



Barstow Community College  
**NON-INSTRUCTIONAL  
PROGRAM REVIEW**

**PROGRAM:**

**Academic Year:**  **FULL PROGRAM REVIEW** **Date Submitted:**

**Academic Year:**  **ANNUAL UPDATE #1** **Date Submitted:**

**Academic Year:**  **ANNUAL UPDATE #2** **Date Submitted:**

**By:**

**Lead:**

**Members:**

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## 1. Mission and Vision

### A. Service Area/Administrative Unit Mission

The Mission of the Information Technology Department of Barstow Community College is to provide: training, equipment, internet connections, communication services and support needed by: the students, faculty, and staff to enhance and support student learning.

### B. Service Area/Administrative Unit Vision *(Where would you like the Program to be three years from now?)*

Using technology and technological advances, the Information Technology Department strives to effectively support institutional efficiency, sustainability.

### C. Describe how mission and vision align with and contribute to the College's [Mission](#) and [Vision](#)

Through the use, development, and maintenance of technology, the IT Department enhances the open learning environment as referenced in the College's Mission statement. The department develops and uses technology to assist the students in achieving their personal best in education.

DATE: 10/07/2015

#### ANNUAL UPDATE #1:

1A. Appearance and information of the Unit Mission Statement has changed to the following:

The Mission of the Information Technology Department of Barstow Community College is to provide the following:

- Training.
- Equipment.
- Internet and Communication Services.
- Technical Support as needed to the following:
  - Students.
  - Faculty.
  - Staff.

To enhance and support student learning.

A review of the Unit Mission Statement will be taking place with the Information Technology Department this fiscal year (2015 – 2016) to ensure that the Mission statement continues to meet the needs of Barstow Community College.

1B. There are no changes to the Unit Vision. However as with 1A a review of the Unit Vision will take place with the Information Technology Department this fiscal year (2015 – 2016) to ensure that the Vision statement continues to meet the needs of Barstow Community College.

1C. No changes at this time.

DATE: 10/03/2016

#### ANNUAL UPDATE #2:

1A. No changes at this time to the verbiage of the Unit Mission Statement.

1B. Changes to the Unit Vision to read as follows:

Utilizing technology and technological advances, the Information Technology Department strives to effectively support institutional efficiency and sustainability.

1C. No changes at this time to how the mission and vision align with and contribute to the College's Mission and Vision.

## 2. Service Area/Administrative Unit Description and Overview

Assume the reader does not know anything about the Service Area or Administrative Unit. Describe the unit, including—but not limited to—the following:

- A. Organization, including staffing and structure
- B. Who do you service (including demographics)?
- C. What kind of services does your unit provide?
- D. How do you provide them?

The IT department provides direct and indirect technological support to: staff, faculty, and students: including a helpdesk; user and classroom support; network support, institutional and campus reporting; development and maintenance of multiple campus systems; process automation; communications; connectivity; maintenance of security systems; and other as needed support including audio visual at campus events and large community oriented events.

The IT Department is organized into three different functions. The first is handled by two (2) database analysts and when hired a temporary database analyst, who will handle the institutional and college reporting, systems/software and database management and system growth maintenance and expansion. One (1) network administrator handles the internet network, phone communications, campus wireless, and other campus connectivity. Two (2) PC/Network Specialists and a student worker support the help desk, provide: user and lab support, equipment maintenance, and audio/visual support. All three (3) area are involved in training in their various areas. The three (3) sites that are supported are: the Main Campus, CTE – State Street, and Ft. Irwin.

The department serves approximately 210 faculty and staff and approximately 5000 students (based on the last scorecard count). In addition support is provided to the Barstow College Board of Trustees, Barstow College Foundation, and for various community related events.

Services are provided eleven (11) hours a day five (5) days a week, with the exception of the summer months when the IT department goes on a modified schedule. The IT department does have the ability to be called into the office in the event of an emergency on the campus as needed. The staff provides a number of services in a variety of modalities, in person and virtually. The IT department is a service oriented area and the staff works very hard at encouraging the faculty, staff, and students of our campus to contact the IT department for training or service via: help desk ticket system, email, or phone.

The IT department maintains the following equipment: 613 personal computers (PC's), 93 laptops, 137 VDI (virtual data interface) and 1 Macintosh computer; 153 printers (of various types); 35 physical servers, 6 clusters and 62 virtual servers; 62 network devices; 23 wireless access points; 245 VoIP phones; 34 security cameras; 42 projectors; 2 video conference centers; 42 universal power source (UPS) battery back-ups; 23 software agreements; and 3 internet circuits through the county of San Bernardino Superintendent of Schools.

The IT department supports: Banner, Oracle, Forefront Identity Manager, and the SQL Server.

There are currently 38 Management Information Systems (MIS) reports submitted to the State each year. Internally there are dozens of reports that have to be maintained and modified, and new reports are continually being written. Current projects underway: the website, the web portal, Moodle, Forefront Identity Manager, DegreeWorks, SARS, ARGOS, OpenCCCApply, Intrusion

Detection System (IDS), Emergency Alert System, 3CMeNow, Ramp-Up Technology, and Worldshare.

Finally there are 1000 plus work orders submitted to the IT office each year, and others that come over the phone and via email.

DATE: 10/07/2015

**ANNUAL UPDATE #1:**

2). Since the last Program Review, the Information Technology Department has had a change to personnel. The Database Analyst II and Network Administrator positions have been replaced with new staff. The Database Analyst position remains vacant as of this writing.

Classroom T-10 has had all PC's in that room replaced with newer technology. The Computer Commons has had 20 PC's replaced.

The campus main Internet circuit has been replaced from a DS3 to a Gigabyte circuit, as well as a secondary circuit being installed. Which has increased Internet speed from 80/80 mbs to 400/300 mbs in three buildings (K Building, PAC, and the Wellness Center).

The campus firewall, a PIX 515, has been replaced with a Checkpoint Next Generation firewall. Which monitors inbound and outbound traffic within the network.

Connection at CTE located at State Street has increased from two (2) T-1 lines running at approximately 1.4 mbs for each line to a 50/5 connection.

SARS, OpenCCCAppl, and Worldshare are both online and functioning. Ramp-Up Technology has been installed and pending operation.

The Information Technology work order system has increased from 1000 tickets (from the last writing) to 1500. Increase is most likely to encouragement of the Administrators, Faculty and Staff to use the system, instead of sending an email or a phone call to individual Information Technology staff members.

DATE: 10/03/2016

**ANNUAL UPDATE #2:**

2A. Since the last Program Review (2015), the Information Technology Department has had a change in personnel. The Database Analyst II position has been replaced by new staff. The Database Analyst position was filled, and the position became vacant once again. As of this writing of the Program Review, the position continues to remain vacant.

2B. Since the last Program Review (2015), the Information Technology Department continues to provide services to the following groups: Administration, Faculty, Students and Staff. At all three locations: Career Technical Education (CTE), Ft. Irwin, and the Main Campus.

2C. Since the last Program Review (2015), the Information Technology Department’s mission has not changed, which addresses this question. The Information Technology Department provides the following:

- Training.
- Equipment.
- Internet and Communication Services.
- Technical Support as needed to the following:
  - Administration.
  - Faculty.
  - Staff.
  - Students.

2D. Since the last Program Review (2015), the Information Technology Department continues to provide technical support to the following groups: Administrators, Faculty, Staff and Students. The support is provided in one of three (3) ways: 1). BCC maintains a helpdesk, where anyone can submit a helpdesk ticket at [helpdesk@barstow.edu](mailto:helpdesk@barstow.edu), there is also a web portal that is located on the BCC website that users can submit a helpdesk ticket as well; 2). BCC maintains an extension (x7000) on the BCC phone system that anyone can contact by calling 760-252-2411. A person that calls that extension will be able to speak to a member of the Information Technology staff. In the event that an Information Technology staff member is unavailable, the caller can leave a message, which is then checked when the next available Information Technology staff becomes available; 3). The third and final way the Information Technology department provides its services is in person. Information Technology personnel are constantly visible on campus, working on various tasks. Anyone can come into the Information Technology office to speak directly to Information Technology staff.

The preferred method for contacting Information Technology staff to provide assistance of any type is by submitting a helpdesk ticket.

### 3. Data

#### A. ASSESSMENT DATA

- 1) List all quantitative and/or qualitative measures that you have chosen to gauge the effectiveness of your unit.

Number of students that sign up and use the various applications.  
 Number of faculty, staff and students that use the word order system and contact the IT department.

- 2) Summarize the results of these measures.

Ticket system.  
 1,628 submitted and closed tickets submitted between January 1, 2013 through December 31, 2013. Out of the 1,628 tickets that were submitted: least amount of time spent: average time was: 0 minutes; Most amount of time: 42 hours 0 minutes; Average amount of time: 35.98 minutes. Phone Calls received: 8,091 made to extension 7000 during January 1, 2013 through December 31, 2013.

#### B. PROGRESS ON SERVICE AREA/ADMINISTRATIVE UNIT OUTCOMES

- 1) a. List the Service Area Outcomes (SAOs) or Administrative Unit Outcomes (AUOs) for your unit.
- b. Summarize the progress your unit has made on SAO/AUO measures you have applied since your last program review.

- Fully functional Web Portal. The portal has been completed and is functional, but lacks content to be fully completed. The portal also needs to be actively used by the students, staff, and faculty. At the time two projects were two consuming, and this project was placed on a stand by state until the other project is completed.
- Establishments of Official Emails for all Students – The Active Directory has a listing of every student that is taking courses at Barstow Community College. The Office365 also has emails for all of the students, which is a part of the portal. Some of the student population is aware of the Office365, the rest of the student populous will be informed when the portal project is completed.
- Increase the number of persons using the ticketing system for working order – All of the students, staff, and faculty are aware of the help desk that the IT department has, and are using it regularly. Also the IT department staff are creating tickets as calls are received, and when the staff is stopped on the campus. There has been a steady increase in the number of work orders over the past few years which would suggest that the work order system is functioning properly, and being used properly.

- 2) Describe any improvements made by your unit as a result of the outcomes assessment process. What did you learn from your evaluation of these measures, and what improvements have you implemented, or do you plan\* to implement, as a result of your analysis of these measures? (*\*List any resources required for planned implementation in #10: Resources.*)

With the implementation of the work order system by the help desk we now have a way to determine

DATE:

**ANNUAL UPDATE #1:**

3A1). The Information Technology Department continues to monitor the various applications, and work order system for any issues Administrators, Faculty, or Staff may have.

3A2). The number of work order tickets generated from January 1, 2014 to December 31, 2014 was a total of 1115 tickets, which is a decrease from the previous year. Most likely due to issues being resolved prior to having a ticket generated by the user. However majority of those 55% of those tickets were generated in the second half of the calendar year, when the campus was advised to generate help desk tickets instead of reaching out to individuals in the Information Technology Department (who may or may not be at work).

3B1). At the present we still do not have a fully functional web portal. Our web portal from CampusEAI has had a number of issues, and has been looked at by CampusEAI. The pending prognosis is not favorable. We continue to use the web portal that was generated by Ellucian’s Banner system.

Official emails have been established for the student body in the Exchange Mail server, as well as the Active Directory. Since there is an issue with the web portal from CampusEAI, the student body has not been advised of the presence of the Office365.

We are showing increased use of the work order system. Since the campus as a whole was advised to use the work order system for tracking purposes, and for establishing a knowledge base. The campus has been good about generating work orders. There has been some areas where we have had to educate the campus about how to generate work order, but we believe we have overcome that issue.

3B2). The website has gone online as February of 2015, and the project has been considered completed. All further work has been turned over the campus WebMaster.

We continue to use the FCAPS model in making informed decisions based on the data that is generated by work order system. Identifying areas of concern campuswide.

DATE:

**ANNUAL UPDATE #2:**

3A1). Since the last Program Review (2015), the Information Technology department continues to monitor the number of hardware devices and software applications. Contained in each of these devices or software packages is the ability to evaluate the effectiveness of the device or software with real time statistical information. The primary system that is monitored is the helpdesk system through Spiceworks, which provides statistical reports on hardware and software performance. The next system that is monitored is the firewall, which is from Checkpoint. This firewall provides real time information on any type of intrusion that may originate inside or outside the BCC network. Which provides statistical reports on its performance. The next system that is monitored is the Barracuda firewall, which provides real time information on the email traffic inside or outside the BCC network. Which provides statistical reports on its performance.

3A2). Since the last Program Review (2015), the Information Technology department worked on a total of 1,214 helpdesk tickets, which is an increase of 99 helpdesk tickets from the previous Program Review. The increase is partly due to campus personnel becoming better informed on the correct process of submitting helpdesk requests from the Information Technology department. Why wasn't there a significant increase from the previous Program Review? The reason is due to hardware on the campus being replaced (classroom lecture laptops, classroom projectors, switches, firewalls, internet circuit's, etc.) that has decreased the number of incidents with the equipment. The information Technology department continues to receive requests directly from users on campus, and we continue to educate our users on the proper procedure.

With the deployment of the new firewalls since the last Program Review, the number of malicious code incidents has decreased dramatically, from almost 1 – 2 users having their systems infected by viruses of various types. To no reports of any type of incident in the 2015 – 2016 fiscal year. The implementation of the Barracuda firewall has also reduced the number of SPAM emails from being received by the users on campus. Preventing almost 10,000 emails from being received on a daily basis.

The switches on the campus have been on a steady replacement schedule and we are able to observe a significant increase in network speed/performance. Prior to replacement the network speed on the BCC network was approximately 30 mbs. When the internet circuit was replaced the network speed on the BCC network increased to approximately 80 mbs. As the Information Technology department has been replacing the phones at workstations to a Gigabit phone the speed/performance of the BCC network has increased as well to approximately 850 mbs.

It was discovered that there is a data integrity issue with the Banner Student Information System (SIS). In December of 2015, it was decided to have Banner perform a student revitalization project. That project continues to as of this writing with visits from Ellucian personell to help BCC personell bring our Banner system back into what is known as a baseline condition.

#### 4. Policies & Processes

**A. What recent changes in policies, procedures and processes have impacted or will impact your Service Area or Administrative Unit? (BCC BP/AP; Federal, State & local regulations; departmental guidelines)**

- Privacy regulations promulgated by the Federal and State Government Administrative procedures for new employee entrance and exit into or from Barstow Community College.
- Changes to the Administrative Policies will make monitoring what types of equipment is needed to maintain the performance of the network for the campus.
- A need for a good working Technology Plan is needed to guide and direct the IT department in its operations both daily and long term.
- Guidelines for authorization of changes in technology equipment or software changes. • Guidelines for determining employee access to accounts/drives.
- A need for improvement in guidelines for employees that check out equipment.

**B. Describe the effect the changes or updates in policies and processes in 4.A have had on the unit.**

Prioritization has been improved for major campus initiatives. Statements of Work are now required for major initiatives that involve the Strata Group (SIG). Major initiatives have been identified such as DegreeWorks, SARS, ARGOS, RAVE, will need funding for maintenance for future initiatives. Projects are in the queue but will not begin until current projects are completed.

It IT department has made an effort to have the members of the campus: staff, faculty, and students, to make use of the ticket system for work orders by reminding them to use this process. Additional efforts are needed in this area to further improve the use of the ticketing system. The improved documentation of internal policies and procedures should make staff training easier and help us be consistent in the way we do things. I feel that we are doing well in this area in-house. We continue to examine our policies and procedures for quality and efficiency.

**C. In addition to (or in response to) those listed in 4.A, what in-house policies, procedures, and processes need to be updated, created, or deleted?**

No clear administrative procedure for new employees entrance or employees exit.  
 A need for improve guidelines for employee check out of equipment.  
 A need to improve guidelines for determining employee access to accounts/drives and access.  
 A need to improve guidelines for authorization of changes in technology equipment and/or software.

Prioritizing process; prioritization process has been improved in some areas such as major campus initiatives. Day to day prioritization and scheduling of such things as new labs and day to day issues need a better prioritization system.

DATE: 10/07/2015

**ANNUAL UPDATE #1:**

4A). We have noticed that the AP3720 needs to be reviewed. The last time AP3720 was reviewed was in 2005, and there has been a considerable amount of technology change since that time. The Technology Use Agreement needs to be reviewed to ensure content remains valid and accurate.

We are currently working on the following items for this fiscal year:

- Technology Plan.
- Password Policy.
- Disaster Recovery Plan.
- Data Breach Plan.
- Equipment being loaned out Policy.

Guidelines are still needed for employee access, as well as equipment rotation. All of which should be covered within the Technology Plan.

4B). All programs have been deployed from the last Program Review: SARS, ARGOS, and RAVE. The changes/updates in policy and procedures has had minimal impact on the day to day operations on the Information Technology Department. They have provided more tools for the staff to work with. ARGOS has not been fully implemented, there is still needed information from Campus Data on what reports need to be in place, which will be taking place this fiscal year (2015 – 2016).

4C). Information was provided to Human Resources on suggestions on how to improve new/exit employees to BCC. This fiscal year the following documents will be created:

- Technology Plan.
- Password Policy.
- Disaster Recovery Plan.
- Data Breach Plan.
- Equipment being loaned out Policy.

Some sort of mechanism is needed to monitor the number licenses for the software packages we have to ensure we are in compliance at all times.

Equipment rotation needs to be in place to ensure aging equipment is rotated out with newer technology. Which should be addressed in the Technology Plan.

Communication has improved in both directions going up to Senior Management, as well as reaching all of the employees as a whole. Departments are becoming more comfortable with asking the Information Technology Department for data and having a better understanding of the data after they have received it.

DATE: 10/03/2016

**ANNUAL UPDATE #2:**

4A). Since the last Program Review, the Strategic Technology Plan was finally completed and submitted to the Vice President of Administrative Services, George Walters, for approval. The document once it has been approved will need periodic visits to the Technology Committee to ensure accuracy in the document.

Administrative Policy (AP) 3720 was revised and presented to the Technology Committee. After a long debate on the verbiage that was contained in the new version of the AP 3720 it was finally approved and the document passed from the Technology Committee to the Vice President of Administrative Services, George Walters, for approval. With the VP of Administrative Services approval of the document. The document passed from his office to the President’s Shared Governance Committee (PSGC). After the first read in April the document went to the Academic Senate. The Academic Senate approved the document on the first read with 3 comments, and the document returned to the PSGC reviewed the document for a second read, and approved the document. The document as of this writing is proceeding to the Board of Trustees for approval.

The Password Policy is being revised and is currently under review in the Technology Committee.

No other changes are being made to BP/AP’s at this time. There are no changes to Federal, State, or local regulations at this time.

4B). If the Strategic Technology Plan, AP3720, Password Policy, Disaster Recovery Plan, Data Breach Plan, and Equipment being loaned out plan are all approved it will place more security on the safety of the equipment both hardware and software campus wide. Which will require the Information Technology Department to become more proactive in its day to day operations. It will also require the Information Technology Department to become more proactive in long term projects.

4C). The documents that will need to be updated, created, or deleted in the Information Technology Department are the following:

- Password Policy.
- Disaster Recovery Plan.
- Data Breach Plan.
- Equipment being loaned out policy.

A mechanism is still needed to monitor the number of licenses for the software packages for compliance purposes. Along with software to monitor databases and servers.

In the last Program Review, it was mentioned that communication has improved in both directions from the Information Technology Department to the Senior Leadership, and from the Information Technology Department to the rest of the staff, faculty, etc. throughout the campus. There has been a shift on the data that was provided by the Information Technology Department to the Research Office.

## 5. Internal Factors *(see Handbook for worksheet)*

### A. Strengths

- The IT department is responsive and reactive to the ticketing system. As the IT department continues to record the results of each ticket a knowledgebase is being built, and can make some predictions on equipment replacement.
- High anecdotal support for one-on-one training and assistance, with the number of webinars that are available by many different organizations.

### B. Weaknesses

- One-on-one training is costly in man hours - more group trainings are needed to reach larger number of users.
- Equipment tracking - it is difficult to track the number of items IT maintains. A better system is suggested to correct the problem.
- Ticket system is underutilized - but is not being used as a knowledgebase.
- Programming staff - there are currently no programmers employed by the College, which makes it difficult to complete projects internally, requiring the College to seek third parties for solutions, which can be quite expensive.
- Database Analysts - currently we do not have enough database analyst to keep up with the demand of the changes to the data and the reporting from the state.

DATE: 10/07/2015

#### ANNUAL UPDATE #1:

5A). The Help Desk ticket system has been gaining a great deal of information, and a knowledgebase is being created based on the events that take place here on the campus.

A number of webinars have been offered by the State Chancellor's Office, which have been very helpful to myself and the staff on changes in technology from the Chancellor's Office.

5B). One-on-One trainings continue to be webinar based. When a face to face meeting takes place, such as meetings at the College of the Canyons, then steps are made to ensure staff have the ability to travel to those training sessions. Equipment tracking continues to be an issue. The SBCOE Fixed Assets program continues to be inadequate for our needs in tracking equipment. Another program has been considered, but no action has been taken.

Tracking system has changed, and is being used as a knowledgebase system.

BCC still does not have a programmer on staff, which continues to be a hindrance.

We have recently hired a Database Analyst to replace the loss of our existing Database Analyst's resignation. Another Database Analyst is being looked for to help enhance our staff.

Weaknesses that are being addressed in the current fiscal year (2015 – 2016):

- Network Infrastructure.
- Phone Lines.
- Develop SOP's.

- Back-Up/Recovery Process.
- Database Performance Issues.
- Automation of Manual Processes.

DATE: 10/03/2016

**ANNUAL UPDATE #2:**

5A). Since the last Program Review, the Information Technology Department has reviewed its strengths. At this time the Information Technology Department feels that it has the following strengths:

- Network Security.
- Up to Date on Technical Changes, and some still pending.
- Help Desk Ticket Response.

The strengths of the Information Technology Department continue to change as self-evaluations take place internally. The Information Technology Department continues to seek tests of its systems from external groups such as: CheckPoint, Chancellor’s Office, San Bernardino County. Which provide valuable information on how to increase improvement in areas of concern.

5B). Since the last Program Review, the Information Technology Department has reviewed its weaknesses. At this time the Information Technology Department feels that is has the following weaknesses:

- Staffing.
- Wiring.
- Wireless.
- Databases (Production/Test).
- Back-Ups.
- Disaster Recovery.

The weaknesses of the Information Technology Department continue to change as self-evaluations take place internally. The Information Technology Department continues to seek tests of its systems from external groups such as: CheckPoint, Chancellor’s Office, San Bernardino County. Which provide valuable information on how to increase improvement in areas of concern.

**6. External Factors** *(see Handbook for worksheet)*

**A. Opportunities**

**B. Threats**

- Expanding Federal and State mandates such as educational plans for all students, reporting for CTE programs, and the new student success initiative. Requirements for state MIS reporting seem to be expanding annually. These mandates almost always result in the need for expanded software and reporting.
- Continuing changes in software versions from third party vendors. This results in a significant amount of time needed to make changes and update software.
- Increasing cost for software, software licenses, and maintenance fees.

- County internet system linkages, processes, and circuits - HR and county communication system is still requiring IT support at times. When the county upgrades, we are required to upgrade/modify and in some cases downgrade our systems to communicate with the county.
- State funding has declined and buying power has declined with it, but other costs continue to increase, for example: Banner support increases by 10 percent a year.
- Our firewall that we have here at BCC has been present for nearly ten (10) years and is in need of replacing.

DATE: 10/07/2015

**ANNUAL UPDATE #1:**

6A). Opportunities are appearing in a number of areas. There are a number of external programs that can be purchased to meet the needs of the college. Some of those programs do not address all of our needs, which may be a waste of money. Creating programs may be a more viable alternative to purchasing a software package to replace a manual processes. We will continue to explore alternatives.

6B). We are continuing to work with our vendors about software updates, especially with Banner. We are attempting to put together a timeline that will be mutually beneficial for all parts to acquire the updates and implement them.

Software costs continue to rise, some as high as 10% increases can occur on software packages. For critical systems 10% increases are something that BCC will have to accept. For other non-critical systems, alternatives may need to be considered, such as in house development projects, or purchasing software from alternative vendors.

With the recent upgrade at CTE at State Street, the Internet circuit will no longer be needed, and can be decommissioned. A similar process will be looked at Ft. Irwin. Which will be evaluated this fiscal year (2015 – 2016). We continue to have issues with some of the County (SBCOE) systems, with software upgrades, and downgrading software to make the County software function adequately.

Our firewall has been replaced with a Next Generation Firewall, and the previous firewall has been decommissioned.

Being reviewed this fiscal year (2015 – 2016):

- Data Breach Policy.
- License Compliance.
- Program/Software Automation.

DATE: 10/03/2016

**ANNUAL UPDATE #2:**

6A). Since the last Program Review, an opportunity to bring the Banner Student Information System back into what is called baseline. This project began a few months ago, and is still ongoing.

There are still a number of external programs that can be purchased to meet the needs at BCC. Some of those programs do not address all of BCC's needs, which

may be a frivolous waste of funding if implemented. Alternatives should be sought out when purchasing third party software. We will continue to explore alternatives.

6B). Since the last Program Review, BCC continues to worry about threats in all directions. Internally BCC has done all it can at this time to ensure that the campus is safe and secure.

The firewall was replaced last year, and a second firewall was deployed at that time. Both firewalls are next generation firewalls. A security check was performed in the last month to see if there are any issues that the Information Technology Department has not discovered. A Vulnerability Test is scheduled by the County of San Bernardino to test BCC's external public facing Internet Protocol (IP) address in the next month. The Information Technology Department will need to continue to monitor for any unusual events that may occur.

As we (BCC) continue to use third party vendors to provide BCC what is needed to continue its normal operations. We (BCC) allow vendors to have open ended access into the BCC network. Since those organizations have no obligation to inform BCC of changes in personnel, those individuals can pose security issues to the BCC network.

A number of departments continue to purchase hardware and software campus wide without consulting the Information Technology Department. As this practice continues it poses a threat to the BCC environment, as there is no one to regulate the number and type of licenses needed for the software. There is no one to regulate the different types of equipment that is purchased and its compatibility to the BCC network.

The servers that BCC maintains, are currently housed in one building. Which from a Disaster Recovery issue would pose a problem in the event of a disaster of any kind. By the end of the fiscal year the new secondary storage array network (SAN) should be online, and will handle the process of all backups. Which will move data from being in a central location into multiple locations. There is still a need to have the data moved from the campus to an offsite location, which will be addressed in this current fiscal year.

The BCC Student Information System (SIS) continues to be worked on in the revitalization project from Ellucian. As changes continue to be made it can cause rippling effects to other systems. The Information Technology Department will need to be vigilant in its observations to those changes as they are made. The SIS still has to system contained within it, Production and Test, which need to be separated. Once the revitalization project is complete and the backups have a new location. This issue can be addressed.

Threat based tasks to be worked on in this fiscal year are as follows:

- Data Breach Policy.
- License Compliance.
- Program/Software Automation.

## 7. Continuing Education/Professional Development

**A. What continuing education and/or professional development activities have program/unit members participated in during the current cycle?**

A number of the IT staff have attended a number of webinars throughout the year. The IT department received a number of notices from third-party vendors (some that we work with and some that are soliciting our business). Those vendors supply training sessions that IT personnel are able to attend from their desktops.

**B. What are the continuing education and/or professional development plans for the upcoming cycle?**

The IT department received a number of notices from third-party vendors (some that we work with and some that are soliciting our business). Those vendors supply training sessions that IT personnel are able to attend from their desktops. In addition to training from vendors, training from the Director of IT who also doubles as a college professor and can teach the IT staff in many new areas of technology as they are introduced.

DATE: 10/07/2015

ANNUAL UPDATE #1: 7A & B). No changes to this section are being planned other what was stated in the previous Program Review. Alternative Training courses are continuing to be reviewed for the staff.

DATE: 10/03/2016

ANNUAL UPDATE #2: 7A). Since the last Program Review, the Information Technology Department has not had any changes to its education and professional development from external school sites. The staff of the Information Technology Department has had new systems be implemented, and it has required the Information Technology Department staff to be trained on its usage. An addition to the system training that has occurred. The Information Technology Department meets monthly as a group, as part of that meeting that takes place 10 – 15 minutes is normally set aside to provide training internally on various systems that are being used on campus. Seminars and Webinars continued to be offered to the Information Technology Department, which are taken advantage of. Alternative training courses are continuing to be reviewed for the staff.

7B). EOPS has scheduled training for the entire campus, which I have one of the members of the Information Technology Department tasked to attend. As the Information Technology Department meets monthly 10 – 15 minutes is set aside to have staff members research and share the information that they have learned to the rest of the staff. Alternative training courses continue to be reviewed for the staff as they become available.

## 8. Prior Goals/Objectives

Briefly summarize the progress your program/unit has made in meeting the goals and objectives identified in the most recent Program Review or Annual Update. *(Include measurements of progress or assessment methods.)*

- Fully function web portal - a web portal has been created by CampusEAI, and is functional. However there is content missing for the portal to fully functional. Once the website has been completed this project will be completed without haste.
- Establishment of Official Emails for all Students - the establishment of official emails has been completed and every student has an entry in the Active Directory. The students have access to the Office365 which has been established in the portal. However there has not been an official statement that the Office365 exists until the portal is fully completed.
- The Ticket System - the ticket system is currently in place and appears to be functioning properly. There are some concerns about the priority level, which we are addressing. However there is a steady increase in the number of tickets being generated by both the faculty/staff/and students on the campus. A good knowledgebase is being developed by the IT department.
- Hire IT Director - a IT Director has been hired, and it using his IT expertise to create prioritized work agendas and streamline technology needs and align with strategic goals and mission.
- Improve training in technology on campus - the staff continue to update and educate themselves with a number of webinars that they attend. The staff continue to share their knowledge with the rest of the faculty/staff/students on the campus.
- Improve Data Gathering analysis and dissemination of data - the IT department continue to use the ticket system and encourage others to use the ticket system as well. As previously mentioned in the document there is still an issue with the priority system of the ticket system which is being resolved. The ticket system is a great source for a knowledgebase, and the IT staff is using the ticket system in that manner.

DATE: 10/07/2015

**ANNUAL UPDATE #1:**

8). As previously mentioned a fully functional web portal is still an issue, and alternatives are continuing to be explored.

An official email system has been established for the student population. Majority of the student population has not been made aware of the email system, due to the issues with the web portal. In the coming fiscal year (2015 – 2016). An evaluation will be made for the implementation into Exchange Online, and a full implementation of Office 365 for the Administrators, Faculty, Staff and students as well.

The ticket system continues to be utilized by all on campus. No further changes appear to be needed, other than reminding users of its presence, and the proper method of requesting assistance from the Information Technology Department.

An IT Director as mentioned has been hired, and is continuing to move BCC into newer levels of technology campuswide.

Staff continues to attend webinars, and educated themselves by a number of online sources. This coming fiscal year (2015 – 2016) more courses will be sought for the staff to continue to increase their knowledge and help them to become more proficient in their duties and responsibilities.

In the coming fiscal year (2015 – 2016) the Information Technology Department plan to work on the following as goals/objectives:

- Back-Up and Recovery System.

- Campus Data decommissioning, and being replaced by ARGOS.
- Data Submission Process.
- Documents:
  - Data Breach Plan.
  - Disaster Recovery Plan.
  - Equipment Loaning Policy.
  - Password Policy.
  - Technology Plan.
- Laserfiche replacement to a cloud based environment.
- Microsoft Email Exchange servers being replaced with Exchange Online, and all servers pointing towards a cloud based environment.
- Network Infrastructure.
  - Ft. Irwin.
  - Main Campus
- Phone VoIP system evaluation for replacement.
- SAN evaluation for enhancement or replacement.
- Video Surveillance system evaluation for replacement.
- Windows 10 implementation campuswide.
- Wireless Access coverage evaluation for replacement and enhancement.

DATE: 10/03/2016

**ANNUAL UPDATE #2:**

Since the last Program Review, the following items that were identified in the last Program Review have been updated:

- Back-Up and Recovery System.
  - Still ongoing. Anticipated completion is the end of the 2016 calendar year.
- Campus Data.
  - As of the writing of this Program Review, ARGOS has gone online and is currently being used for a few reports, as they are being converted over from Campus Data. As of 10/01/2016, the Information Technology will be changing the code in the campus data files to cause those reports that have not been claimed to no longer work. The Information Technology Department continues to migrate the campus data reports that the administration, faculty, staff currently use into ARGOS. As of 10/01/2017 we will be decommissioning the Campus Data system.
- Data Submission Process.
  - Still ongoing. Processes continue to be improved with the revitalization process.
- Documents:
- Data Breach Plan.
  - Ongoing.
- Disaster Recovery Plan.
  - Ongoing.
- Equipment Loaning Policy.
  - Ongoing.
- Password Policy.

- Ongoing. This policy has been readdressed by the Technology Committee.
- Strategic Technology Plan.
  - Completed. Document submitted to the Vice President of Administrative Services.
- Laserfiche.
  - Completed.
- Implementation of Office 365.
  - This project was submitted last year as a Budget Allocation Proposal (BAP). It was approved. We are waiting on approval from Student Services before proceeding.
- Network Infrastructure.
  - Ft. Irwin.
    - We have contacted an organization that we feel will provide the necessary internet speed to make Ft. Irwin a successful facility. At the time of the writing of this Program Review we have received verbal approval from the United States Army. We are just waiting on written approval from the United States Army to proceed.
  - Main Campus.
    - As of the writing of this Program Review, 92.9% of the switches have been replaced throughout the campus. The remaining switches should be replaced by the end of the 2016 calendar year. Which will complete this project.
- Phone replacement.
  - As of the writing of this Program Review, a Budget Allocation Proposal (BAP) was submitted in the last year to replace the phone system. The BAP has been approved. BCC is currently reviewing vendors on functionality and performance of different phone systems. Once one is selected the process will begin for implementation.
- SAN evaluation for enhancement or replacement.
  - Completed.
- Video Surveillance system replacement.
  - As of the writing of this Program Review, a Budget Allocation Proposal (BAPA) was submitted in the last year to replace the video surveillance system. The BAP has been approved. The documentation that has been obtained from various vendors has been submitted to the project lead. Which will begin in the 2016 – 2017 fiscal year.
- Windows 10 implementation campus wide.
  - Ongoing. Two labs have been upgraded. We are currently waiting on the release of MS Server 2016 to upgrade the labs that have VDI's located within them. As various departments are being upgraded, they are being upgraded with Windows 10 equipment.
- Wireless.
  - It has been determined that the wireless is not up to the standards of the administration, faculty, staff, and students. Once the

network infrastructure changes have been completed, this issue will be addressed.

In the coming fiscal year (2016 – 2017) the Information Technology Department plan to work on the following as goals/objectives:

- Back-Up and Recovery System.
- Battery Backup evaluation/replacement.
- Campus Data movement to ARGOS.
- Data Submission Process.
- Documents:
  - Data Breach Plan/Policy.
  - Disaster Recovery Plan/Policy.
  - Equipment Loaning Plan/Policy.
  - Password Plan/Policy.
  - Strategic Technology Plan review.
- Network Infrastructure.
- Ft. Irwin.
- Office 365 Implementation.
- Phone VoIP replacement.
- Rewiring campus wiring.
- Video Surveillance replacement.
- Windows 10 implementation.
- Wireless Access.
- Upgrade Fiber to 10G.

## 9. Goals/Objectives/Actions (ACTION PLAN)

- A. **GOALS:** Formulate Goals to maintain or enhance unit strengths, or to address identified weaknesses.
- B. **ALIGNMENT:** Indicate how each Goal is aligned with the College’s [Strategic Priorities](#).
- C. **OBJECTIVES:** Define Objectives for reaching each Goal.
- D. **ACTIONS/TASKS REQUIRED TO ACHIEVE OBJECTIVE:** Create a coherent set of specific steps (Actions/Tasks) that must be taken to achieve each Objective.
- E. **OUTCOMES:** State intended Outcomes and list appropriate measures and assessment methods for each Outcome.
- F. **ADDITIONAL INFORMATION:** This provides space for the additional communication of information necessary to further “close the loop” on the goal or action plan, as it relates to Institutional Planning. This may include references to other institutional documents, such as governing or compliance documents (i.e. Board Policy, Administrative Procedures, Title V), institutional planning documents (i.e. [Strategic Plan](#), [Educational Master Plan](#), [Facilities Plan](#), [Technology Plan](#)), or Board, Presidential, Supervisory or Departmental recommendations or goals, etc. (*See Handbook for additional examples.*)

Complete the following table with your Program’s **ACTION PLAN**, which must include a **minimum of 3 goals**:

ACTION PLAN					
GOAL		ALIGNMENT WITH <a href="#">BCC STRATEGIC PRIORITIES</a> <small>(click link for list of Strategic Priorities)</small>	OBJECTIVE	ACTIONS/TASKS REQUIRED TO ACHIEVE OBJECTIVE	OUTCOMES, MEASURES, and ASSESSMENT
<b>#1</b>	Safety and Security of the Network and Data of the College.	<i>List all that apply: 1, 2, 3, 5, 6</i>	#1 Purchase a new Intrusion Detection System (IDS)	<ul style="list-style-type: none"> <li>a. Board approval (possible).</li> <li>b. Cabinet approval.</li> <li>c. Technology Committee performed research and approval.</li> <li>d. Funding.</li> </ul>	Will allow the IT department to detect threats better on the campus from both internal and external sources. The IDS will prevent viruses such as CryptoKeeper from attacking PC's and drives on the campus as well as other threats.
			#2 Database Analyst	<ul style="list-style-type: none"> <li>a. Board approval (possible).</li> <li>b. Cabinet approval.</li> <li>c. Technology Committee approval.</li> <li>d. Funding.</li> <li>e. Job announcement &amp; hiring process.</li> </ul>	Provide additional support to the database analysts that the College already has to ensure that the MIS reports are submitted to the state on a timelier basis and with added accuracy.
			#3 Data Integrity	<ul style="list-style-type: none"> <li>a. Cabinet approval.</li> <li>b. Technology Committee approval.</li> <li>c. Funding.</li> </ul>	A better process needs to be found to ensure that the data is correct when submitted reports to the state. Either by purchasing an application or creating of our own. The premise is that the data is entered correct, and should be sent correct.
<i>Additional Information:</i>					
DATE:	<input type="text"/>	ANNUAL UPDATE #1:	<input type="text" value="#1 A new IDS was purchased, and deployed in June of 2015."/>		

ACTION PLAN					
GOAL	ALIGNMENT WITH BCC STRATEGIC PRIORITIES <small>(click link for list of Strategic Priorities)</small>	OBJECTIVE	ACTIONS/TASKS REQUIRED TO ACHIEVE OBJECTIVE	OUTCOMES, MEASURES, and ASSESSMENT	
			<p>#2 A Database Analyst was hired and began working in January of 2015 replacing the previous Database Analyst that has resigned. Another Database Analyst is still being sought.</p> <p>#3 Data Integrity is continuing to be corrected in our Banner databases, a timeline, and a report is being generated by our Database Analyst, and our vendors on how the process needs to be corrected. A plan has been approved to bring in another consultant for a Banner evaluation, and possible re-implementation of the database.</p>		
	<p>DATE: <input type="text" value="10/03/2016"/></p>	ANNUAL UPDATE #2:	<p>#1. Has been completed.</p> <p>#2. A Database Analyst II was hired, and began working in January 2015 as mentioned in the previous Annual Update. That Database Analyst has left BCC, and another Database Analyst II was hired in May of 2016. Another Database Analyst I is still being sought.</p> <p>#3. A project has begun in December of 2015 from Ellucian to bring our Student Information Systems (SIS) back into a baseline process. That project is ongoing. It would appear that the project is no longer a data integrity issue, but a record management issue, as Ellucian continues to help BCC staff with correcting data that is stored in the SIS.</p>		
#2	Equipment changes and rotations. Equipment checking out system.	<i>List all that apply: 1, 2, 3, 4, 5, 6</i>	#1 A plan or guideline for the rotation of equipment.	<p>a. Cabinet approval.</p> <p>b. Technology Committee developed and approval.</p> <p>c. Funding.</p>	As the technology changes a plan, or/a guideline needs to be established for the rotation of all of the equipment on the campus.
			#2 Equipment surplus	<p>a. Cabinet approval.</p> <p>b. Technology Committee approval.</p> <p>c. Funding.</p>	Have sufficient equipment for replacements when equipment fails or equipment is needed by members of the faculty and/or staff on the campus.
			#3 Form/policy is needed for the checking out of equipment.	<p>a. Cabinet approval.</p> <p>b. Technology Committee development and approval.</p>	As the faculty and staff check out equipment for various purposes on and off the campus a form/policy needs to be implemented for the safe return of the equipment.
<i>Additional Information:</i>					

ACTION PLAN				
GOAL	ALIGNMENT WITH <a href="#">BCC STRATEGIC PRIORITIES</a> <small>(click link for list of Strategic Priorities)</small>	OBJECTIVE	ACTIONS/TASKS REQUIRED TO ACHIEVE OBJECTIVE	OUTCOMES, MEASURES, and ASSESSMENT
	<p>DATE: <input type="text"/></p> <p>ANNUAL UPDATE #1:</p>		<p>#1 A plan has been put together, and will be implemented with the Technology plan. In the present as we notice equipment needing to be replaced we are making recommendations to the department responsible, and seeking a budget code to process the equipment change.</p> <p>Switches campuswide need to be replaced as they are aging equipment that is no longer functioning properly. A BAP is being generated for the replacement.</p> <p>The campus video surveillance system has been on the campus for nearly 10 + years and is need of a massive overhaul. Proposals are being generated, along with a BAP for replacement.</p> <p>The campus phone VoIP system is also in need of replacement. Proposals are being generated for replacement along with a BAP.</p> <p>Our SAN – Storage Array Network is starting to be completely filled up, and needs to be enhanced or replaced with room for growth. Proposals are being generated for replacement or enhancement whichever is the more viable solution, along with a BAP.</p> <p>Oracle Licensing needs to be revised to include additional licenses, which may require BCC to purchase a campuswide license. If a campuswide license is purchased that will provide BCC additional options in how Oracle is used here on the campus.</p> <p>The email exchange servers take a lot of space in the BCC network, the technology continues to age, and needs maintenance and an upgrade. The most viable solution is to move all of the exchange servers off the BCC network and onto a cloud based environment through Exchange Online, and use Office 365. Proposals are being generated for replacement, along with a BAP.</p> <p>Disaster Recovery continues to be an issue here at BCC. In order to establish a Disaster Recovery Plan, a copy of the data needs to be created and stored somewhere off campus. Ft. Irwin would be our best choice, however the network infrastructure is not present at that facility. So our next best choice would be moving copies of the data to a cloud based environment. Proposals are being generated for a cloud based environment to store our data in the event of a disaster and/or breach, along with a BAP.</p> <p>Network Infrastructure improvements for Ft. Irwin. Ft. Irwin continues to function with a T-1 line, which runs at a network speed of approximately 1.4 mbs, which is inadequate for a satellite facility to be able to function with the main campus, and continue to provide the level of support that the students need to gain the education that seek. With the success of CTE at State Street, we can setup the same infrastructure at Ft. Irwin. A proposal is being generated by the ISP (Internet Service Provider), and a BAP is being generated.</p> <p>#2 Surplus equipment is being offered to vendors who purchase aging equipment to see if any monetary value can be gained from the aging equipment. Otherwise the equipment will be sent to a E-Waste collection facility.</p> <p>#3 A form/policy/procedure is currently being worked on for laptops. It is anticipated to be completed in this coming fiscal year (2015 – 2016). Additional forms/policies/procedures are anticipated for additional equipment in the coming fiscal year (2015 – 2016).</p>	
	<p>DATE: <input type="text" value="10/03/2016"/></p> <p>ANNUAL UPDATE #2:</p>		<p>#1. The Strategic Technology Plan has been submitted to the Vice President of Administrative Services for approval. Contained within that plan is verbiage about equipment rotation.</p>	

ACTION PLAN				
GOAL	ALIGNMENT WITH <a href="#">BCC STRATEGIC PRIORITIES</a> <small>(click link for list of Strategic Priorities)</small>	OBJECTIVE	ACTIONS/TASKS REQUIRED TO ACHIEVE OBJECTIVE	OUTCOMES, MEASURES, and ASSESSMENT
			<p>The switches should be replaced by the end of the 2016 calendar year. That project at that time should be completed.</p> <p>The video surveillance system is starting the process for replacement.</p> <p>The phone system is starting the process for replacement.</p> <p>The SAN (Storage Array Network) has been replaced, and is completed.</p> <p>The Oracle License, has been replaced with a campus wide license, and is completed.</p> <p>The Office 365 is scheduled for implementation. We are currently waiting on approval from Student Services.</p> <p>Disaster Recovery is still ongoing. The backup SAN should be in place by the of the 2016 – 2017 fiscal year.</p> <p>#2. Equipment surplus does not seem to have any value when being offered to third parties, so it has been recycled.</p> <p>#3. Is currently ongoing.</p>	
#3		<i>List all that apply:</i>	#1	
			#2	
			#3	
	<i>Additional Information:</i>			
	DATE: <input type="text"/>	ANNUAL UPDATE #1:	Not included in the previous Program Review. With the Performing Arts Center going online in February of 2015, a greater demand has arisen on the Information Technology Department to provide support to the Performing Arts Center in the area of Audio and Visual. A BAP is being generated to bring on board a part time employee to provide this service to those needing the use of the Performing Arts Center.	
	DATE: <input type="text" value="10/03/2016"/>	ANNUAL UPDATE #2:	A BAP was submitted, but was not successful in being funded. Another BAP will be submitted in the next fiscal year 2016 – 2017 for approval.	
#4		<i>List all that apply:</i>	#1	
			#2	
			#3	
	<i>Additional Information:</i>			

ACTION PLAN				
GOAL	ALIGNMENT WITH <a href="#">BCC STRATEGIC PRIORITIES</a> <small>(click link for list of Strategic Priorities)</small>	OBJECTIVE	ACTIONS/TASKS REQUIRED TO ACHIEVE OBJECTIVE	OUTCOMES, MEASURES, and ASSESSMENT
	DATE: <input type="text"/>	ANNUAL UPDATE #1:	<input type="text"/>	
	DATE: <input type="text"/>	ANNUAL UPDATE #2:	<input type="text"/>	
#5		<i>List all that apply:</i>	#1	
			#2	
			#3	
<i>Additional Information:</i>				
	DATE: <input type="text"/>	ANNUAL UPDATE #1:	<input type="text"/>	
	DATE: <input type="text"/>	ANNUAL UPDATE #2:	<input type="text"/>	
#6		<i>List all that apply:</i>	#1	
			#2	
			#3	
<i>Additional Information:</i>				
	DATE: <input type="text"/>	ANNUAL UPDATE #1:	<input type="text"/>	
	DATE: <input type="text"/>	ANNUAL UPDATE #2:	<input type="text"/>	

## 10. Resources Required

List all significant resources needed to achieve the objectives shown in the table above, including personnel, training, technology, information, equipment, supplies, and space. Every request for additional resources must support at least one objective.

Also list any resources required to implement planned improvements noted in 3.C.

**IMPORTANT:** A [BUDGET ALLOCATION PROPOSAL](#) must be completed and submitted for **EACH** new resource requested. *(Click the link to access the form.)*

Goal #	Objective #	Resource Required	Estimated Cost	BAP Required? Yes or No	If No, indicate funding source

ANNUAL UPDATE #1:

DATE: 10/07/2015

Goal #	Objective #	Resource Required	Estimated Cost	BAP Required? Yes or No	If No, indicate funding source
2	1	Mass switch replacement.	\$400,000.00	Yes	
2	1	Video Surveillance System.	\$500,000.00	Yes	
2	1	Phone VoIP System.	\$250,000.00	Yes	
2	1	SAN – Storage Array Network	\$50,000.00	Yes	
2	1	Oracle Licensing	\$200,000.00	Yes	
2	1	Email Exchange Online	\$75,000.00	Yes	
2	1	Disaster Recovery	\$75,000.00	Yes	
2	1	Network Connectivity: Ft. Irwin	\$25,000.00	Yes	
3	1	Part Time Employee for Audio Visual in the PAC	\$60,000.00	Yes	

ANNUAL UPDATE #2:

DATE: 10/03/2016

Goal #	Objective #	Resource Required	Estimated Cost	BAP Required? Yes or No	If No, indicate funding source
2	1	Rewire campus wide	\$1,353,637.93	Yes	
2	1	Battery Backup Replacement	\$45,000.00	Yes	
2	1	Part-time Employee for Audio Visual on campus	\$30,000	Yes	