would require the Tool Kit to be licensed first. The programmer could be hired half-time and work remotely as none are available in the surrounding area. The estimated cost for a Colleague Programmer follows:

Half-time experienced programmer annual salary: \$35,000

Goal#12: Implement a real-time online bookstore system that will integrate with the Financial Aid and Accounts Receivable modules of the Colleague ERP system. The present bookstore system uses batch processing to gather Financial Aid award information and to update Accounts Receivable which makes it difficult to get the most current information. Some of the figures are not real-time, which causes frustration for the student, bookstore personnel and the Information Technology Department.

One-time cost:
Annual maintenance:

Goal #13: Develop a multi-year plan to start replacing outdated desktop computers for each lab with thin clients. This would require very robust virtual server controllers. This would allow the students to use the most current technology, aid the Information Technology Department in managing and supporting the hardware and software, and with time reduce the cost of the lab rooms. Estimated cost follows:

One-time cost:
Annual maintenance:

Goal #14: Expand the Identity Management and Single Sign-On System to include other applications.

One-time cost:
Annual maintenance: