

I. Overview

A. Program Profile

Instructions: The program profile should contain the program name, primary objectives, funding source(s), a profile of the students or clients served, and any other information that will provide the reader with a more complete understanding of the program.

Information Technology Services (ITS) will help El Camino College (ECC) utilize technology to provide students with the greatest opportunity for achieving their educational goals; faculty with the resources and support necessary for continued excellence in instruction; administrators and staff with the most efficient and effective work environment for overseeing daily institutional operations; and the community with effective, efficient, and timely responses to their needs for information, training, and instruction.

El Camino Community College District Information Technology Services provide all technical support and services dealing information data technology, computing, networking, data security and maintenance services supporting El Camino Community College District. Utilizing operational funds (Fund 11) and one time funding as available (Fund 15) ECC ITS purchase technology equipment and supplies, and manages services for the entire District. The Department consists of 40 staff including management, Network Services, Application Development Services, Technical Services, and IT Security. ECC ITS combines Classified staff and Administration from all walks of life and technical and personal backgrounds delivering telecommunications, classroom, audio visual, secure connectivity, WiFi, Helpdesk, and maintenance staff. Additionally, ECC ITS Leverages as many automation systems as feasible to improve response, flexibility and delivery of systems and support of desktop computing to include both Apple and Intel products, management of those systems, remote and direct access to all systems, and repair/rebuild of damaged or corrupted data systems.

ECC ITS is striving to increase access for students and faculty to educational technology tools, systems and research through improved internet access, Wi-Fi and computing assets. Additional goals include automating as many possible processes while concurrently eliminating as many paper forms as possible; and providing more data security to protect ECC information, remain compliant, and not hinder access to that data by authorized users at all levels.

B. Status of Previous Recommendations

Instructions: List the current status of recommendations that were provided in the last program review. IT Program Review (SWOT) dated March 13, 2014

1. Evaluate the staffing and organization of Informational Technology Services to ensure the unit is adequately staffed and trained for its mission as the district's leader in planning and integrating technology into the school's academic and administrative business practices.(PlanNet)Status: Completed June 2018
2. Create a new position of Chief Security Officer responsible for Information Technology security. Status: Completed March 2016
3. Maintain current staffing levels to deliver sufficient support services and resources to meet

the needs of El Camino College students, faculty, and staff. Status: Completed March 2018

4. Implement a sustainable technology inventory system capable of guiding decisions about what technology to acquire and when it should be replaced Status: in progress, using SCCM, JAMF, Solarwinds, and Airwave/ClearPass, ECC ITS is able to monitor data on all systems connected to the network. Additionally, a lifecycle replacement program was initiated in 2015 with replacement of faculty laptops, and switching as per PlanNet also in 2015. However, this does not include a SSN Bar code system at this time.
5. Automate Online Vacation and Leave Request/Taking. Status: In Spring of 2018, ECC acquired Timekeeper Plus to automate all time keeping functions. This software is planned to be operational by end of 2018/2019 for all staff categories.
6. Vendor required hardware refresh of unified communications system (telephones) to continue annual maintenance. Status, in progress, an additional 450 telephones were added into all learning spaces for security and communication. The telephone lifecycle was implemented in Summer of 2018 but is not fully funded at this time.
7. Upgrade CISCO WiFi access points to Aruba, the campus standard. Status Completed December 2017.
8. Deploy a pilot project to replace the Library LMTC physical desktops with virtual desktops. Status: Project was completed in 2015 but units did not meet needs or provide satisfactory reliability. Units were removed by Library request and replaced with small form factor computers in fall 2017.
9. Draft an RFP for professional services to assist ITS with the migration from Ellucian UniData Colleague to Microsoft SQL Colleague. Status: Completed 2016 with significant assistance from the vendor Ellucian, the system was cut over June 9, 2016. Clean up actions continued but system was moved to the MS SQL basis and is functional.
10. Plan a wireless network that is ready for a more mobile future that will help gain the benefits that arise from anywhere, anytime, digital education. The results will culminate in an RFP for a Wi-Fi network ready for digital learning. Status: Combined with Goal 7 and completed Dec. 2017.

C. Continuing Recommendations

Instructions: List the recommendations that are expected to continue as a result of this program review.

Items:

4. Requires coordination with Facilities to acquire an automated inventory system or bar code scanning system for all inventory, not just ITS to provide more accuracy in establishing lifecycle replacement programs across not only IT (computers, networks, servers, etc.) but across all ECC (vehicles, capital equipment etc.)
5. Automated payroll and time sheet forms is in progress and anticipated to be completed 2019 to

eliminate the multiple types of forms and paperwork associated with both positive timekeeping (part time and temporary staff) and exception timekeeping (fulltime and permanent staff).
6. Provide full lifecycle replacement across all of ECC technology requires further funding in all areas to include telecommunications, network, desktop computing and infrastructure.

II. Program Data

A. Customer/Student/Client Satisfaction

Instructions: List and analyze the results of the student or client satisfaction survey. Based upon the analysis, what program improvements should be made. Assistance from Institutional

Research and Planning will be necessary to create, distribute, and tally the survey. ITS specific surveys were issued in 2013, 2016 and 2018. These results are compiled and shown below.

Q10 - How do you rate the Information Technology Services (ITS) customer service?

# Answer	%	Count
1 Excellent	26.14%	69
2 Good	38.26%	101
3 Ok	16.67%	44
4 Needs a little improvement	12.50%	33
5 Terrible	6.44%	17
Total	100%	264

Q56 - How good is ITS at solving your problems?

# Answer	%	Count
1 Very good	28.57%	74
2 Pretty good	32.82%	85
3 Ok	23.17%	60
4 I've had some difficulties	10.42%	27
5 Terrible	5.02%	13
Total	100%	259

Q57 - ECC is improving access to technology in terms of the variety Tools.

# Answer	%	Count
1 Strongly agree	27.82%	69
2 Somewhat agree	41.53%	103
3 Neither agree nor disagree	17.74%	44
4 Somewhat disagree	8.06%	20
5 Strongly disagree	4.84%	12
Total	100%	248

Q58 - ECC is improving access to technology in terms of Availability.

# Answer	%	Count
1 Strongly agree	26.29%	66
2 Somewhat agree	41.43%	104
3 Neither agree nor disagree	19.12%	48
4 Somewhat disagree	7.57%	19
5 Strongly disagree	5.58%	14

Total 100% 251

Q59 - ECC is improving access to technology in terms of the Ease of Use.

Answer % Count

1 Strongly agree 21.60% 54
2 Somewhat agree 46.00% 115
3 Neither agree nor disagree 19.60% 49
4 Somewhat disagree 8.40% 21
5 Strongly disagree 4.40% 11
Total 100% 250

Q60 - ECC is improving access to technology in terms of Reliability.

Answer % Count

1 Strongly agree 23.11% 58
2 Somewhat agree 43.82% 110
3 Neither agree nor disagree 20.32% 51
4 Somewhat disagree 7.57% 19
5 Strongly disagree 5.18% 13
Total 100% 251

Q61 - The work order process is effective in resolving ITS issues.

Answer % Count

1 Extremely effective 26.56% 64
2 Moderately effective 36.51% 88
3 Slightly effective 27.39% 66
4 Not effective at all 9.54% 23
Total 100% 241

B. Customer/Student/Client Outcome Data

Instructions: This section requires the analysis of customer, student or client program data (i.e. metrics) that has been collected over the past three years. Metrics should be thought of as program specific data such as the number of customer/students/clients who utilized various segments of your service over a specific period of time.

Analyze program data. Identify and list trends found in the data.

Campus Technology Survey

The Campus Technology Survey was designed to gather information on technology use and device ownership of students and employees in order to assess campus needs, inform service delivery, and plan for technology. The baseline survey (spring 2013) revealed that 94% of students owned a laptop or desktop computer, while 80% owned at least one smartphone. A brief device-use survey administered in English & math classes in Fall 2016 found that 97% of these students own a laptop or desktop, while 94% own at least one smartphone. 41% own at least one tablet, compared to 28% three years ago.

Data was also collected from students to support planning Wi-Fi and BYOD (bring your own device) initiatives. Over 96% of students brought at least one Internet-connecting device to campus. Of those, 54% bring only one, 30% bring 2, and 16% bring three or more devices to campus regularly.

The College intends to repeat the survey in Spring 2018 (see 2.A above for Spring 2018 results) and every two years thereafter. Results of the surveys are reviewed by both the ECC Technology Committee and the Academic Technology Committee to track progress on campus and academic technology improvement efforts.

Based upon the trends and performance indicator data (e.g., metrics) what changes, if any, should be made to improve the program? All program improvements must be tied to the data.

- A. Help Desk Ticketing System – System needs to be upgraded to include email communications on submission, on ticket progress, and on completion. System needs to include Knowledge base for both technicians and users. Finally, system needs comprehensive reporting tools for help desk, technicians and supervisors.
- B. Audio Visual operations and maintenance (O&M), and Lifecycle budgeting – AV needs to have an established lifecycle budget to allow regular upgrade/replacement of classroom systems. This does not yet exist. Additionally, the O&M AV budget line needs to be increased for 4 years to allow regular maintenance to catch up to the current list of open work orders.
- C. Wifi – Wireless signal is still weak in some areas, specifically, in buildings scheduled for demolition within 24-30 months, as these were not included in the main WiFi project as cost unnecessary. All new construction will be built to standards, every classroom and office suite, hallways every 50 feet, etc. will have access points installed. This will provide coverage in those areas still deemed weaker for capacity and signal strength.
- D. Document management, paper forms reduction – While El Camino College has started a major forms elimination project, as of summer 2018, many were in early deployment (limited scope) or still in test phase. Most of these will be live by end of 2018 and include HR onboarding, online forms engine, benefits, evaluations, and hiring; Payroll online payroll forms and system, Financial Aid online forms processing, self-services forms, Finance budgeting and self-services forms, counseling appointments automation upgrade, Professional Development scheduling software upgrade, Strong workforce software, graduation processing module, upgrading student tracking system student outreach and recruiting system, and Curriculum and Catalog management system.
- E. Training on primary administrative system for Finance, Academics, and Programming staffs to offset changes in staff, loss of knowledge through retirements, and to being using modules not used but owned by ECC.

Top Issues Facing EL Camino Technology

As part of the development of this plan, the ECC Technology Committee reviewed the top issues facing technology in higher education to determine the most critical issues to address or to support at El Camino College. These issues affected varying scopes, including College, Classroom, and Student. The top issues identified by scope, ordered by priority, are as follows:

College: Institutional needs, opportunities, and challenges

1. Information Security
2. Institutional Data Management
3. Information Technology (IT) Funding Models
4. IT Workforce Hiring and Retention
5. IT Organizational Development
6. Americans with Disabilities Act (ADA) Compliance
7. Online Forms and Processes
8. Enterprise Application Integrations
9. Business Intelligence and Analytics
10. Data Standards and Data Exchange
11. Mobilization

Classroom: Faculty pedagogy and professional development

1. Faculty and Online Education
2. Educational Technologies
3. Digital Literacy (faculty and staff)
4. Shift to Deeper Learning Approaches
5. Open Educational Resources (OER)

Student: Tracking and supporting student learning and success

1. Student Success Technologies
2. Measurement of Learning
3. Digital Literacy (students)

C. Campus/Community Collaboration

Instructions: List collaborative efforts with the campus and external community that are designed to benefit the program. List how the collaborative efforts should be strengthened and what new collaborations or partnerships should be pursued to improve the program.

What collaborations or partnerships have been established with other programs on campus or in the community?

College Technology Committee

Dean's Council

Program and Budgeting Committee

Academic Senate Technology Committee

Strategic Planning Committee

Accreditation Committee

Murdock Stadium and Events Planning Committee

Coordination with Facilitates and Lend Lease on all new construction design, review and standards

New software acquisition deployment and training support teams 10 new software packages in FY 17/18, 4 more planned for 18/19, added enterprise subscription to ODSL

Project Glue Committee

Project BEST Committee

Expanded Full ECC Cabinet

Compton CCD Technology Committee

CCCTC for Tenable Nessus and Splunk

How can program personnel strengthen these collaborations or partnerships?

ITS staff attendance on the various committees can be broader and shared amongst all offices within ITS.

ITS planning should incorporate more input into other Divisions capital budget development to help streamline approval process, funding, and yet ensure ease of integration of requested technology, systems and tools.

What other collaborations or partnerships should program personnel pursue for program improvement and why?

Facilities Committee

College Council

Compton College Banner SaaS Deployment Team

D. Program Data Recommendations

Instructions: Compile all program data recommendations from A – C.

DBA This position manages databases related to data collection applications developed to manage operational data for ECC. The position designs, tests, implements, and maintains ECC's SIS (Ellucian's Colleague) Database. This position develops utilities and complex SQL queries

for data extraction and reporting, while also performing data conversions from several data sources. The candidate chosen for this position will be responsible for writing code and stored procedures to include, but not limited to interfacing data from multiple data sources. The candidate must provide technical support to other developers, data managers, faculty and administrators utilizing data from our SIS and other vendor driven licensed applications while also providing support to clients with a broad range of technical expertise.

Position Audits are required for the following positions as it has been over 15 years for them to be revised and updated. As such their salary levels and or position level have fallen behind local area salaries making it difficult to retain and or hire new for these increasingly complex duties.

Programmers – recent review of just other programmers at community colleges show a 15-20% under market level pay scale.

Telecommunications technicians: this position no longer just installs cable, they must do complex wiring, connections, and programming the ever more advanced telephone systems, emergency phones (Blue Phones) for maintenance and subsequent operations and maintenance.

Help Desk Staff This position is expected to be able to answer a myriad of calls for not just password resets but also on computer access, repairs/resets, systems access on the growing list of enhanced software El Camino uses, and even short order on the spot repair of equipment. Help Desk staff are not just there to answer the phone and take orders, they are an integral part of the technology process as well as the Face of ITS.

Supervisors (or Managers?) Our current set of Supervisors need review as a result of the changes in complexity of personnel administration, operations and maintenance requirements, budget management, and interaction with senior members of El Camino's staff. In short, this position is transitioning to Manager requirements not Supervisor any more.

See attached TracDat summary of Projects.

Show the linkage to the institution's goals by stating each program review recommendation as an objective statement with corresponding success indicators. Enter this section into the campus planning software.

Using the College Strategic Data tracking system TracDat, ITS enters specific projects to address the overall Institutions strategic goals that the ITS Technology Master Plan is aligned under. (CMP, TMP, Minutes from Tech Committee Goals review ((DEC –FEB annually), EMP, and TRACDAT. A sample of the alignment is shown here from the Technology Master Plan (TMP), page 17, Technology Goals. Please note direct alignment to the Educational Master Plan (EMP), which forms the crux of the College Master Plan (CPM). These same EMP Goals and TMP Goals form the backbone of the El Camino Strategic Plan:

Technology Plan (Goals, Objectives, & Measures) and Alignment to ECC EMP Focus Areas¹

Goal: Complete College without walls concept with more focus on distance education, both for instructor and student training and access. (EM, APC, IPI)

Objective:

¹ Focus Area Legend: APC=Access, Progress & Completion; EM=Enrollment Management; IPI=Institutional Process Improvement; and T&L=Teaching and Learning.

Provide student Mobile Connection needs for on and off-campus requirements such as hardware/software (laptops/software) to enable information access in a timely manner, both on and off campus through INTERNET or wireless access to the network.

Provide support to Distance Education programs and global instructional technologies and learning management systems (LMS).

Provide and support ADA/508 compliance for all students and staff/faculty.

Provide and support requirements for compliant assistive technology and adaptive learning.

Measures:

Provide systems and integration/convergence of disparate technologies to improve learning environments regardless of location

Be able to provide ADA compliant adaptive technologies as required.

As a result of this Goal and with El Camino moving from Etudes to Canvas, ITS acquired and deployed the Ellucian integration Software as a Service (SaaS) Integrated Learning Protocol or ILP. This tool allows for rapid deployment of all course sections, population with faculty and students and allow regular night updates for adding and dropping sections, students, and faculty due to changes.

III. Program Requirements

A. Program Support

Instructions: List campus departments that are essential to the success of this program, the impact of those departments on the program, and what is being done to strengthen the partnership between each.

All programs depend upon the support of other departments on campus. What is the impact of those departments on this program and what can program personnel do to further strengthen those relations?

ITS serves the entire ECC community and as such, provides full range of Technology services, support, implementation of new technologies, and maintenance of these systems. ITS is also involved in all construction new or renovations in terms of technology systems affected, needed or planned. By participating in various committees, staying abreast of new trends or tools that may improve the campus and or the student learning experience, ITS provides information, advice, and data to support actions being considered by all departments on campus.

ITS is also serves as a bridge between ECC's SIS (Colleague) and many vendor driven applications that bring improved efficiencies for existing business processes across campus.

B. Facilities and Equipment

Instructions: Provide a summary of the current state of the program's facilities and equipment and list recommendations if appropriate.

Describe the adequacy/inadequacy of the facilities and equipment available to the program.

Software, ECC is still missing several key software packages that are required to improve

automation of data systems, reduce paper forms, and improve staff efficiency. While recently purchased software is making significant strides moving forward in paper forms reduction, Ellucian ODSL subscription will improve staff efficiency in the use of Ellucian ERP Colleague, additional training, systems reviews and clean up, customized programming removal, and systems upgrades are needed to continue overall improvement in ECC systems, data protection, and capabilities.

Hardware

ECC is in the process of replacing several aging servers, databases and switches. This modernization will be funded only through 18/19 after which modernization will not be funded. Additionally, there is no operational budget for hardware lifecycle, currently using one-time funding due to end also in 18/19. The aged CISCO ASA firewall is being replaced with Next Generation Firewall CISCO 9000 Firepower model with AMP security management tool set. However, this does not cover end point (all devices) vulnerabilities. Currently ITS uses Force Point to cover most of the campus end points but it is not compatible with several of our specialized software (Nursing, LACOE, etc.) and as such is only a temporary fix to stop ransomware and other malware.

Disaster Recovery / Business Continuity

Backup SAN Configured offsite with redundant lines of connectivity is still required

List recommendations regarding facilities and equipment.

Student Planner module

Project Accounting Module

Graduation Module

Budget Module

TAM (Ellucian I year Total Account Management support)

Curriculum/Catalog Software

ECC Enterprise Calendaring System

Operational Budgeting for Lifecycle of desktops, networks, and AV

Backup SAN Configured offsite with redundant lines of connectivity

C. Staffing

Instructions: Describe the adequacy/inadequacy of the program's current staffing level and the training needs of program personnel. List recommendations based upon question responses.

Describe the adequacy/inadequacy of the program's current staffing level.

ECC ITS is currently fully staff by our organization chart. This includes new staffing as recommended by the JAN 2015 PlanNet study. The staff includes:

CTO, Administrative Assistant, Information Security Specialist;

Network Office with Supervisor, 2 Telecommunications Technicians, 2 Network

Administrators, 3 Senior Network Administrators;

Technical Support Office with Supervisor, 3 Help Desk Technicians, 2 AV Technicians, and 8 Computer Support Technicians; and

Applications Development Services with Supervisor, Information Technical Specialist, Business Process Analyst, 6 Programmer Analysts, and 4 User Support Technicians.

While 10 of these have been hired within the last 18 months, only 4 have been hired within the last 5 months as of March 2018. However, 16 have been hired within the last 3 years. Currently, there are no retirements anticipated within the next 3 years.

The one key staff position not yet approved through HR processes is a Database Administrator. Currently, ITS is submitting a new position for a trained DBA, but it is not yet approved or funded.

(see attached Organization Chart)

How does this data impact the program or the future of the program?

As ECC has over 70 various databases, and no trained DBA, we are relying on programmers and Network Administrators to try and keep everything working, but have not been able to seriously address upgrading them all due to lack of specific DBA knowledge and so the process is extremely slow.

Of secondary concern is that our Business Analyst and Programmer/Developers are significantly under paid. This results in issues with retention. In 2017, 4 of the 6 programmers took early retirement in large part due to this issue. This issue is beginning to have retention issues with the 3 Supervisor positions, Security Specialist, and the INFO SYS TECH Specialist as well.

Are program personnel current in their field? If not, describe what is needed to maintain currency and how it will improve the program.

Yes, staff are currently working in their classification.

List and prioritize all staffing recommendations.

Senior Database Administrator, Classified staff, (level TBD)

Job Summary

This position manages databases related to data collection applications developed to manage operational data for ECC. The position designs, tests, implements, and maintains ECC's SIS (Ellucian's Colleague) Database. This position develops utilities and complex SQL queries for data extraction and reporting, while also performing data conversions from several data sources. The candidate chosen for this position will be responsible for writing code and stored procedures to include, but not limited to interfacing data from multiple data sources. The candidate must provide technical support to other developers, data managers, faculty and administrators utilizing data from our SIS and other vendor driven licensed applications while also providing support to clients with a broad range of technical expertise.

Duties include:

Familiarity with Ellucian products (Colleague, Ethos, Recruit, ILP, etc.)

Design, develop, and document new database schema
Optimize database systems for performance and reliability
Implement security and data protection
Implement automated testing platforms and unit tests
Migrate legacy data from multiple platforms
Coordinate with development team at weekly online meetings
Other duties may also be assigned.

DESIRED QUALIFICATIONS:

Expertise in MS SQL
Experience with SQL server reporting solutions
Proficient understanding of code versioning tools, such as SubVersion
Self-motivated and collaborative team member
SQL, ETL processes, database programming

KNOWLEDGE, SKILLS AND ABILITIES (REQUIRED):

Demonstrated experience with the installation and operation of a relational database system and database applications.
Experience with external user functions, internal systems services, and file system structures.
Demonstrated knowledge of systems platform.
Experience with installing and configuring relational databases management systems software.
Extensive experience in database administration with proven ability to track and report on capacity, current utilization and projected growth, and general health of databases.
Experience with database design and programming techniques such as views, triggers, and stored procedures.
Demonstrated knowledge of database security protocols.
Demonstrated knowledge of modeling techniques.
Ability to analyze and solve problems of moderate scope independently, especially on networked computers of varying types and operating systems.
Ability to work well independently or as a team member.
Effective oral and written communication skills.

Conduct Salary review of Programmer Analysts, Supervisors, Business Analyst, Security Specialist, and Information Systems, Technical Specialist. Their job descriptions were written some 15 years ago and have not been reviewed for salary Range and level since. Consequently, ECC is not competitive for these highly skill and technical staff positions affecting ECC's ability to attract and retain staff at the skill level required as we continue to progress to subsequently more and more complex systems and higher data standards.

D. Planning

Instructions: Analyze external (advisory committee input, academic/trade journal articles, or other appropriate sources) and internal information to determine changes or trends that will impact the program within the next five years. Explain how the program's planning process involves program staff, ties into the institution's goals and student learning outcomes, and is linked to budgeting.

What major changes or trends might impact the program in the next five years? What program plans are in place or will be created to respond to major changes or trends?

Increase in student and faculty expectations for ease of classroom access to technology, complexity of the technology tools and subsequent maintenance and refresh of that technology will compete against loss of capital funding (Fund 15) after FY 2018/2019. Operational budget is not equipped to handle reoccurring costs of life cycle of network, desktop, and audio/visual requirements. Innovative approaches and even extension of lifecycle periods beyond warranty may be required affecting El Camino's ability to attract and retain students who are used to high technology environments in the High Schools they recently graduated from.

Administrative Division is currently looking to the budget out years to determine what if any long term reoccurring funding can be developed to provide a basis for life cycle of systems.

Possible cooperation with external advisories such as Gartner or WTC may be able to identify areas of improvement in contracting, purchasing, and or new innovations to offset the growing hardware and software refresh requirements.

What data, not currently provided, would be needed to improve program development planning? Explain the type of data desired, why it will be useful, and list the possible sources if known.

Better budget management tools such as Simpler, better use of existing Colleague tools such as the Budget Management module, graduation module, training on Colleague systems through face to face or On Demand Subscription Library (ODSL) will provide a significant offset in efficiency, but will not reduce actual hardware requirements under the current approach of classroom technology.

Improved classroom technology must be acquired at a cost significantly lower than the current standard Utelogy (approximately \$15,000 per room). However, data does not exist to show increase in FTES directly link to classroom technology at ECC.

Student success and student retention data to be parsed against high tech classrooms and low tech approaches may yield data to support changes in our pedagogical approaches given ECC demographics on our student population. (Perhaps not every classroom needs super high speed everything.)

Describe how program personnel are made aware of what is happening in the program, future program plans, external/internal changes affecting the program, and changes that need to be made to enable the program to adapt and continue to be successful.

Involvement in Regular Division meetings,
Involvement in Technology Committee
Involvement in Strategic Planning, Comprehensive Master Plan, Program Review, and Accreditation Self Study by ITS staff
Advisory groups such as Academic Senate Technology Subcommittee, College Technology Committee, Planning and Budget Committee, Cabinet and Board meeting participation etc., keeps ITS up to date on trends, requirements, and innovations in programs, hardware, software and data security requirements.

Explain how program personnel are involved in the creation and implementation of program plans?

All staff sections of ITS are provided all drafts and information through their supervisors, or as needed directly to each individual. Inputs is gathered and synthesized and then added to the base documentation.

ITS planning is presented to the College Technology Committee, Academic Technology Subcommittee, and other committees under the guidelines of Collegial College Consultation, and the ECC College Decision Making guidelines.

All ITS plans are shared with VP Administration office, IRP, and as appropriate other committees and the Cabinet.

Describe how the program's plans ties into the institution's goals?

The El Camino College Mission is the foundation for all planning processes. The Mission reads, “El Camino College makes a positive difference in people’s lives. We provide excellent comprehensive educational programs and services that promote student learning and success in collaboration with our diverse communities.”

Supporting the Mission are Strategic Initiatives, or College-wide goals developed to help focus efforts toward student success and institutional effectiveness. Through Strategic Initiative F (Modernization), the College will “support facility and technology improvements to meet the needs of students, employees, and the community.” The Technology Plan supports and implements the Mission and Strategic Initiative F.

This Technology Master Plan will align with the goals and strategies of the overall Comprehensive Master Plan, Educational Master Plan, Facilities Master Plan, and Staffing Master Plan. It will also coordinate with such additional plans as Enrollment Management Plan and Distance Education Master Plan.

Technology Plan Goals & Action Items relate to Areas of Strategic Focus of the Educational Master Plan:

1. Teaching and Learning – to support professional develop, innovation, methods that work, student learning and development
2. Access, Progress & Completion – to support student access and equitable and timely progress and completion
3. Enrollment Management – to stabilize enrollments, ensure adequate growth
4. Institutional Process Improvement – to ensure efficiency and effectiveness of all internal college and student enrollment processes, and reduce roadblocks

Information Technology Strategies

1. To provide up to date technology to ensure lifelong learning to our diverse student population.
2. To provide ongoing technology support necessary for faculty, staff and students.
3. To provide a variety of delivery methodologies and technologies to ensure flexibility in time and/or location for learning opportunities and learning management systems (LMS).
4. To ensure the institutional commitment to a viable and cost effective technology environment.
5. To ensure commitment to providing security, privacy, and protection of all systems, properties and data.
6. To ensure a continuing commitment to community, government, and corporate partnerships to meet our mutual needs.
7. To ensure an interwoven support structure and stewardship of resources for a quality technology environment.

Technology Committee: The Technology Committee serves as the consultation committee for campus-wide technology planning. The committee evaluates needs, strategizes solutions, and proposes recommendations for College technology. The committee develops, monitors and evaluates implementation of the College Technology Master Plan.

This Technology Master Plan spans a five year period from 2018 to 2022 and is organized to provide background, current environment and recommendations originating from different

members of the campus community. Working with the Comprehensive Master Planning Committee and the Planning and Budget Committee, opportunities to introduce and enhance technology in the District will be developed as the campus grows and moves forward.

The College Technology Committee works with the Academic Senate Technology Subcommittee to understand and develop technologies in support of academic endeavors, expanded global teaching and learning, and human interaction.

Describe how the program's plans tie into student learning outcomes?

All academic, administrative, and student support functions of the college are now dependent on very complex computer networking and data systems that interconnect departments across the District, the District with state and federal governments, and the college with higher education institutions across the country and throughout the world.

The move to an online registration process away from a manual forms process has dramatically altered and redefined the duties and responsibilities of the programming staff. Prospective students can apply from anywhere in the world using the internet. Admissions and Records (A&R) staff redirect prospective students expecting to apply in person to the nearby kiosk computers to apply online.

ECC will undertake to institutionalize business processes improvement reviews and look towards a regular cycle of process improvements. While a variety of methodologies are available, ECC ITS and the Institutional Research Department will use the methods that most closely meet the needs of the processes being reviewed. PMI, Six Sigma, LEAN, ITIL, etc., all offer unique perspectives on different systems and processes. More of the manual processes done by the college are to be converted to electronic processes or media with the requirement of integrating automation, in addition to new processes that previously were prohibitive because of the intense manually resources required. The College will pursue an overall strategy to reduce or eliminate paper forms through use of an electronic scanning, archiving, and storage retrieval system.

The California Community College's Chancellor's Office (CCCCO) has initiatives in play that will allow for California Community Colleges to leverage common automation platforms the CCCCCO tech center is developing as a cost savings to the individual college and to move toward a single student identity with associated common college application requirements. These new initiatives represent cost savings, however, the interfaces to the college's SIS are historically the college's responsibility to create and maintain.

The California State legislature has enacted into law SB1456 providing for new mandated requirements focusing on interaction between the California Community Colleges and their students. These new requirements commonly known as the Student Success Act, will mean evolving new ways to execute those required interactions and how to record and report the interactions required by the law.

Describe how the program's plans are linked to the program's budgeting activities.

El Camino College continues to work to achieve a balance between the desire to expand the technology infrastructure and its ability to provide the resources necessary to support and upgrade

services. There are procedures in place to guide the acquisition of new technology facilities, particularly computer laboratories through a bi-annual Planning and Budget cycle and using the collegial consultative processes to review and approve new technology initiatives. The College has allowed requests for additional computer laboratories, new technology, software, and systems to enhance the learning environment. While there is a central approval process for new technology, it is still possible for departments to utilize grant fund resources in addition to those from the General Fund. The challenge for the college is stabilize funding for technology hardware and software so as to eliminate the excessive spending of left-over funds at the end of each fiscal year with a predictable cycle of upgrade and replacement that the College community understands and uses.

The Planning and Budget Cycle process allows for consistent and organized budget build for the College. The TracDat system is used to input requirements and data into a single system for review and processing. Once each unit has entered its requirements, the budget review process is conducted. At the conclusion of the review and approval phase, each of the primary divisions (Academic Affairs, Administration Services, HR, Student and Community Advancement, Public Affairs and Marketing, Institutional Research, Grants, and Foundation) will conduct a review of their requirements for technology needs and possible projects for the upcoming year with the Chief Technology Officer to determine compatibility, feasibility and priority. Requirements that need ITS support will be considered in terms of availability of that support to help prioritize the overall ITS workload within the ITS annual work plan. The ITS annual work plan addresses the need for operations, maintenance, repair, life cycle/upgrades, and technology projects.

ITS is charged with ordering, receiving and issuing all computers and network equipment as defined above in Technology Plan Scope. While each department can order/fund new software, ITS is also tasked to renew all annual software licensing for the following years until the original requesting department indicates they no longer need that license. This is done primarily to help ensure licensing compliance and accountability for the entire College. After the first year purchase by individual departments, Finance will then transfer the amount required for the licensing renewal to ITS and ensure that that funding amount is maintained. ITS will coordinate with Finance on the annual software licensing requirements through the budget and planning cycle. Please note that there are unique object codes which must be used for computer purchase or replacement/upgrade funding. Departments will refer to current published account codes and schedules as they change annually. Information Technology Services will create and submit a requisition(s) on your behalf, following approval of your request by your Division Administrator.

Current sources of technology funding are:

1. Technology and Telecommunications Infrastructure Program, TTIP/Tech II
2. Instructional Equipment/Library Materials
3. General Funds
4. Capital funds set-asides for new buildings such as Measure-E (Bond Funds)
5. Grant and categorical funding (i.e. Title III/V Federal Grants, CTE, and CalWORKs)
6. ECC Foundation
7. California Community College Chancellor's Office supported projects and initiatives
8. CCCCCO Foundation provided purchasing agreements

E. Program Requirement Recommendations

Instructions: List all recommendations made in the program requirement section.

Software, ECC is still missing several key software packages that are required to improve automation of data systems, reduce paper forms, and improve staff efficiency.

Hardware

ECC is in the process of replacing several aging servers, databases and switches.

Disaster Recovery / Business Continuity

Backup SAN Configured offsite with redundant lines of connectivity is still required

Student Planner module

Project Accounting Module

Graduation Module

Budget Module

TAM (Ellucian I year Total Account Management support)

Curriculum/Catalog Software

ECC Enterprise Calendaring System

Operational Budgeting for Lifecycle of desktops, networks, and AV

Backup SAN Configured offsite with redundant lines of connectivity

ECC ITS is currently fully staff by our organization chart. This includes new staffing as recommended by the JAN 2015 PlanNet study. The staff includes:

CTO, Administrative Assistant, Information Security Specialist;

Network Office with Supervisor, 2 Telecommunications Technicians, 2 Network Administrators, 3

Senior Network Administrators;

Technical Support Office with Supervisor, 3 Help Desk Technicians, 2 AV Technicians, and 8

Computer Support Technicians; and

Applications Development Services with Supervisor, Information Technical Specialist, Business Process Analyst, 6 Programmer Analysts, and 4 User Support Technicians.

While 10 of these have been hired within the last 18 months, only 4 have been hired within the last 5 months as of March 2018. However, 16 have been hired within the last 3 years. Currently, there are no retirements anticipated within the next 3 years.

The one key staff position not yet approved through HR processes is a Database Administrator. Currently, ITS is submitting a new position for a trained DBA, but it is not yet approved or funded.

As ECC has over 70 various databases, and no trained DBA, we are relying on programmers and Network Administrators to try and keep everything working, but have not been able to seriously address upgrading them all due to lack of specific DBA knowledge and so the process is extremely slow.

Of secondary concern is that our Business Analyst and Programmer/Developers are significantly under paid. This results in issues with retention. In 2017, 4 of the 6 programmers took early retirement in large part due to this issue. This issue is beginning to have retention issues with the 3 Supervisor positions, Security Specialist, and the INFO SYS TECH Specialist as well.

IV. Recommendations

Instructions: Provide a prioritized list of all recommendations made throughout this program review and the cost associated with each recommendation. List the strategies program personnel

will pursue to aid in the achievement of each recommendation.

DBA This position manages databases related to data collection applications developed to manage operational data for ECC. The position designs, tests, implements, and maintains ECC's SIS (Ellucian's Colleague) Database. This position develops utilities and complex SQL queries for data extraction and reporting, while also performing data conversions from several data sources. The candidate chosen for this position will be responsible for writing code and stored procedures to include, but not limited to interfacing data from multiple data sources. The candidate must provide technical support to other developers, data managers, faculty and administrators utilizing data from our SIS and other vendor driven licensed applications while also providing support to clients with a broad range of technical expertise.

Position Audits are required for the following positions as it has been over 15 years for them to be revised and updated. As such their salary levels and or position level have fallen behind local area salaries making it difficult to retain and or hire new for these increasingly complex duties.

Programmers – recent review of just other programmers at community colleges show a 15-20% under market level pay scale.

Telecommunications technicians: this position no longer just installs cable, they must do complex wiring, connections, and programming the ever more advanced telephone systems, emergency phones (Blue Phones) for maintenance and subsequent operations and maintenance.

Help Desk Staff This position is expected to be able to answer a myriad of calls for not just password resets but also on computer access, repairs/resets, systems access on the growing list of enhanced software El Camino uses, and even short order on the spot repair of equipment. Help Desk staff are not just there to answer the phone and take orders, they are an integral part of the technology process as well as the Face of ITS.

Supervisors (or Managers?) Our current set of Supervisors need review as a result of the changes in complexity of personnel administration, operations and maintenance requirements, budget management, and interaction with senior members of El Camino's staff. In short, this position is transitioning to Manager requirements not Supervisor any more.

See attached TracDat summary of Projects.

Show the linkage to the institution's goals by stating each program review recommendation as an objective statement with corresponding success indicators. Enter this section into the campus planning software.

Using the College Strategic Data tracking system TracDat, ITS enters specific projects to address the overall Institutions strategic goals that the ITS Technology Master Plan is aligned under. (CMP, TMP, Minutes from Tech Committee Goals review ((DEC –FEB annually), EMP, and TRACDAT. A sample of the alignment is shown here from the Technology Master Plan (TMP), page 17, Technology Goals. Please note direct alignment to the Educational Master Plan (EMP), which forms the crux of the College Master Plan (CPM). These same EMP Goals and TMP Goals form the backbone of the El Camino Strategic Plan:

Technology Plan (Goals, Objectives, & Measures) and Alignment to ECC EMP Focus Areas²

² Focus Area Legend: APC=Access, Progress & Completion; EM=Enrollment Management; IPI=Institutional Process Improvement; and T&L=Teaching and Learning.

Goal: Complete College without walls concept with more focus on distance education, both for instructor and student training and access. (EM, APC, IPI)

Objective:

Provide student Mobile Connection needs for on and off-campus requirements such as hardware/software (laptops/software) to enable information access in a timely manner, both on and off campus through INTERNET or wireless access to the network.

Provide support to Distance Education programs and global instructional technologies and learning management systems (LMS).

Provide and support ADA/508 compliance for all students and staff/faculty.

Provide and support requirements for compliant assistive technology and adaptive learning.

Measures:

Provide systems and integration/convergence of disparate technologies to improve learning environments regardless of location

Be able to provide ADA compliant adaptive technologies as required.

As a result of this Goal and with El Camino moving from Etudes to Canvas, ITS acquired and deployed the Ellucian integration Software as a Service (SaaS) Integrated Learning Protocol or ILP. This tool allows for rapid deployment of all course sections, population with faculty and students and allow regular night updates for adding and dropping sections, students, and faculty due to changes.