

Unit Strategic Plan
Construction and Building Science Technology
Department
2019- 2021

Name of Program/Department:

Construction and Building Science Technology (CBST)

Mission Statement (for the program or department):

The general mission of the Construction and Building Science Program, as contained in the Mission of the College, is to offer programs and activities that reflect those characteristics that help define an educated person. These characteristics include a level of general education that enables the individual to understand his or her culture and environment; the development of skills in analysis, communication, qualification, and synthesis necessary for further growth as a lifelong member of society; the identification of a system of personal values based on accepted ethics that lead to civic and social responsibility; and the attainment of skills that enhance the development of leisure activities and a healthful lifestyle. These characteristics are attained not only through organized courses and programs, but through a variety of social, cultural, civic and other educational activities that are offered based on the needs of the community.

Therefore, the mission of the Construction and Building Science Technology Department continues with providing the building industry with graduates who can function effectively in the workplace.

Program Outcomes

1. Continuous growth in student enrollments and student employment verifies that Construction and Building Science Technology produces graduates who are well educated and informed of the building industry.

Program Level Student Learning Outcomes:

The following 13 standards are the new Student Learning Outcome (SLOs) required by the American Council for Construction Education (ACCE). This is the accreditation organization body for Construction Management Program:

1. Demonstrate effective communication, both orally and in writing.
2. Demonstrate the ability to estimate quantities and costs for the bidding process in a construction project.
3. Demonstrate the ability to schedule a basic construction project.
4. Demonstrate the ability to use current technology related to the construction process.
5. Interpret construction documents (contracts, specifications, and drawings) used in managing a construction project.
6. Apply basic principles of construction accounting.
7. Use basic surveying techniques used in building layout.
8. Discuss basic principles of ethics in the construction industry.
9. Identify the fundamentals of contracts, codes, and regulations that govern a construction project.
10. Recognize basic construction methods, materials and equipment.
11. Recognize basic safety hazards on a construction site and standard prevention measures.
12. Recognize the basic principles of structural design.
13. Recognize the basic principles of mechanical, electrical and piping systems.

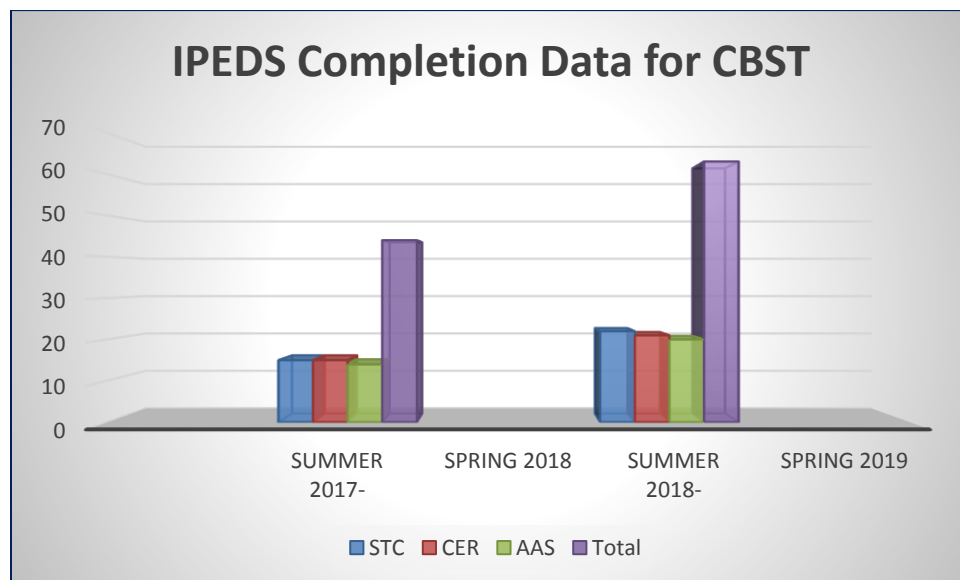
Summary of Access, Productivity and Effectiveness (Including, but not limited to, program load, success rate, retention rate, completion rate)

Award Sought Headcount by Program CIP code

15.1001 – Construction and Building Science Technology	Year	AAS	STC	CER	NDS	Total Headcount
	Fall					
	2017	69	0	1	0	70
2018	60	0	0	0	60	

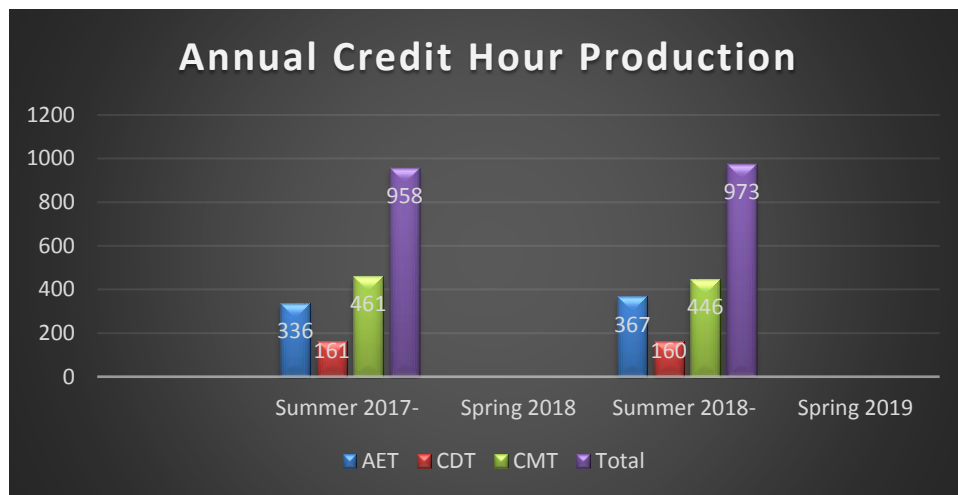
IPEDS Completion Data for Construction and Building Science Technology

15.1001 – Construction and Building Science Technology Three-Year Graduate Data	Year	STC	CER	AAS	Total
	Summer 2017- Spring 2018	15	15	14	44
	Summer 2018- Spring 2019	22	21	20	63
	Two-year Average	18.5	18	17	53.5



Annual Credit Hour Production

15.1001 – Construction and Building Science Technology Two-Year Credit Hour Production Data	Year	AET	CDT	CMT	Total
	Summer 2017- Spring 2018	336	161	461	958
	Summer 2018- Spring 2019	367	160	446	973



Internal Conditions:

1. Technology

- a. The technology that is being used within the Construction and Building Science Department is all up to date, in good working order, and is valued by both faculty and students. The administration has been fully supportive as updates are needed for software and hardware that directly and indirectly impact student learnings. Future upgrades to computer hardware is driven by the demands of computer software. The department's budget is designed and capable of absorbing any fluctuations in hardware and software needs.
- b. The department is equipped with two computer labs and a total of 39 double-monitor computer stations. These computers are loaded with the latest Architecture CAD version, Microsoft Project (a Construction Project Scheduling Software), On Screen Take Off (a Construction Cost and Estimating Software) and complete Office Suite.

- c. The department currently is fully equipped with document cameras, projectors and computers within all its classrooms. This equipment has been used heavily by faculty and students for better demonstration of their lectures and project presentations.

2. Budget

Currently, there are two funding accounts that support the Construction and Building Science Technology Department:

1. The general Construction and Building Science Department budget (#10003) is sufficiently supporting faculty salaries, office needs, lab supplies, professional development, printing and local travel.
2. The general contractors licensing board fee (#229001) are funds derived from the annual Alabama General Contractors license dues. A percentage of all general contractor license fees are to be split among all accredited construction and engineering schools within the state. The size of this annual amount depends on many changing factors. The number of students graduating with a construction management degree and the number of general contractors purchasing and renewing their licenses each year are the two primary factors that determine our income of this account. The college's Financial Services Department, and the Construction and Building Science Technology Department work together to manage this account. This account supports some faculty and student travel and needed building materials, office supplies, and other departmental needs. Most of this account is reserved for the purchase of technology equipment needed for the department.

3. Staffing

The Construction and Building Science Technology Department (CBST) currently has 2 full-time faculty:

Mike Safavi, AIC, CPC

Program Coordinator, Instructor, Department Advisor
and

Murray Jones

Instructor, Department Advisor

Part-time instructors/Adjunct faculty are being hired as needed. Both faculty members teach full-time, perform office duties and student academic advising, per college requirements. All the support (Financial Aid, Advising, Library) and administrative (Office Managers, Deans, Business Office) departments help to maintain the high academic quality of the CBST department.

4. Resources

JSCC Building Science graduates have been satisfying construction management and architecture employer needs in this area since 1968. Since the beginning, the Department has been supported by both national and local builders and contractors associations (GBAHB, NHE, NAHB, AGC, CEFA). Department graduates are hired by small or large local and national builders and architecture firms (Doster Construction, Brasfield and Gorrie, Robins and Morton, DR Horton Homes, Harris and Doyle Homes, and others). The Department's reputation and history of providing well-educated and efficient construction professionals is a great resource that will continue to attract new CBST students.

The CBST Department has a good supply of literary resources for student use within the JSCC Main Library, within the Department and additional literature will be ordered as needed. The Department's students and faculty have adequate access to drafting tables, computers, printers and large format printers (plotters). The two-full-time faculty offices are located close to the CBST classrooms and are

staffed during the day and late into the evening accommodating to varying student schedules and needs.

5. Enrollment

The Construction and Building Science Technology Department consists of both traditional and non-traditional students. As the building industry market improves, the department expects enrollment and graduation numbers continue to increase. The department currently well exceeds the minimum required graduates' number of **7.5**. Currently, the two-year graduates' average for this department is **53.5** and continues to grow.

Existing national forecasts have the construction market in Alabama continues to grow. The enrollment within our department follows the trends of the building trades; we are expecting to see steady improvements in our enrollment numbers throughout this next year. While some years may show a decrease in enrollment, the overall students' retention has increased greatly. This retention rate shows in the CBST graduate numbers.

IPEDS Completion Data for CBST

	Year	STC	CER	AAS	Total
15.1001 – Construction and Building Science Technology Three-Year Graduate Data	Summer 2017- Spring 2018	15	15	14	44
	Summer 2018- Spring 2019	22	21	20	63
	Two-year Average	18.5	18	17	53.5

6. Facilities

The Harold Martin Building:

- a. All classrooms and labs are fully equipped and ready for student use. There are sufficient rooms in Harold Martin Building for every course offered by the Department. Individual rooms have been carefully designated to accommodate the nature of the courses regarding to lectures and labs requirements.

- b. The faculty offices are reasonably furnished, clean and relatively comfortable. ***Upgrades to the building existing air conditioning system is past due.*** We often ask our faculty and students to bring jackets to class in the summer and layers in winter. The building is usually more than warm in the winter or humid when the seasons change. These extreme temperature variations are caused by an old system that is often out of order and individual room thermostats which are non-functioning.

7. Equipment

- a. The wood shop is a useful resource for the students. It is adequately equipped and ready for student and class use. This wood shop requires on going replenishment for tools and material that is supported by our annual budget.
- b. The two computer labs are equipped with a total of 39 double-monitor stations. These computers are loaded with Architecture and Construction Software. Students are welcomed to use these computers before and after their class periods to complete their assignments.
- c. The CBST Department is equipped with Land Surveying Transits and Tripods. These devices are required to accompany the Surveying and Layout Course and get replenish as required.

External Conditions (such as state funding, accrediting agencies, advisory committees, postsecondary policy changes)

State Funding:

The general contractors licensing board fee (#229001) are monies derived from the annual Alabama general contractor's license dues. A percentage of all general contractor license fees are to be split among all accredited construction and engineering schools within the state. The size of this annual check depends on many fluctuating factors. The number of students graduating with a construction management degree and the number of

general contractors purchasing and renewing their licenses each year are the two primary factors that determine our income to this account. These funds help to support the program and its activities.

Accrediting Agencies:

The American Council for Construction Education (ACCE) accredits the Department's Construction Management Degree (CO59). ACCE accredits construction education programs in colleges and universities that request its evaluation and meet its standards and criteria. ACCE is recognized by the Council for Higher Education Accreditation (CHEA) as the accrediting agency for Masters, Baccalaureate and Associate Degree programs in Construction Science, Construction Management and Construction Technology in North America. The Construction Management degree at JSCC is one of the only thirteen two-year accredited degree in North America, and is the only accredited two-year Construction Management degree, in the state of Alabama.



In December 2018, Construction Management Self Evaluation and the course SLOs were submitted to ACCE. In March 2019, the Construction Management Program at Jeff State was visited by ACCE re-accreditation team. In July 2019, this program was awarded its six years re-accreditation by this accrediting agency. CBST goal is to maintain its accreditation by ACCE and its high academic standard.

Program Industry Advisory Committee (IAC):

The IAC for the CBST Department is well active in meetings. This committee along with departmental faculty meet twice a year to discuss suggestions and ideas regarding improvement of the department and student learning outcome. The committee continues to grow and improve each year. The IAC is consisting of national and local builders' associations (GBAHB, NHE, AHB, AGC, CEFA), as well as, small and large local and national contractors and architecture firms (Doster Construction, Brasfield and Gorrie, Robins and Morton, DR Horton Homes, Harris and Doyle Homes). The IAC's reputation and history of providing useful advice is a great resource that will continue to benefit the CBST students and the department.

Department of Postsecondary Education Policy Changes:

- The Alabama Community College System (formerly Department of Postsecondary Education) has a new Board of Trustees that was appointed by the Governor and confirmed by the senate on May 27, 2015. New policies may develop that reflect changes within the Construction and Building Science Technology Program. The program and the college adheres to any and all policy and procedural changes as established by the Alabama Community College System.
- American Council for Construction Education has changed all its Accreditation and Re-Accreditation Standard Requirement. The new standards are now based on Student Learning Outcome (SLO). The new standards are implemented. CBST re-accreditation visit in 2019 complied with the new SLO standards. These new standards may be reviewed on page 2.

2017-2018 Accomplishments:

This was a productive year for this department.

- All the classrooms lab computers were updated with the latest CAD software. The lab computers were loaded with Microsoft Project and On-Screen-Take-Off as well. This software were acquired free of charge to Jeff State as academic copies for this department. The updates continue every time the need arise.
- Local construction companies continue to recruit our students for various construction and architectural positions. While the economic state of construction is improving, our department and its students are encouraged by positive industry predictions. The Department is encouraged and optimistic for more growth of the programs in the upcoming years.
- Mike Safavi, as the ACCE re-accreditation visiting team member, visited State Fair College in Sedalia, Missouri. This visit was for the purpose of re-accreditation evaluation of State Fair College's Construction Management Program.

- The Construction and Building Science program in partnership with Garrison Steel implemented Level 1 Ironworker for-credit program. Qualified dual enrollment dual credit high school students enrolled in the program. The program held classes at JSCC Pell City Campus and at Garrison Steel. Twenty-two (22) students from Pell City and Talladega School Systems attended classes during two mini semesters spring 2017. Fifteen (15) of these students completed the certification. It was later determined that the Ironworker Level I would be offered as a non-credit through the Center for Workforce Education effective Spring 2019. All three levels (Level I, II, and III) are offered as a non-credit through the College's Center for Workforce Education.



- The Construction and Building Science Technology department will continue to offer both the traditional and more technological courses relating to construction and architectural/civil education.
- The Department continues to set efforts to increase student and industry interactions. The Department will remain involved attending functions with the Greater Birmingham Association of Home Builders (GBAHB) and the Alabama Associated General Contractors Association (AGC). Such events have given the department much needed visibility that resulted in the hiring of several of our graduates.

2018-2019 Accomplishments:

As well as last year, this was a productive year for the Construction and Building Science Technology Department:

- Faculty attended the American Council for Construction Education (ACCE) Annual and Mid-Year meetings. These meetings were predominantly intended to explain changes in the ACCE standards requirements.
- Construction and Building Science faculty participated in Pre-Skill Jefferson County Competition. Several motivated high school students attended this event in CBST. A wood working project was given to them as their assignment. Students were required to build the project during a limited time, using CBST wood shop, under CBST faculty supervision. After completion of the project, the first, second, and third place was selected by CBST faculty.
- Ms. Fiona M. Bangoy, a construction Management student, wins the Alabama Associated General Contractors of America (AGC) academic scholarship. For three out of the last four years, this scholarship was awarded to a Jeff State CBST student. Congratulations Fiona!



Ms. Bangoy also, was one of the winners of 2019 All-Alabama Academic Team Recognition Program Scholarship.



- 2019 Outstanding students of the Year:

Harsh Patel: Outstanding student in Architectural/Civil Design.

Fiona Bangoy: Outstanding student in Construction Management.



Left to right:

Fiona Bangoy * Mike Safavi * Harsh Patel

- Mike Safavi, the Program Director, completed the Construction Management Program's Self Evaluation Study for re-accreditation of this program and was submitted to American Council for Construction Education in December 2018.
- The Construction Management Program was visited and evaluated by ACCE in March 2019. The visiting team were impressed by our CM program.
- The Construction Management was awarded its six years accreditation in July 2019 during the ACCE annual meeting in Philadelphia, PA.



**ACCE presenting Jeff State Construction Management its six years
Full Re-Accreditation**

Left to right:

John Schaufelberger, ACCE Board of Trustees Chair * Mike Safavi, CBST Director, Jeff State *
Murray Jones, CBST Instructor, Jeff State * Steve Nellis, ACCE President / CEO

Unit Goals for 2019-2020

Unit Goals	Objectives	Method of Assessment	Additional Funding Required
<p>1.) More efforts needed to inform locals about CBST. Hence, increase enrollments in Construction and Building Science Technology. More building science graduates are needed for the industry.</p> <p><u>Program Outcomes</u></p> <p><i>1. Local and National employers indicate the need for graduates in Building Science Programs.</i></p> <p><i>2. Most of our graduates are employed in building industry field.</i></p>	<p>a.) Inviting local High School Counselors to the CBST Industry Advisory Committee meetings.</p> <p>b.) Advertisement via billboards, TV and radio ads.</p>	<p>a.) Advertisement for CBST department must be an ongoing goal.</p> <p>b.) The Program must be recognized and recommended by Local High School Career Counselors and local community and industry leaders.</p> <p>c.) Local population need to recognize JSCC CBST department and its values via internet, local high school print material, etc.</p>	<p>a.) CBST will coordinate with the College Enrollment Services regarding meeting with local High Schools Career Counselors.</p> <p>c.) Advertisement material needed for CBST Department:</p> <p>-Annual cost of \$3,000 for departmental brochures, posters, and mass potential students' mail.</p> <p>-Annual cost of \$8,000 for advertisement via print material, ads, etc.</p>
<p>2.) Offer the latest computer software and hardware technology available to the construction and architecture industries. (ongoing goal)</p>	<p>a.) Replace 23 computers in Computer lab. 236 HMB in 2019, and another 24 computers in 241 HMB in 2020. This is due</p>	<p>a.) CBST Program Coordinator and faculty determines the adequacy of the department's computer hardware.</p>	<p>a.) All the CBST Software are academic copies for our departmental use and currently. there are no fees to the college or the department.</p>

<p><u>Program Outcomes</u></p> <p><i>1. Local and National employers indicate the need for graduates in Building Science Programs.</i></p> <p><u>Program Level Student Learning Outcomes:</u></p> <p><i>2. Demonstrate the ability to estimate quantities and costs for the bidding process in a construction project.</i></p> <p><i>3. Demonstrate the ability to schedule a basic construction project.</i></p> <p><i>4. Demonstrate the ability to use current technology related to the construction process.</i></p>	<p>to the age, slow speed and non-functioning of some of these computers.</p> <p>b.) Replenish supplies for the computer labs.</p> <p>c.) All CBST computers will continue to be loaded with required updated software.</p>	<p>b.) CBST Industry Advisory Board (IAC) along with the faculty determine the need of the department's computer software. during IAB annual meetings.</p>	<p>b.) The College IT Department will estimate the cost for 23 new computers equipped with enough memory to run our required software (estimated cost of \$22,000)</p> <p>c.) Estimated ink, paper rolls, printer head is \$3,500.00</p> <p>d.) Annual cost for Associated Schools of Construction CBST Program membership is \$760.00.</p> <p>e.) Annual cost for ACCE membership and re-accreditation maintenance is \$2,750.00.</p> <p>f.) Two Industry Advisory Committee meetings annually, one in Fall and one in Spring Semester. \$700.00 annually.</p>
<p>3.) Explore and/or develop other degree options in Construction and Building Science to accommodate for the needs of industry (ongoing goal)</p>	<p>a.) Explore, identify, and recommend CBST degree options that can be offered and taught in our current physical facilities.</p> <p>b.) Develop online/hybrid</p>	<p>a.) CBST Industry Advisory Board (IAC) along with the CBST faculty, during its annual meetings, may discuss and recommend other degree option that local and national</p>	<p>a.) CBST faculty will determine the adequacy the physical facilities and labs to develop such degree program(s).</p> <p>b.) Any requirement for new or updated</p>

<p><u>Program Level Student Learning Outcomes:</u></p> <p><i>5. Interpret construction documents (contracts, specifications, and drawings) used in managing a construction project.</i></p> <p><i>8. Discuss basic principles of ethics in the construction industry.</i></p>	<p>delivery method for some of the CBST courses.</p>	<p>building industry need.</p> <p>b.) CBST faculty, will determine the “Program Level Student Learning Outcomes” for such degree courses.</p> <p>c.) Some course are been identified to have online/hybrid delivery methods. Development of these courses will take place on a timely manner.</p> <p>d.) CBST will begin delivering one course by an online/hybrid method. SLOs of this course will be analyzed to ensure sustaining ACCE requirement.</p>	<p>technology and equipment will be identified by faculty and ordered by Program Coordinator.</p> <p>c.) Construction Management (CMT 205s) course is being developed as an online/hybrid course. The due date for delivering this course is Spring 2020.</p>
<p>4.) Create a comfortable learning environment for CBST faculty and students</p>	<p>a.) Identify the need for additions, replacement, and improvement of CBST classroom facilities, furniture and teaching equipment to create a more desirable learning</p>	<p>a.) Faculty to explore and recommend CBST needed classroom facilities, furniture and teaching equipment. Program Coordinator to analyze and</p>	<p>a.) The following items are needed for adequacy of our existing classrooms:</p> <ul style="list-style-type: none"> • Mobile Dry-Erase Board: \$700 • The College IT Department will

	<p>environment for CBST students.</p> <p>b.) Replace three dry-erase boards in three classrooms with Smart Boards.</p>	<p>allocate adequate budget for such needs.</p> <p>b.) Replacing dry-erase boards with Smart Boards allow students to pay more attentions to instructor's lecture, rather than being busy taking notes. These boards can e-mail a copy of all instructor's notes to the students' school accounts.</p>	<p>estimate the cost for three Smart Boards (estimated cost \$45,000).</p>
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Unit Goals for 2020-2021

Unit Goals	Objectives	Method of Assessment	Additional Funding Required
<p>1.) Update all lab equipment and spaces to meet faculty and student needs.</p> <p><i>(ongoing goal)</i></p>	<p>a) Replacing existing older 24 computer stations to be capable of handling updated software.</p> <p>b) Identify equipment needed for concrete testing lab, wood shop, and surveying lab.</p> <p>c) Identify classroom equipment needed for teaching purposes.</p>	<p>a) Equipment, material and supply will be requested by faculty as needed and ordered by the Program Coordinator.</p>	<p>a.) The College IT Department will estimate the cost for 24 new computers equipped with enough memory to run our required software (estimated cost of \$23,000)</p> <p>b.) Required material and supplies; replacement and replenishment.</p> <ul style="list-style-type: none"> - Concrete testing supplies: \$1,000 annually. - Printer lab: \$3,000 annually. - Wood shop tools, and supplies: \$2,000 annually. <p>c.) The College IT Department will estimate the cost for Projector and Screen for conference room.</p>
<p>2.) Offer the latest computer/software technology</p>	<p>a.) The hardware requirements within the</p>	<p>a.) CBST Industry Advisory Board (IAC) along with the</p>	<p>a.) Estimated annual cost for Associated Schools of</p>

<p>available to the construction and architecture industries.</p> <p><i>(ongoing goal)</i></p> <p><u>Program Outcomes</u> <i>1. Local and National employers indicate the need for graduates in Building Science Programs.</i></p> <p><u>Program Level</u> <u>Student Learning Outcomes:</u> <i>4. Demonstrate the ability to use current technology related to the construction process.</i></p>	<p>department are depend upon the software requirements.</p>	<p>CBST faculty determines the adequacy of the department's computer hardware and software twice a year during IAB meetings.</p>	<p>Construction CBST Program membership is \$760.00.</p> <p>b.) Annual cost for ACCE membership and re-accreditation maintenance is \$2,750.00.</p> <p>c.) Two Industry Advisory Committee meetings annually, one in Fall and one in Spring Semester. \$700.00 annually.</p>
<p>3.) Secure Articulation Agreements with local and near proximity out of state universities that offer Construction bachelor's degrees.</p> <p><i>(ongoing goal)</i></p>	<p>a.) Universities that offer Construction bachelor's degree in neighboring states will be identified.</p> <p>b.) Line of communication will be established with such universities and, their potentials will be explored.</p>	<p>a.) JSCC articulation agreement with Tuskegee University's CSM Program will be utilized as a sample instrument to introduce CBST intentions for such Articulation Agreements.</p>	<p>a.) Faculty travel to universities in surrounding states (\$4,000)</p>
<p>4.) Efforts will continue to inform locals about Jeff State CBST.</p>	<p>a.) Inviting local High School Counselors to the CBST Industry</p>	<p>a.) Advertisement for CBST department must be an ongoing goal.</p>	<p>a.) CBST will coordinate with the College Enrollment Services regarding</p>

<p>Increase in CBST enrollments is needed to provide adequate graduates for the building industry.</p> <p><i>(ongoing goal)</i></p> <p><u>Program Outcomes</u></p> <p><i>1. Local and National employers indicate the need for graduates in Building Science Programs.</i></p> <p><i>2. Most of our graduates are employed in building industry field.</i></p>	<p>Advisory Committee meetings.</p> <p>b.) Advertisement via billboards, TV and radio ads.</p>	<p>b.) The Program must be recognized and recommended by Local High School Career Counselors and local community and industry leaders.</p> <p>c.) Local population need to recognize JSCC CBST department and its values via internet, local high school print material, etc.</p>	<p>meeting with local High Schools Career Counselors.</p> <p>c.) Advertisement material needed for CBST Department:</p> <p>-Annual cost of \$3,000 for departmental brochures, posters, and other printed advertisements.</p> <p>-Annual cost of \$8,000 for advertisement via large ads, etc.</p>
<p>Date Submitted: 09/05/2019</p>		<p>Submitted by: Mike Safavi, AIC, CPC</p>	