

# Associate of Applied Science Program Review Equipment and Technology Needs

2021-2022

## Introduction

Coastal Bend College actively participates in data-informed decision making throughout the institution. Each AA, AS, and AAS programs submit a comprehensive review for a three-year cycle. This report contains the Equipment and Technology sections of all program reviews submitted within the academic year. Both sections are extracted from the many programmatic report narratives and provided to various stakeholders such as Physical Plant and Information Technology Services to assist in departmental and college-wide improvement planning. These results should be used to inform existing planning within these departments and open the dialogue amongst the institutional to align program needs with Strategic Plan 2025.

The program information found herein are from the following programs who conducted their Program Reviews during the 2021-22 academic year:

- Architecture & Civil Engineering
- Automotive Technology
- Business Office Systems and Support (B.O.S.S.)
- Business Management
- Cosmetology
- Early Childhood Development
- Forensic Science
- Law Enforcement
- Welding

# Architecture and Civil Engineering

Program Manager: Jack Young

# Technology

The program has a classroom it uses for the drafting lab which includes 15 seats and drafting style desks with computers attached to them. We have AutoCAD, Microstation CAD and ArcGIS loaded onto the computers. The room was recently updated in Spring 2015 with modern drafting tables and chairs for students along with16 new computers. The room has an Instructor computer and 15 student computers with a portable rack mounted screen that will project from a computer for classroom demonstrations.

The programs numerous computer programs, mostly CAD and GIS, it uses to utilize the tools used in industry to perform the technical drawings which re-inforces student learning. These programs are updated every three years for some programs while others are updated annually by purchasing the license renewal. As technology changes so does the content on the computer programs. As updated software becomes available, the program purchases this software out of its operating funds. Some CAD programs are available through an educational grant.

# **Equipment and Facilities**

The program has sufficient classroom / lab education sites to meet the needs of the current students. The classroom / lab education centers utilized are supportive of the program.

As stated earlier, the program is limited to 15 students per classroom. To increase the number of students, the program has added more facility use by the use of classrooms for Distance Learning at other campus sites. In addition, classrooms in some of our participating dual credit high schools can hold up to 25-35 students. Also, our AutoCAD software has become available for up to 125 seats and we have been able to expand the use of the CAD programs to the other campus sites in Beeville, Alice, Pleasanton and Kingsville. So we have increased delivery of our drafting classes to other campus locations and also off-campus to surrounding high schools with our dual credit courses.

The laboratory utilized by the program was recently updated during Spring 2015 through Perkins funds and our program operating funds. Also, most recently we have received additional funds for 15 new computers to be placed in the CAD lab. They are updated with the latest CAD software of which AutoCAD has provided a free grant of a 3 year license to educational institutions for 125 seats. We still must purchase the license for ArcGIS and Microstation CAD annually.

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# **Automotive Technology Program**

Program Manager: Armando Ramirez

**Equipment and Facilities** 

#### Overview

It is the responsibility of the instructors to monitor the operation of all equipment. Most preventative maintenance is completed by the instructor, or a maintenance worker employed by the college. Any equipment that may need maintenance beyond that is requested by writing a work order and an appropriate service provider is called to service the equipment. All general maintenance requests are submitted at the end of each school year to be completed before students return for the next school year.

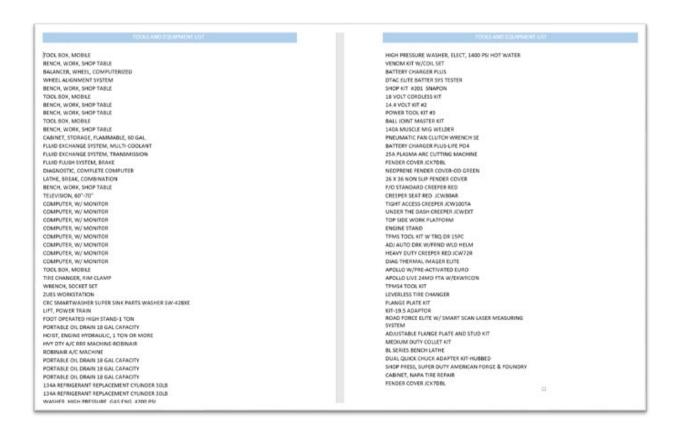
It is the responsibility of the instructor, directors, and support staff to ensure that all maintenance has been completed and that all equipment is operational before and during the school year. Any scheduling of maintenance is usually done by completing a help desk ticket in our online Kace work system. This is done on an as a need basis.

The district maintenance staff maintains the lighting, air conditioning system, air compressors and heating systems. They are maintained annually as well as on an as needed basis based on a district work-order system.

Documentation: (KACE work system in cougar den)

#### b. Strengths

\* We now have up-to-date equipment (acquired through Perkins funding) that allows us to implement practices that industry leaders will use.



# c. Areas for Improvement

\* We will need to partner with local dealerships to learn new equipment needed for Electronic Vehicles.

# d. Future Direction and Budget Implication

\* To meet industry and NATEF standards.

# Technology

## a. Overview

\* Appropriate up-to-date multimedia materials and technology are readily available and utilized in the training process.

Most of the audio/visual equipment (70" smart tv's, Computers, etc.) that are used in the classroom and Lab are permanent or shared between classes. Other equipment is stored in the equipment room and is shared by all classrooms and labs as needed. Labs and Library are also available to students if needed.

#### Documentation:

Multi-media devices used in the classroom include:

- Computers
- Tablets
- 70" Tv's

- Lab Scope (Zeus)
- Diagnostic Scan tools (zeus,appollo, solus)

All data Online is available to students on all computers and electronic devices in the Auto Service Department. The (All data) online version is updated immediately as new service data becomes available. The software provides service procedures, specifications, and estimating capability back to 1981 model years.

We are also partnered with local industry that can provide us with resources.

## b. Strengths

\* We now have Technology (acquired through Perkins funding) that allows us to implement practices that industry leaders will use.

## c. Areas for Improvement

\* With automobiles evolving we must start the transition in Electronic Vehicles.

## d. Future Direction and Budget Implication

\* Faculty Member has been added as an apprentice by local Dealer (Aztec Chevrolet). This Will allow for Additional Professional development in the everchanging automotive industry.

# Business Office Systems and Support (B.O.S.S.) Program

Program Manager: Juanita Dominguez

# Technology

At this present time, 90% of the BOSS program is taught Distance Learning. Concern at this present time is, the lifespan of the DL equipment. The equipment in the DL rooms (Alice, Kingsville, Beeville, Pleasanton) have been in use for numerous years. There have been times where equipment in the DL rooms have gone down making it difficult for instruction. Additional equipment can be used by placing large TV's toward the opposite end of the room, better sound system in some DL rooms.

# **Equipment and Facilities**

Priority scheduling for distance learning rooms. Keep lines of communication with IT to ensure room availability for all distance learning classes. Coordinate with staff/faculty at each site to ensure classrooms are available. Because DL rooms are overseen by IT, instructor will keep updated with any new updated facilities, equipment and technology that IT has done to and any of the classrooms at local site. Students will have access to Office 365 which is available free to the students through our Website. No additional equipment or facilities needed at this time since there is no assigned lab for the BOSS program.

# **Business Management Program**

Program Manager: Dr. Mark Carbajal

# **Technology**

- **a. Overview** This area of the management program does not have a strong technological component now. Increasing opportunities in the coming years with portfolios and greater business interaction within our communities will necessitate greater technological enhancement. Currently the only requirement students have is the need to access the college's computer stations or their own notebooks/laptops. Internet / Wi-Fi is essential in and out of school. Aside from this, there are two central requirements: Office 360 platform and the McGraw-Hill platform we use in conjunction with the program called "Connect."
- **b. Strengths** There are two major strengths here: 1) Is the use of Office 360 and the high bandwidth on our campus computers. Office 360 has served as a powerful tool for our student constituencies who need the most current business software products in the classroom.

The students use and practice with Microsoft Word, Microsoft Excel, Microsoft Access, and Microsoft PowerPoint is of utmost importance in preparing them to communicate within the business or office setting. 2) use of McGraw-Hill's Connect platform.

The McGraw-Hill Connect program allows for all business classes to employ real world situational learning and simulation. Every one of the business classes uses McGraw-Hill content and is useful in introducing students to the world of business.

- **c. Areas for Improvement –** The greatest need for improvement is the lack of reliable internet connectivity on campuses and the continued problems plaguing users of Lifesize. The consistency of LifeSize is vital as it often reboots during the middle of lecture causing great student discomfort. I also believe that the current operating system platform is outdated as we currently use Office 2016 and should in all likelihood be using Office 2019.
- **d. Future Direction and Budget Implication –** The direction of technology in the classroom is improving with every passing semester. The program would benefit if it could provide students with new laptops. Its budgeted implications are that I would need to put in a request for this consideration in the near future. This is only a consideration and still needs further reflection as it is anticipated that with laptops students are more apt to engage in assignments and lend more interest in the program's outcomes. However, this should not be intended for all business classes, only one: the capstone course, BMGT 2347: Critical Thinking and Problem Solving. A request for budgeted allotment is for the 2023 2024 academic year.

## **Equipment and Facilities**

- **a. Overview –** At this time, the laboratory computer facilities are used by students attending only Face2Face classes. There are three campuses regularly utilizing this: Alice, Beeville and Kingsville. Even though Pleasanton is also part of the representative campuses I only have 1 business student at the present time. The equipment utilized is sufficient in that it can accomplish all tasks, but students are ultimately completing most if not all their work on their own technical devices.
- **b. Strengths** The strengths of these three campuses lie in their appeal in affording a class computer to those who do not have one. It also allows those with poor internet access to complete work at their respective campuses. This alleviates the discomfort of having to deal with poor connectivity at home, since not all students have access to technology or Wi-Fi connectivity.

Having connectivity is paramount and all campuses afford that to students throughout the semester. IT is integrated with the equipment and issues arising are handled efficiently by the techs.

- **c. Areas for Improvement –** There are a few areas of improvement to make note of: 1) There's often been cases of poor reception and intermittent functioning with the tv screens at all of the campuses. There have been many occasions and for various reasons where the tv screens are not operating and transmitting my lecture to other campuses. In most cases I have been fortunate to find a technician who can rectify the situation. 3. LifeSize reboots itself intermittently and without warning during class lecture, causing great discomfort to instructor and students. The reboot process can take up to 10 minutes to return screens back to their original format.
- **d. Future Direction and Budget Implication** I must assume that the future of technology used on campuses will improve or upgrade. We are up to date on the software end, just not so much on the delivery of content, whether it be t.v. screens or LifeSize polychom. I don't see budget implications for the business management program when it comes to equipment at facilities. I consider myself to be an end-user of the equipment as well as the students' use of it.

# Cosmetology Program

Program Manager: Tomora Gambrell

## Technology

#### A. Overview

- Utilization of blackboard for all lecture assignments
- Social media platform to advertise students' accomplishments and marketable skills to practice services on the public for a nominal fee
- Simulation software to aid in advanced techniques in hair, skin, and nails for students to practice and add to their certifications

# B. Strengths

- Supportive marketing/advertising team that is willing to assist in creative avenues to spotlight CBC cosmetology program and all the certificates offered
- Social media platform encourages students to post and recruit customers, family members, and friends

## C. Areas for Improvement

- User friendly website for potential candidates and the community
- Addition of webinar workshops to provide simulation techniques for students to practice via lab

# D. Future Direction and Budget Implication

- Online chat communication
- Onboarding strategy for serious candidates due to limited slots implemented by external accrediting agency. (TDLR)
- Implement additional vendor to accommodate technology upgrades for simulation software to be provided throughout enrollment

# **Equipment and Facilities**

#### A. Overview

- > Outdated and deteriorated stations and equipment at each site
- Utilization of entire department for lab use; assignment of computer labs to suffice the lecture requirements per semester
- Dispensary and chemical storage room/closet inventory checklist

# B. Strengths

- ➤ In compliance with tdlr annual inspections
- Allowed the freedom to accessorize department and stations to represent the art of cosmetology, nails and esthetics

Facility personnel support available to assist with any structural adjustments needed

# C. Areas for Improvement

- ➤ Instructors continued education on training of advanced technical equipment: high frequency, galvanic, microcurrent, microdermabrasion, dermaplaning, steam machines, and phototherapy
- Modification of dispensary to aid in continued supervision of instruction of students at all sites; presently it is non-existence
- Plan to inspect and replace equipment quarterly for sustainability of the programs

## D. Future Direction and Budget Implication

- Percentage of revenue from services be applied to the cosmetology department equipment and facilities upgrades especially in emergency situations
- Additional vendor needed; one vendor for cosmetology, barbering, and specialty programs is not suffice due to limited options of equipment, products, shipping issues and discontinued items

# Early Childhood Development Program

Program Manager: Sulema Caballero

# **Technology**

I am at the Pleasanton cite. We have available two computer lab rooms with availability for student use. Students have access to this labs during class time and throughout the day. For some students it is a plus for them to attend courses and have access to technology at their convenience. The students also have access to free printing in the computer labs.

This is one of the strengths at the College. The computers are available for student use throughout the day. There are enough computers to meet the needs of a class. The labs are nicely organized and the computers work well. There is not improvements needed at this time other than the usual upgrading to keep them up to date. All the standards are aligned when it was last reviewed in the program review cycle There are no budget implications at this time and no recommended improvements.

# **Equipment and Facilities**

The facilities are kept updated with good furniture for the faculty and students. Facilities are adequate and equipment is modernized and conducive to learning. All the standards are met for regulating agency since our last review. The classrooms have the appropriate amount of furniture for all students and space is available for students on wheelchairs throughout the facility. This aligns with our mission to serve our students.

One of the strengths is our classroom is equipped with a large screen TV that is used for instructor presentations. This large screen equipment is also available for student when presenting their assignments. I also have the availability of a DVD/VCR. This equipment is used to present materials for students who are more visual and the professor to present movies to expand the classroom content.

All our facility is well equipped to meet the needs of the students. At this time, there are no areas that need improvement. We are always upgraded with any equipment need per request.

At this time, we are in compliance with any equipment in the facility. Everything has been kept upgraded to meet the needs of the students. There are no budget implications at this time for the facility.

There are no recommendations at this time.

# Forensic Science Program

Program Manager: Dr. Lisa Bowen-Bowman

# Technology

#### a. Overview

Throughout recent years, technology-based learning has become a more preferential avenue for learning and the current generation desires the use of technology in conjunction with traditional learning. The Forensic Science department has acknowledged this and utilized the avenue for the program's future. This direction provides the proper resources for skills while utilizing the latest technology to enhance and support student learning.

## b. Strengths

Most program courses use some type of technology to enhance student learning. The Criminal Justice courses utilize online inclusive access to a textbook in which students have embedded quizzes in their chapter readings. These textbooks materials include industry specialist videos and case studies. Aside from the online courses, face-to-face courses also include a third-party platform reading, as well as technology for the lecture in a two-way setting in which the instructor teaches from one of the two locations twice a week.

For lab-specific classes, virtual tools such as autopsies, courtroom presentations, and crime scene investigations have been utilized in applicable learning. Faculty members have also taken advantage of many of the technology-based workshops and one-on-one training courses offered by the college such as Blackboard training, Lifesize video training, and Polycom training.

#### c. Areas for Improvement

For program-specific technology, forensic science students need exposure to a wide variety of equipment and technology that varies by agency size, budget, and location. Items for review in the future include creating a small computer lab with many different types of agency-specific software, updating older evidence-related equipment, and adding tools for simple tasks such as digital measures, in addition to the use of tape measures.

## d. Future Direction and Budget Implication

The prior stated items are part of the strategic plan (Goal 6: Taking the Crime Scene Analysis Program to the next level), which includes seeking information on existing technologies best suited to the program courses, including but not limited to, Identikit suspect identification, Crime Sketch CAD, and Crime Scene 3D modeling. Also, to research and identify potential grants to create a computer lab within the Industrial Trades/CJ Building to be utilized during instruction times, as well as for courses with an open lab component. The computers contain the noted software technologies.

The cost implications of these goals and objectives are yet to be fully vetted due in part to the unexpected opportunity for the 3d scanner technology opportunity in the Summer of 2021. This new direction incorporates part of these ideas.

#### **Notation Narrative:**

Currently, the program's annual proposed budget is kept to items of necessity due to the decrease in enrollment. The successful awarding of grant monies for purchasing significantly advanced technological equipment will be of great benefit to the program (2022 and beyond), whereby investing in the program's future without an additional budget expense. It has also postponed the planned purchases of accessories (e.g., digital measures, digital capture, crime scene sketch software) at this time, and these will be reassessed with priorities for the future.

## **Equipment and Facilities**

#### a. Overview

The Forensic Science Program has diverse needs. In terms of facilities and equipment, the program utilizes regular campus classrooms, lab instruction, and mock-scene instruction. The campus classrooms have instructor computers and digital projection.

# b. Strengths

At the main campus, the primary instruction area for Forensic Science is the top level of the Industrial Trades Building. This area includes a dedicated lab room with forensic equipment and supplies, as well as the main instruction classroom. Aside from the previously noted 2-way teaching system, the classroom is adequate in serving the instructional needs at this time. For the Alice campus, the primary instruction area is within the campus facility and is adequate as well, and contains a lab exclusive room within the area of the classroom.

## c. Areas for Improvement

The two-way teaching system does not replicate a traditional classroom. The delay time from speaking to receiving communication back is about 3-4 seconds. The cameras are set up to capture the students but fail to capture the instructor in a front-facing view for the opposite site. There is not a viewing screen for the instructor large enough to see the students clearly while presenting PowerPoint, therefore it fails to retain student engagement and the instructor is not able to easily detect it. Room size also hinders a clear view as one room is narrow and long.

The cleanliness of the main campus instruction areas and personal facilities could be improved, and then maintained on a regular basis. Students have noted through comments and evaluations of unsanitary bathrooms and soiled and stained walls and floors. However, the use of areas is messier for forensic science than typical instruction and the instructors, as well as students, must be mindful of their use of lab areas and be diligent in immediate cleaning when possible.

These areas are part of the plan {OB 5.2, 5.3, and 5.4 **Appendix A**} focused on researching and identifying educational needs, suitable facilities, and technology, as well as making revisions for adequate and appropriate facilities.

# d. Future Direction and Budget Implication

Part of the future direction is to identify and request potential areas and items necessary to perform mock crime scenes as it is a noted component of the key forensic courses. The restriction is one of finding an area available and conducive to the objective, more so than a budgetary restriction. Once an area has been identified, the setting up of a residential style room can be done by locating donated free items.

Currently, the program does not have an obsolescent plan for large equipment purchases. It has been a significant amount of time since the last purchase of laboratory equipment (dates unknown), and newer technology of on-scene forensic equipment will move the program away from being laboratory specific. This newer technological equipment will be purchased with long-term contracts and its validity will be reassessed after four years.

For the instructional setup, start by identifying best practices with current equipment and potential low-cost solutions such as the use of an open line telephone for immediate communications, moving existing screens (Beeville has two), and/or equipment. In prior years there was a facilitator in the room at the alternate site. This is cost prohibitive for every multi-site class. An alternative idea is to have one facilitator serve multiple multi-

site delivery programs. The facilitator would check in on classes periodically and be available for equipment issues and monitoring classwork/testing.

As a final note, the best resolution for many of the items throughout this document (e.g., 2-way equipment challenges, budgetary concerns, etc.) is recruitment and retention. Communications with the IT department, administration, and maintenance department collectively agree that funds spent towards enrollment increase and retention, basically building the program, and in turn with the end goal of meeting enrollment minimums at each of the Beeville and Alice sites. This would resolve many of these issues by no longer requiring currently used systems (e.g., 2-way).

# Law Enforcement Program

Program Manager: Aniceto Perez, Jr.

**Technology** 

#### Overview

Technology-based learning and hands on has become a more preferential avenue for learning and the current generation desires the use of technology in conjunction with traditional learning. The Law Enforcement department has acknowledged this and utilized the avenue for the program's future. This direction provides the proper resources for skills while utilizing the latest technology to enhance and support student learning.

# **Strengths**

Program courses use some type of technology for example the Milo Range Stimulator is used to enhance student learning in critical thinking, problem solving, communication skills. The Law Enforcement courses utilize online inclusive access to a textbook in which students have embedded quizzes in their chapter readings. The face-to-face courses includes scenarios on crime scenes and problem solving, and de-escalation. The instructor teaches from two locations twice a week.

Students use hands on techniques, tools such as firearms, baton, pepper spray, seven step violator contact method, standardized field sobriety testing, accident investigation, courtroom presentations, scenarios, the use of force and crime scene investigations. As Faculty take advantage of technology-based workshops and one-on-one training courses offered by the college such as Blackboard training, Lifesize video training.

## **Areas for Improvement**

Community oriented policing is a must, However, in the wake of highly publicized use-offorce complaints and the resulting public distrust, it is considered by many in law enforcement to be more relevant and necessary than ever before.

To improve the area of firearms in shoot don't shoot encounters. Technology is one area law enforcement professionals to ensure public safety and security resources and enabling proactive policing, while at the same time creating a new level of transparency.

# **Future Direction and Budget Implication**

The use of force and the understanding of the use of force continuum. Technological advantages such as DNA mapping, surveillance systems and online learning. These are clear indicators of issues that will alter the future of law enforcement.

The cost would have to be calculated into an institution's budget for training/instructing the future of a law enforcement officer.

## **Equipment and Facilities**

Priority keep lines of communication with IT to ensure room availability for all learning classes. Coordinate with staff/faculty at each site to ensure classrooms are available. Rooms are overseen by IT, instructor will keep updated with any new updated facilities, equipment and technology that IT has done to and any of the classrooms at local site with the addition of firing range simulator, firing range CBC provides the weapons and ammunition, red man suit for defensive tactics.

# Welding Technology Program

Program Manager: Macedonio Gonzalez

# **Equipment and Facilities**

#### Overview

- Both Alice and Beeville Welding Departments need repairs.
- Building maintenance
- Beeville electrical has some issues not being reliable, have welding machines that go into error mode when power starts to fluctuate.
- Alice restroom door must be slammed to shut properly because it is out of alignment.
- Replace welding equipment on a rotating basis based on age and cost of repair data.
- Alice needs \$1,500 for TorchMate table which is out of service. Students were unable to use this technology as part of their planned curriculum this semester.
- Look into new exhaust system in Beeville welding shop
- Need better lighting system in Beeville shop
- The welding shop has old fluorescent lights and students have a challenging time seeing their work pieces.

## **Strengths**

 Both instructors use their experience and knowledge to instruct the students using properly functioning equipment and space availability.

# **Areas for Improvement**

- Building maintenance
- Lighting and exhaust in Beeville
- Beeville welding dept AC has been out for about a year
- Beeville campus has a lot of outdated welding equipment that will need to be replaced at some time. We currently have 14 welding machines that are over 20 yrs. old.
- We are considering moving the new machines from the welding trailer into the shop to replace some of these older machines.
- Need money set aside for unexpected machine repairs, currently have TorchMate table in Alice out of service. We needed it for our automation class.
- Forklift in Alice needs new valves, we are calculating around a \$5,000 bill for this, hopefully it is not so high of a cost. We will need to get a quote on the repairs.

## **Future Direction and Budget Implication**

- \$2,000 needs to be set aside for each site for unexpected repairs to major equipment and only used for unexpected machine repairs.
- Like the TorchMate table in Alice, the small one in Pleasanton has not worked since I have been here. I have had issues with the table here in Beeville, but we were able to catch it while it was still under warranty.



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#### Office of Institutional Effectiveness & Research

Dr. Michelle Lane

malane1@coastalbend.edu

coastalbend.edu

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