FLORIDA DEPARTMENT of ECONOMIC OPPORTUNITY

ENTERPRISE FLORIDA®

Florida Job Growth Grant Fund
Workforce Training Grant Proposal

Proposal Instructions: The Florida Job Growth Grant Fund Proposal (this document) must be completed and signed by an authorized representative of the entity applying for the grant. Please read the proposal carefully as some questions may require a separate narrative to be completed.

Entity Information

Name of Entity: Palm Beach State College

Federal Employer Identification Number (if applicable): [redacted]

Contact Information:

Primary Contact Name: Ava L. Parker

Title: President

Mailing Address: 4200 Congress Avenue
Lake Worth, Florida 33461

Phone Number: 561-868-3501

Email: avaparker@palmbeachstate.edu

Workforce Training Grant Eligibility

Pursuant to 288.101, F.S., The Florida Job Growth Grant Fund was created to promote economic opportunity by improving public infrastructure and enhancing workforce training. This includes workforce training grants to support programs offered at state colleges and state technical centers.

Eligible entities must submit proposals that:

- Support programs and associated equipment at state colleges and state technical centers.
- Provide participants with transferable and sustainable workforce skills applicable to more than a single employer.
- Are offered to the public.
- Are based on criteria established by the state colleges and state technical centers.
- Prohibit the exclusion of applicants who are unemployed or underemployed.

FLORIDA DEPARTMENT of ECONOMIC OPPORTUNITY

ENTERPRISE FLORIDA®

1. Program Requirements:

Each proposal must include the following information describing how the program satisfies the eligibility requirements listed on page 1.

A. Provide the title and a detailed description of the proposed workforce training.

The proposed program is The Center for Excellence in Engineering Technology. See Attachment #1

B. Describe how this proposal supports programs at state colleges or state technical centers.

The Center will serve as a model program for Florida College System to replicate a multidisciplinary approach in Engineering. See Attachment 1

C. Describe how this proposal provides participants transferable, sustainable workforce skills applicable to more than a single employer.

The Center trains the workforce to serve more than 90 Business Partnership Advisory Council members. Participant earn certificates and industry credentials that lead to Associate of Science Engineering Technology and bachelor degrees

---

D. Does this proposal support a program(s) that is offered to the public?

☑ Yes ☐ No

E. Describe how this proposal is based on criteria established by the state colleges and state technical centers.

The proposed programs are approved FLDOE academic frameworks for College Credit Certificates (CCC's) and are concentrations within an existing AS Degree in Engineering Technology. See Attachment #1

F. Does this proposal support a program(s) that will not exclude unemployed or underemployed individuals?

☑ Yes ☐ No

FLORIDA DEPARTMENT of ECONOMIC OPPORTUNITY

ENTERPRISE FLORIDA®

G. Describe how this proposal will promote economic opportunity by enhancing workforce training. Please include the number of jobs anticipated to be created from the proposed training. Further, please include the economic impact on the community, region, or state and the associated metrics used to measure the success of the proposed training.

The metropolitan area of Palm Beach, Broward and Miami, will experience a 9% growth in the target industry sectors with 42,513 jobs available by 2022. By 2021, PBSC will have more than 487 Engineering Technology students in the pipeline and will enter the workforce by 2022.

2. Additional Information:

A. Is this an expansion of an existing training program? ☑ Yes ☐ No

If yes, please provide an explanation for how the funds from this grant will be used to enhance the existing program.

To hire faculty and staff, purchase equipment, recruit and place participants into jobs.

B. Does the proposal align with Florida's Targeted Industries? (View Florida's Targeted Industries here.)

☑ Yes ☐ No

If yes, please indicate the targeted industries with which the proposal aligns.

If no, with which industries does the proposal align?

Aviation/Aerospace, Manufacturing, CleanTech, Life Sciences, Homeland Security

C. Does the proposal align with an occupation(s) on the Statewide Demand Occupations List and/or the Regional Demand Occupations List? (View Florida's Demand Occupation Lists here.)

☑ Yes ☐ No

If yes, please indicate the occupation(s) with which the proposal aligns.

If no, with which occupation does the proposal align?

The occupations align with the Statewide Demand Occupational List. See Attachment #1

FLORIDA DEPARTMENT of ECONOMIC OPPORTUNITY

ENTERPRISE FLORIDA®

D. Indicate how the training will be delivered (e.g., classroom-based, computer-based, other).

If in-person, identify the location(s) (e.g., city, campus, etc.) where the training will be available.

If computer-based, identify the targeted location(s) (e.g. city, county, statewide) where the training will be available.

Training will be delivered in person, in the classroom using multi-disciplinary laboratory and project based activities. See Attachment #1

E. Indicate the number of anticipated enrolled students and completers.

PBSC anticipates 400 enrolled students and 217 completers earning a College Credit Certificate by December 31, 2020. See Attachment #1

F. Indicate the length of program (e.g., quarters, semesters, weeks, etc.), including anticipated beginning and ending dates.

Begin Date: January 1, 2018 End Date: Dec 31, 2020

G. Describe the plan to support the sustainability of the proposal.

The College Credit Certificates are earned within 12 to 18 months and will be sustained by tuition and student fees. The College commits to sustaining the Center's personnel, maintenance of equipment and supporting its Business Partnership Advisory Council members through a continuous review of curriculum and programs.

H. Identify any certifications, degrees, etc. that will result from the completion of the program. Please include the Classification of Instructional Programs (CIP) code if applicable.

Please refer to Attachment #1 for a list of College Credit Certificates and CIP codes. The College Credit Certificates lead to the Associate of Science degree in Engineering Technology.

I. Does this project have a local match amount?

☐ Yes ☑ No

If yes, please describe the entity providing the match and the amount.

Not applicable.

J. Provide any additional information or attachments to be considered for the proposal.

Not applicable.

3. Program Budget

Estimated Costs and Sources of Funding: Include all applicable workforce training costs and other funding sources available to support the proposal.

A. Workforce Training Project Costs:

Equipment	$ 2,991,096		
Personnel	$ 2,210,042		
Facilities	$ 750,000		
Tuition	$ 0		
Training Materials	$ 20,000		
Other	$ 647,157	Please Specify:	
Total Project Costs	$ 6,618,295		

B. Other Workforce Training Project Funding Sources:

City/County	$		
Private Sources	$		
Other (grants, etc.)	$	Please Specify:	
Total Other Funding	$		
Total Amount Requested	$ 6,618,295		

Note: The total amount requested must equal the difference between the workforce training project costs in 3.A. and the other workforce training project funding sources in 3.B.

C. Provide a detailed budget narrative, including the timing and steps necessary to obtain the funding, how equipment purchases will be associated with the training program, if applicable, and any other pertinent budget-related information.

Refer to Attachment #1, Palm Beach State College Budget Narrative.

---

4. Approvals and Authority

A. If entity is awarded grant funds based on this proposal, what approvals must be obtained before it can execute a grant agreement with the Florida Department of Economic Opportunity (e.g., approval of a board, commission or council)?

The President, Ava L. Parker has the authority to accept and execute the grant award. Attached is Board Policy 6Hx-18-1.05.

B. If approval of a board, commission, council or other group is needed prior to execution of an agreement between the entity and the Florida Department of Economic Opportunity:

i. Provide the schedule of upcoming meetings for the group for a period of at least six months.

Not Applicable.

---

ii. State whether that group can hold special meetings, and if so, upon how many days' notice.

Not Applicable.

C. Attach evidence that the undersigned has all necessary authority to execute this proposal on behalf of the entity. This evidence may take a variety of forms, including but not limited to: a delegation of authority, citation to relevant laws or codes, policy documents, etc.

FLORIDA DEPARTMENT of ECONOMIC OPPORTUNITY

ENTERPRISE FLORIDA®

I, the undersigned, do hereby certify that I have express authority to sign this proposal on behalf of the above-described entity.

Name of Entity: Palm Beach State College

Name and Title of Authorized Representative: Ava L. Parker, J.D., President

Representative Signature: Ava L Parker

Signature Date: 9/27/17

Attachment 1

1. Program Requirements:

A. Provide the title and a detailed description of the proposed workforce training.

Palm Beach State College proposes a robust, comprehensive training initiative called ***"The Center for Excellence in Engineering Technology"*** (The Center) that will deliver trained, skilled and credentialed workers to six of Enterprise Florida's targeted industry sectors: aviation/aerospace, manufacturing, clean tech, life sciences, homeland security/defense, and other manufacturing. The Center is a multi-campus collaboration that blends best practices and high completion rates of PBSC's Post-Secondary Adult Vocation trade programs with the advanced instructional practices of the Engineering Technology Associate of Science degree. The Center will address the area's unmet need for highly trained, technically competent and skilled engineering workers; and provide a collaborative, multidisciplinary approach to engage, recruit, train and graduate engineering students. The Center will introduce seven new college credit certificates (CCC) that align to industry credentials and can be completed in less than 18 months. The new CCC's articulate to the Associate of Science degree in Engineering Technology and on to a Bachelor of Applied Science degree in Supervision and Management at PBSC. The expansion of PBSC's existing college credit certificate offerings will increase the number of engineering academic pathways and their entry and exit points; increase the number of graduates with nationally certified credentials; and produce a highly trained, technically skilled workforce to PBSC's 90 Business Partnership Advisory Council members and South Florida's employers. The Center will be located at the Palm Beach Gardens campus and the seven college credit certificates will be offered at the Belle Glade, Lake Worth, Loxahatchee Groves and Palm Beach Gardens campuses. Students will complete their Associate of Science degree in Engineering Technology at the Palm Beach Gardens campus. The College leverages existing faculty, staff, facilities and laboratories and will use creative scheduling such as night and weekend courses to support the increased student enrollment.

Because manufacturing technology is rapidly changing, STEM-based occupations are in a near-constant state of "skills upgrade". As a result, the two factors become central to the education and training pipeline: 1) durable guided pathways capable of accommodating multiple entry and exit points, and 2) nationally recognized industry certifications embedded within academic curricula. The Center will address these factors by creating seven CCCs that are short in duration (12-18 months) and share core and specialty courses that articulate to the AS degree in Engineering Technology. Each CCC embeds multiple nationally recognized industry certifications within the curriculum.

Attachment 1

Table 1 lists the new seven college credit certificates and the CIP Code.

Table 1 Associate of Science Engineering Technology College Credit Certificates			
College Credit Certificate	**CIP Code**	**College Credit Certificate**	**CIP Code**
Digital manufacturing specialist	615000009	Industrial Technician (mechatronics)	615000013
Automation	615040601	Medical quality systems	641010105
Lean manufacturing	615061302	Pneumatics, hydraulics and motors for manufacturing	615061303
CNC Machinist	615000015		

Table 2 lists the nationally recognized industry certifications to be embedded into the curricula include:

Table 2 Nationally Recognized Industry Certifications	
(AAMI)NIMS	Manufacturing Technician 1 (MT1)
AAMIN001	Mastercam Associate Certification - Mill Design &Toolpaths
American Society for Quality	Mastercam Certified Programmer Mill Level I (CPgM1)
American Society for Quality NIMS	NIMS CNC Milling Operator Level I
AMSFQ011	NIMS CNC Milling Programming and Setup Level I
AMSFQ012	NIMS CNC Turning: Operator Level I
Association for the Advancement of Medical Instrumentation	NIMS CNC Turning: Programming and Setup Level I
Certified Biomedical Equipment Technician	NIMS Industrial Technology Maintenance NIMS
CNC Software Inc.	NIMS Measurement, Materials, and Safety Level I
CNCSI001	NIMS Preventive Machine Maintenance, Level II and Level III
CNCSI002	Six Sigma Black Belt (CSSBB)
Manufacturing Skills Institute (MSI)	National Institution For Metalworking Skills (NIMS)
AMDDA004* Certified Drafter – Mechanical American Design Drafting Association	ADESK021* Autodesk Certified Professional - AutoCAD Autodesk
**embedded in all certificates*	

PBSC, along with more than 90 Business Partnership Advisory Council members, CareerSource of Palm Beach County, and the Business Development Board of Palm Beach

Attachment 1

County, has identified the following motivating rationales and strategies for the Center of Excellence in Engineering Technology:

Rationale 1: Support Palm Beach County's employers by expanding the number of skilled, credentialed workers in engineering.

Strategy 1.a) increase the recruitment of employers as members into the Business Partnership Advisory Council.

Strategy 1.b) increase the engagement of Business Partnership Advisory Council members to ensure programs and curriculum respond to the evolving industry needs.

Strategy 1.c) increase the opportunities for internships and high wage engineering jobs.

Rationale 2: Strengthen the pipeline of students into PBSC's engineering academic pathways.

Strategy 2.a) create multiple entry and exit points through seven new College Credit Certificates with embedded industry recognized credentials that articulate along an engineering academic pathway.

Strategy 2.b) engage students in a robust, innovative curriculum that responds to industry needs and uses innovative, multi-disciplinary approaches to teaching.

Strategy 2.c) improve the retention and graduation rates of the Associate of Science Engineering Technology program through student engagement and academic advising.

Strategy 2.d) collaborate with all campuses to develop flexible course schedules to accommodate industry and student training needs.

The Center will strengthen the collaboration of math, engineering and physics faculty from the Associate of Arts and Associate of Science programs at PBSC's five campuses as well as engage student clubs and academic advisors to create a comprehensive ecosystem that supports the engineering workforce. Informed by the Business Partnership Advisory Council members, math, engineering and physics faculty will collaborate to develop and implement innovative multi-disciplinary teaching methods into the program curriculum that includes project-based learning. As a result of these innovative, collaborative teaching methods and ecosystem, the students' applied knowledge of engineering will be strengthen and persistence and graduation will increase.

The Center will be housed at the Palm Beach Gardens campus and feature a new Engineering Laboratory wherein students can blend the theoretical knowledge learned in the classroom with project-based learning with faculty in the laboratory. As a comprehensive ecosystem, the Center's engineering faculty will share best practices and multi-discipline teaching methods to all college STEM faculty, who will gain cross-disciplinary expertise and establish collaborative approaches to STEM teaching. The engineering faculty will host professional development workshops for the STEM teachers from the School District of Palm Beach County with the overarching goal of sharing their pedagogy and project-based learning concepts. To

increase persistence of the students in the CCCs to the AS degree in engineering technology, students will be encouraged to participate in college-wide robotics and engineering student clubs, explore internship opportunities with the Business Partnership Advisory Council and Career Source of Palm Beach County.

A total of 217 students will complete a College Credit Certificate within 18 months and 90% of completers will become employed upon graduation. Recruitment and placement assistance will be provided by the Center's partner CareerSource Palm Beach County. Career Source will host career exploration and resume writing workshops and job fairs in partnership with the Center.

B. Describe how this proposal supports programs at state colleges or state technical centers.

Studies[1] indicate that paths into and through community college programs of study are sometimes unclear, particularly in programs intended to articulate to baccalaureate programs, which can become an obstacle to student success. A recent study[2] found that creating coherent pathways through programs aids student success. The creation of the Center addresses the Business Partnership Advisory Councils workforce need to increase engineering academic pathways and strengthen the applied engineering knowledge of students. By building on the existing Engineering Technology Associate of Science degree program, the new seven College Credit Certificates aligned to Industry Credentials provide students multiple entry and exit points that lead to an engineering Associate of Science or Bachelor degree.

The Center will serve as a model to support other state colleges in their development of engineering technology programs as well as expand the Center's collaborative ecosystem with other statewide colleges in order to develop or strengthen statewide engineering programs. The Center Director will convene statewide meetings to disseminate the engineering academic pathways and share the multi-disciplinary curriculum resources and best practices for state colleges to replicate.

Additionally, PBSC will leverage its existing multi-institutional articulation agreement with Florida Atlantic University's (FAU) College of Engineering. Through the State University System of Florida's Targeted Educational Attainment (State TEAM) grant, PBSC and FAU faculty

[1] See Davis Jenkins, Alison Kadlec, and James Votruba, J, The Business Case for Regional Public Universities to Strengthen Community College Transfer Pathways (with Guidance on Leading the Process), Maximizing Resources for Student Success, HCM Strategists, July 2014. See also Stephen J. Handel and Ronald A. Williams, The Promise of the Transfer Pathway: Opportunities and Challenges for Community College Students Seeking the Baccalaureate Degree, The College Board, October 2012.

[2] *"A Matter of Degrees: Promising Practices for Community College Student Success A First Look"* Center for Community College Student Engagement. 2012. Web. 22 May, 2012

Attachment 1

aligned engineering curriculum and developed flight plans for a seamless transfer of PBSC Associate of Arts graduates to FAU. The FAU and PBSC faculty currently participate in shared professional development workshops at FAU's laboratory to infuse project-based learning with PBSC and FAU students. The model project was sustained and enhanced through a grant from the Department of Education. The Center will collaborate with FAU's College of Engineering administrators, faculty and students to participate in the Center's comprehensive ecosystem of engineering activities.

C. Describe how this proposal provides participants transferable, sustainable workforce skills applicable to more than a single employer.

PBSC's service area of Palm Beach County has a large and diverse industry sectors. The Florida Department of Economic Opportunity (2016) reports that there are more than 800 aviation/aerospace[3] employers and more than 8,500 manufacturing employers in the Palm Beach, Broward and Miami-Dade MSA[4]. Together, they employ nearly 100,000 workers. Florida's aerospace cluster has a total payroll of more than $6 billion and the total payroll of the state's manufacturing industry is more than $19.5 billion[5].

Because SOC codes aggregate occupations and job titles span NAICS codes, the seven proposed CCCs will prepare students for far more jobs than the 21 occupation titles listed in Table 3 reflect. For example, 17% of Florida's industrial machinery mechanics are employed in the commercial and industrial machinery equipment repair and maintenance industry; 5% in transportation and the remaining 78% work across all other industries. The aviation/aerospace industry dominates the employment of computer-controlled machine tool operators at 42% while 15% work in other machining industries and 43% across other sectors. Thirteen percent of Florida's millwrights are employed with equipment contractors, 10% work in commercial construction, 9% in agriculture and the remaining 58% are employed across other industries. Twenty-one percent of machinists in Palm Beach County are employed in the Aerospace Manufacturing industry, 2% in the marine industry and 3% in commercial and industrial machinery and equipment repair and maintenance.

This wide array of jobs, interconnected skills and multiple sectors underscores the importance of the Business Partnership Advisory Council involvement in program curriculum and design. In order to ensure that graduates are well prepared for the broad range of job demands and work environments, the Business Partnership Advisory Council will be instrumental in all aspects

[3] Enterprise Florida, Aviation & Aerospace, The Future is Here, 2017.
[4] Florida Manufacturing Industry Profile, 2016 Edition, Florida Department of Economic Opportunity.
[5] Bureau of Labor Statistics, 2015 QCEW Annual Averages

Attachment 1

of the Center. They will provide continuous feedback of the College Credit Certificates, Associate of Science Engineering Technology program and course curriculum. They will provide internships and jobs to the engineering students and participate in job fairs. PBSC employs a collaborative and organic process of local planning and consensus building to develop the seven College Credit Certificates to ensure that they are meet the workforce needs of the Business Partnership Advisory Council to prepare as many workers as possible for the jobs in the targeted industry sectors. The College Credit Certificate is the starting point along the engineering technology academic pathway which students earn multiple industry recognized credentials and college credits that transfer to PBSC's Associate of Science in Engineering Technology to the Bachelor of Applied Science degree in Supervision and Management.

As shown in Table 3, the proposed College Credit Certificates aligns with the following list of NAICS codes of the targeted industry sectors.

Table 3 NAICS Codes that align to College Credit Certificates

NAICS Code	Industry Description
336412	Aircraft engine and engine parts manufacturing
441228	Motorcycle, ATV and All other Motor Vehicle Dealers
423860	Transportation Equipment and Supplies
334519	Other measuring and controlling device manufacturing
336411	Aircraft manufacturing
334511	Search, Detection, Navigation, Guidance, Aeronautical
423860	Transportation Equipment and Supplies
541511	Administrative management and general management
333611	Turbine and Turbine Generator Set Units Manufacturing
336412	Aircraft Engine and Engine Parts Manufacturing
336415	Guided Missile and Space Vehicle Propulsion Unit and Propulsion Unit Parts Manufacturing
541618	Other management consulting services
541330	Engineering Services
518210	Data processing, hosting and related services
237130	Power and communication line and related structures
221118	Other electric power generation
221100	Electric power generation, transmission and distribution
541330	Engineering Services
561499	All other business support services
541330	Engineering Services
541618	Other management consulting services
517110	Wired Telecommunications carriers
541330	Engineering Services

Attachment 1

541712	Research and development in Physical, engineering, and life sciences (except Biotechnology)
221118	Other electric power generation
561210	Facilities support services
325510	Paint and Coating Manufacturing
333414	Heating Equipment (except Warm Air Furnaces) Manufacturing
334413	Semiconductor and Related Device Manufacturing
541620	Environmental Consulting Services
541690	Other Scientific and Technical
561210	Facilities Support Services
561320	Temporary Help Services
562211	Hazardous Waste Treatment and Disposal
562910	Remediation Services

D. Does this proposal support a program(s) that is offered to the public? YES

E. Describe how this proposal is based on criteria established by the state college and state technical centers?

The creation of the Center and the offering of the new seven College Credit Certificates have been approved by PBSC administration and the Business Partnership Advisory Council. The seven CCC's will be developed through the standardized, rigorous curriculum approval process established by the College for all new programs, and meets all Florida Department of Education (FLDOE) standards, benchmarks and learning outcomes set forth in the academic frameworks. Prior to approval, all programs of study, including those proposed herein, must align with institutional priorities and address the Business Partnership Advisory Council's industry needs.

The formalized approval process engages administration, faculty, Business Partnership Advisory Council guidance, Institutional Review and Evaluation, FLDOE curriculum requirements and external partners including CareerSource of Palm Beach County, the Business Development Board of Palm Beach County. The data-driven process uses labor market information, industry profiles and all programs are required to align with nationally recognized industry standards and certifications.

PBSC's Business Partnership Advisory Council members will work alongside faculty and administration to support the Center and the development of the new seven CCC's by providing content matter expertise, curriculum development, providing internships, hiring graduates, and referring incumbent workers to PBSC for "skills upgrades". Their role is to review, revise and enhance the curriculum content of the courses, ensure its fidelity with the State's academic frameworks for FLDOE. This collaboration between industry and education strengthens PBSC

programs so that they exceed industry standards and ensures graduates are job ready for immediate employment upon completion.

As a comprehensive ecosystem at the Center, the STEM and Engineering Technology faculty college-wide will work together with the Business Partnership Advisory Council to develop specific course curriculum for the CCCs, align each course with state frameworks, and ensure that skills and knowledge are highly relevant to engineering employers in South Florida.

F. Does this proposal support a program(s) that will not exclude unemployed or underemployed individuals? YES

G. Describe how this proposal will promote economic opportunity by enhancing workforce training. Please include the number of jobs anticipated to be created from the proposed training. Further, please include the economic impact on the community, region or state and the associated metrics used to measure the success of the proposed training.

Florida is one of the largest states in the nation, with the 3rd largest workforce composed of a culturally and linguistically diverse pool of more than 9.7 million workers[6]. The US Census Bureau (2016) population estimate puts Palm Beach County's population at 1.44 million. The county's unemployment rate is a low 4.3% and the Palm Beach-Broward-Miami metropolitan region led the nation in wage and salary growth for the year ended June 2017 at 3.9%[7].

Palm Beach County is a major aviation/aerospace/engineering center with a cluster of 1,352 sector employers employing more than 17,000 workers. The county is home to several of the world's largest aviation industry employers including Lockheed Martin Corporation, Aerojet Rocketdyne, Pratt & Whitney, and Sikorsky[8]. The industry has a $6.78 billion dollar impact on the state[9].

Three out of five subsectors in Florida's aerospace industry (aircraft engine and engine parts manufacturing, aircraft manufacturing and other aircraft parts and auxiliary equipment manufacturing) account for 43% of the sector's total employment.[10] Annual wages in the aerospace subsector tend to be among the state's highest, eclipsing all other industry wages in 2014 by 48 percent. PBSC's Center for Excellence in Engineering Technology will target training for jobs in these subsectors; qualifying workers in 9 of the 10 top CCC/AS degree aerospace

[6] Enterprise Florida, 2017, downloaded from: https://www.enterpriseflorida.com/why-florida/workforce/
[7] Ibid.
[8] Enterprise Florida, Aviation & Aerospace, The Future is Here, 2017.
[9] Bureau of Labor Statistics, 2015 QCEW annual averages, downloaded from: http://www.enterpriseflorida.com/wp-content/uploads/All_Industry_Wage_Data_Sheets.pdf
[10] Reprinted from Florida Aviation & Aerospace Industry, 2016 Edition, Florida Department of Economic Opportunity, p.

Attachment 1

occupations. Projected growth in the sector is significant; aircraft structure, surfaces and systems assemblers and machinists are on track to add 267 jobs across the state by 2023[11].

The Florida Department of Economic Opportunity's most recent data on the state's manufacturing industry (June 2015) shows that Florida's manufacturers accounted for 4.3% of all industrial employment with 342,930 jobs, up 11,754 from the prior year[12]. Average annual wage in the sector at $53,500[13], tends to be approximately 20% higher than all other industries. Palm Beach County's manufacturing cluster, the third largest in the state with a total payroll of $19 billion[14], includes significant marine and biomedical components, as well as Information Technology. There are more than 20,900 manufacturing jobs in Palm Beach County. It is interesting to note that between 2016 and 2017, Florida's Price, Waterhouse, Cooper ranking for aerospace manufacturing attractiveness[15] fell from second to seventh. The drop is attributed to talent constraints which may be exerting upward pressure on wages.

Florida's Defense and Homeland Security sector boasts 17,900 companies with 194,000 employees and is second in the nation for space and defense systems manufacturing[16]. Palm Beach County is home to a growing cluster of defense contractors, several of which overlap significantly with the aerospace/aviation and manufacturing sectors.

Additional stressors to the high-wage/high-tech pipeline may be external to the job market. Future growth will be enabled by the resurgence of the space and defense industries to the North in Brevard County, where many leading technology and defense employers, including Boeing, Lockheed Martin, Northrup Grumman, Pratt & Whitney and Alliant Techsystems are growing their footprint. The new high-speed All Aboard Florida Brightline train service is projected to grow 952 jobs in Palm Beach County and once fully operational, the high-speed rail service will open up employment opportunities across the tri-county MSA. When service proceeds to Orlando sometime before 2020, access to the impressive aviation/aerospace and manufacturing clusters to the north will be readily accessible. In addition, South Florida's aging workforce will increase demand for technical skills in the near future[17].

[11] Enterprise Florida, Aviation & Aerospace, The Future is Here, 2017
[12] Florida Manufacturing Industry Profile, 2016 Edition, Florida Department of Economic Opportunity.
[13] Enterprise Florida Wage Data Sheet, 2017
[14] Ibid.
[15] *"Aerospace manufacturing attractiveness rankings"* Geographic Assessment for Aerospace Manufacturing Investment, August, 2017. Price, Waterhouse & Coopers.
[16] Primary data source: US Department of Labor, Bureau of Labor Statistics, QCEW
[17] *"As workforce ages, industries struggle to prepare for wave of retirements."* Alcorn, J. & Tomassini, J., Sept., 2011. Downloaded from: https://www.washingtonpost.com/business/as-workforce-ages-industries-struggle-to-prepare-for-wave-of-retirements/2011/08/29/gIQARlvVwJ_story.html?utm_term=.42067256658c

Attachment 1

Table 4 below demonstrates the current and projected demand for selected manufacturing and aviation/aerospace jobs in Palm Beach County.

Table 4 Manufacturing and Aviation/Aerospace job demand in Palm Beach County					
SOC #	**SOC Occupation Titles**	**Median hourly wage**	**2016 jobs**	**Projected number of jobs**	**% Growth**
49-9041	Industrial Machinery Mechanics	$21.74	720	166	22%*
49-9044	Millwrights	$18.88	20	9	41%**
51-4041	Machinists	$20.04	498	79	15%**
51-4011	Computer controlled machine tool operators	$19.57	24	24	44**
	Average:	$20.05	1262	278	22%

*Palm Beach County BLS data (2016-2024) **Palm Beach County EMSI data (2017-2022)

However, even as the demand for credentialed STEM workers to fill high-skill/high-wage jobs in Palm Beach County is clear, businesses continue to struggle to find qualified, credentialed candidates. The reason for this, at least in part, is that PBSC lacks the engineering CCC's that can keep the pipeline filled.

Currently, PBSC has **270** students enrolled in its existing Electrical Power Technology and Engineering Technology AS degree programs; with most students participating in the programs' early core courses. Between the 2014/15 academic year and the 2016/17 academic year, **27** students graduated from the Electrical Power Technology program; *one hundred percent* of whom have either gained employment in their field or continued their education at a university. The demand for highly skilled, credential engineers and technicians far exceeds the supply. At this annual ratio of completers, PBSC will not meet the industry demands for the well-trained workers necessary to fill existing and projected 278 job openings represented in Table 4.

The ***economic implications*** of this unmet need are significant for Palm Beach County. The technology industry ranks 5th in the United States for number and value of unfilled jobs and 4th for the level of economic impact those vacancies have on the economy as a whole[18]. EMSI data show that among the region's (Palm Beach, Broward, Miami-Dade MSA) 5,691 aviation/aerospace employers, job growth through 2027 is expected to outpace that of the nation by nearly 2 points, or 3,783 jobs. With an average local industry salary of $92,708, these are among the best jobs in Palm Beach County.

[18] "How unfilled tech jobs impact the US economy. Florentine, S. (2017). Downloaded from: https://www.cio.com/article/3175814/hiring/how-unfilled-tech-jobs-impact-the-u-s-economy.html

Attachment 1

However, the unspent wages of vacant jobs are not the only cost to our economy. Employers in our region's aviation/aerospace cluster, including PBSC's Business Partnership Advisory Council members, required $361,961,808 of in-region purchases to operate their business, even while many jobs remain unfilled. The economic impact of a fully-staffed tech and engineering in Palm Beach County would be profound. These facts highlight the importance of adding the proposed CCCs that can accelerate movement through engineering technology pipeline and increasing the number of skilled workers available to fill these jobs.

2. Additional Information:

A. Is this an expansion of an existing training program? YES

If yes, please provide an explanation for how the funds from this grant will be used to enhance the existing program.

The proposed grant funding will be used to hire Center Director, Coordinator and Advisor to manage the operations of the Center. Full time faculty, adjunct faculty and instructional support specialist will develop and deliver course instruction for the College Credit Certificates and four lab technicians will support the faculty and maintain the classroom laboratories. Three classrooms and one storage space will be renovated and reallocated to create the training classrooms and house the equipment. Funding is requested for stipends to pay the STEM faculty and ET faculty to create multi-disciplinary courses that support the CCC's and AS in Engineering Technology.

B. Does the proposal align with an occupation on the Statewide Demand Occupations List and/or Regional Demand Occupations List? YES

The employment pathways for the College Credit Certificates (CCC's) is projected to be in high demand and appears on the Statewide Demand Occupational List and Workforce Region 21 (Palm Beach County) Demand Occupations List. Table 5 shows the Engineering workforce projected in Palm Beach County.

Attachment 1

Table 5 Engineering Industry Workforce 2017 – 2022, Palm Beach County Projections							
College Credit Certificate	**SOC#**	**Job Title**	**2017 Jobs**	**2022 Jobs**	**% of Increase**	**Hourly Earnings**	**2017-2022 Openings**
Industrial Technician (Mechatronics) CIP 615000013	17-3027	Mechanical Engineering Technicians	35	40	14%	$28.71	17
	17-3024	Electro-Mechanical Technicians					
Automation CIP 615040601	17-3027	Mechanical Engineering Technicians	35	40	14%	$28.71	17
Lean Manufacturing CIP 615061302	17-3027	Mechanical Engineering Technicians	35	40	14%	$28.71	17
Pneumatics, Hydraulics, and Motors for Manufacturing CIP 615-61303	17-3027	Mechanical Engineering Technicians	35	40	14%	$28.71	17
Digital Manufacturing Specialists CIP 615000009	17-3019	Drafters, All Other	44	45	2%	$25.57	17
	17-3026	Industrial Engineering Technicians	112	120	7%	$30.47	46
	17-3027	Mechanical Engineering Technicians	35	40	14%	$28.71	17
	17-3029	Engineering Technicians, Except Drafters, All Other	223	234	5%	$22.95	86
	51-4012	Computer Numerically Controlled Machine Tool Programmers Metal and Plastic	18	24	33%	$26.59	16
	51-9082	Medical Appliance Technicians	42	48	14%	$20.90	32

Attachment 1

Medical Quality Systems CIP 641010105	29-2071	Medical Records and Health Information Technicians	640	723	13%	$17.44	266
	31-9092	Medical Assistants	3,872	4,324	12%	$16.73	2,692
	29-2012	Medical and Clinical Laboratory Technicians	394	469	19%	$18.20	186
	51-9082	Medical Appliance Technicians	42	48	14%	$20.90	32
	11-9111	Medical and Health Services Managers	1,011	1,168	16%	$42.26	541
	17-2031	Biomedical Engineers	31	38	23%	$35.66	17
	19-4021	Biological Technicians	82	98	20%	$18.95	68
CNC Machinist operator /programmer CIP 615000015	51-4102	Computer Numerically controlled Machine Tool Programmers Metal and Plastic	18	24	33%	$26.59	16
Source: 2017 – 2022 EMSI Job Growth Analysis, 2017							

PBSC's Business Partnership Advisory Council reports compelling information related to the high future demand for these occupations, and data supports their conclusions.

1) Employers express concern that in addition to a shortage of engineers and technologists in the pipeline, the impact of the upcoming retirement of an aging workforce looms large on the horizon. For example, approximately 20 percent of Lockheed Martin's engineers are approaching retirement[19]. Sixty-two percent of Florida's industrial machinery mechanics are 45 years old or more and 20% are 55 or older. Similarly, 63% of machinists are older than 45; 32% 55 or older. Fifty-nine percent of millwrights are older than 45 and fully

[19] *"As workforce ages, industries struggle to prepare for wave of retirements."* Alcorn, J. & Tomassini, J., Sept., 2011. Downloaded from: https://www.washingtonpost.com/business/as-workforce-ages-industries-struggle-to-prepare-for-wave-of-retirements/2011/08/29/gIQARlvVwJ_story.html?utm_term=.42067256658c

Attachment 1

34% are older than 55 years old. At least 5% of the workforce in each of these occupations is 65 years old or older[20].

2) Employers report that the rapidly changing technology used in the workplace causes the targeted occupations to be in a constant state of "skills upgrade". They strive to find workers with the technical expertise and capacity in highly specialized occupations. The need for skills upgrades is nearly constant, even for incumbent workers.

3) While Florida has steadily added 343,000 private sector jobs over the past several years,[21] businesses continue to struggle to find qualified candidates, particularly in STEM fields. Conversely, using the BLS estimated number of unemployed in June, 2017, 31,580, as a proxy for supply, there has been consistent decline in potentially available workers for business to train.

4) Finally, the Beveridge Curve (job openings rate v. unemployment rate) in Florida continues to increase, as Florida's unemployment rate in June, 2017 was 4.3 percent and the job openings rate was 4.0 percent[22] nearing a point at which the need to find qualified, trained workers in STEM fields exceeds the available talent pool that companies need to grow their business.

These factors strongly point not only to a significant gap between the number and skill of credentialed engineers and technicians, it highlights the demand for stacked, credentialing of workers through flexible entry and exit points in guided pathways as proposed for this project.

D. Indicate how the training will be delivered (e.g., classroom-based, computer-based, other). If in-person, identify the location(s) (e.g., city, campus, etc.) where the training will be available.

Training will be delivered in person, in the classroom using multi-disciplinary laboratory and project based activities at the following four campuses.

[20] Economic Modeling Specialists Q3 2017 Data Sets, August, 2017
[21] Florida Monthly Employment Report, FL Department of Economic Opportunity, August, 2017
[22] ibid.

Attachment 1

Campus	College Credit Certificate	Location/Address
Belle Glade	Industrial Technician (Mechatronics) Automation	1977 College Drive, Belle Glade, FL 33430
Lake Worth	Industrial Technician (Mechatronics) CNC Machinist Operator/Programmer Weekend Programs	4200 Congress Avenue, Lake Worth, FL 33461
Loxahatchee Groves	Industrial Technician (Mechatronics) Medical Quality Systems	15845 Southern Boulevard, Loxahatchee, FL 33470
Palm Beach Gardens	Industrial Technician (Mechatronics) Automation Lean Manufacturing Pneumatics, Hydraulics, and Motors for Manufacturing Medical Quality Systems	3160 PGA Boulevard, Palm Beach Gardens, FL 33410

E. Indicate the number of anticipated enrolled students and completers

Table 6 shows the enrollment and completers of the CCC's at each location for two years. PBSC anticipates enrolling 400 participants with 217 completing and earning a college credit certificate with an industry credential.

Table 6 Enrollment and Completers of College Credit Certificates		
Name of the Program/Location	**Year/ Enrolled Students**	**Year / Completers**
Industrial Technician (Mechatronics) **Belle Glade**	Year 1 / **13** Year 2 / **15**	Year 1 / **0** Year 2 / **10**
Industrial Technician (Mechatronics) **Lake Worth**	Year 1 / **20** Year 2 / **25**	Year 1 / **18** Year 2 / **22**
Industrial Technician (Mechatronics) **Loxahatchee Groves**	Year 1 / **15** Year 2 / **20**	Year 1 / **0** Year 2 / **15**
Industrial Technician (Mechatronics) **Palm Beach Gardens**	Year 1 / **20** Year 2 / **30**	Year 1 / **0** Year 2 / **17**
Automation **Belle Glade**	Year 1 / **0** Year 2 / **20**	Year 1 / **0** Year 2 / **15**
Automation **Palm Beach Gardens**	Year 1 / **0** Year 2 / **30**	Year 1 / **0** Year 2 / **25**
Lean Manufacturing **Palm Beach Gardens**	Year 1 / **0** Year 2 / **30**	Year 1 / **0** Year 2 / **18**
Pneumatics, Hydraulics, and Motors for Manufacturing	Year 1 / **20** Year 2 / **30**	Year 1 / **0** Year 2 / **17**

Attachment 1

Palm Beach Gardens		
Digital Manufacturing Specialist **Palm Beach Gardens**	Year 1 / **20** Year 2 / **30**	Year 1 / **0** Year 2 /**17**
Medical Quality Systems **Loxahatchee Groves**	Year 1 / **0** Year 2 / **15**	Year 1 / **0** Year 2 / **10**
Medical Quality Systems **Palm Beach Gardens**	Year 1 / **0** Year 2 / **20**	Year 1 / **0** Year 2 / **10**
CNC Machinist Operator/Programmer **Lake Worth**	Year 1 / **12** Year 2 / **15**	Year 1 / **10** Year 2 / **13**
Total Programs	**Total Enrolled 400**	**Total Completed 217**

F. Indicate the length of program (e.g., quarters, semesters, weeks, etc.), including anticipated beginning and end dates.

With a project start date of January 1, 2018, PBSC will develop the curriculum for the courses in the Spring 2018 semester or Fall 2019. By Fall 2018 (August 2018) and Spring (January 2019) the first cohort of students will enroll in the program courses. The second cohort will start Fall 2019 and Spring 2020. The programs will be continuously offered each semester in order to accelerate time to completion of the CCCs. Table 7 shows the location and the length of training for each College Credit Certificate. Students will earn a College Credit Certificate and an industry recognized credential in less than 18 months.

Table 7 Length of Program with Beginning and End Dates

Name of the Program/Location	Length of Program	Beginning Date/End Date
Industrial Technician (Mechatronics) **Belle Glade**	4 semesters 30 Credits	Beginning: Fall 2018, & Fall 2019 End: Fall 2019 & Fall 2020
Industrial Technician (Mechatronics) **Lake Worth**	4 Semesters 30 Credits	Beginning: Fall 2018, & Fall 2019 End: Fall 2019 & Fall 2020
Industrial Technician (Mechatronics) **Loxahatchee Groves**	4 Semesters 30 Credits	Beginning: Fall 2018, & Fall 2019 End: Fall 2019 & Fall 2020
Industrial Technician (Mechatronics) **Palm Beach Gardens**	4 Semesters 30 Credits	Beginning: Fall 2018, & Fall 2019 End: Fall 2019 & Fall 2020
Automation **Belle Glade**	3 Semesters 12 Credits	Beginning: Spring 2019, & Spring 2020 End: Fall 2019 & Fall 2020
Automation **Palm Beach Gardens**	3 Semesters 12 Credits	Beginning: Spring 2019, & Spring 2020 End: Fall 2019 & Fall 2020
Lean Manufacturing **Palm Beach Gardens**	2 Semesters 12 Credits	Beginning: Fall 2018, & Fall 2019 End: Summer 2019 & Summer 2020

Attachment 1

Pneumatics, Hydraulics, and Motors for Manufacturing **Palm Beach Gardens**	3 Semesters 12 Credits	Beginning: Fall 2018, & Fall 2019 End: Summer 2019 & Summer 2020
Digital Manufacturing Specialist **Palm Beach Gardens**	3 Semesters 24 Credits	Beginning: Fall 2018, & Fall 2019 End: Summer 2019 & Summer 2020
Medical Quality Systems **Loxahatchee Groves**	3 Semesters 15 Credits	Beginning: Fall 2018, & Fall 2019 End: Summer 2019 & Summer 2020
Medical Quality Systems **Palm Beach Gardens**	3 Semesters 15 Credits	Beginning: Fall 2018, & Fall 2019 End: Summer 2019 & Summer 2020
CNC Machinist Operator/Programmer **Lake Worth**	4 Semesters 12 Credits	Beginning: Fall 2018 End: Fall 2020

G. Describe the plan to support the sustainability of the proposal.

The proposed Center exploits all available efficiencies and economies to provide a collaborative, multi-disciplinary model ecosystem. Several of the proposed programs share existing core courses which benefits the Center by increasing efficiency. The CCC programs feature Florida Department of Education standards and benchmarks set forth in established academic frameworks. PBSC's Business Partnership Advisory Council members support the sustainability of the programs by providing content matter expertise and hiring graduates. Their role is to review, revise and enhance the curriculum content of the courses developed by the faculty. Every three years, the Florida Department of Education conducts a review of program frameworks and solicits volunteers from the State College and their Business Partnership Advisory Council members to provide feedback and recommendations to revise the existing frameworks and create new programs.

A primary factor in the Center's sustainability will be its measures of success. The Center programs will be integrated into PBSC's Institutional Research and Effectiveness Department's existing outcome evaluation process. The Center Director will monitor quality metrics including:

1. The state FETPIP report, which tracks program completers one year after completion to determine their employment status.
2. Perkins Accountability Measures, which indicated student attainment of credential during the program's first year, program completion and retention.
3. Program Health Indicators measure student enrollment, completion and satisfaction.
4. Business Partnership Advisory Council feedback. Continuous meetings with the local employers support PBSC's quality improvement cycle of its programs.
5. Track employment. PBSC will sustain the Center by tracking the number of graduates employed in Palm Beach County.

Attachment 1

PBSC will leverage existing facilities, classrooms and laboratories to house the Center and the new CCC's. PBSC will use creative scheduling that include evening and weekend classes and laboratories to support the anticipated increased student enrollment and retention. Following the second year of implementation, the programs will be sustained by tuition and fees generated by enrollment.

The College Relations and Marketing Department and the Center Director will develop collateral material to support outreach and recruitment efforts. The Center Director and Coordinator will conduct outreach, recruitment into PBSC's engineering academic pathways to 1) the high schools at the School District of Palm Beach County, 2) Career Source of Palm Beach County and 3) other community partners. PBSC's strong partnership with CareerSource will ensure that those receiving CareerSource services are aware of the new seven CCC's and academic engineering pathways. Career Source will offer participants who qualify for Individual Training Account stipends to support the training costs. PBSC is committed to maintaining efforts to strengthen and expand its Business Partnership Advisory Council to ensure the programs remain relevant to industry partners. PBSC is committed to retaining the personnel and maintaining the equipment purchased with project funds beyond the performance period. The PBSC Foundation and PBSC's Resource and Grant Development Office will continue their coordinated efforts to explore various funding sources to sustain and expand the project.

H. Identify any certifications, degrees, etc. that will result from the completion of the program. Please include the Classification of Instruction (CIP) code if applicable.

Program completers will earn a College Credit Certificate that leads to an Associate of Science Degree in Engineering Technology. Embedded into the curriculum of each program are multiple nationally recognized industry credentials. Table 8 depicts the College Credit Certificate, CIP Code, the credential earned and industry credential aligned for each program:

Table 8 College Credit Certificate Credentials

College Credit Certificate	CIP Code	Credential Earned	Industry Credential
Industrial Technician (Mechatronics)	615000013	College Credit Certificate 30 Credits	MANSI001 Manufacturing Technician 1 (MT1) Manufacturing Skills Institute (MSI) NIMS Preventive Machine Maintenance, Level II and Level III

Attachment 1

			NIMS Industrial Technology Maintenance NIMS
Automation	615040601	College Credit Certificate 12 Credits	MANSI001 Manufacturing Technician 1 (MT1) Manufacturing Skills Institute (MSI)NIMS
Lean Manufacturing	615061302	College Credit Certificate 12 Credits	AMSFQ012 Six Sigma Green Belt (CSSGB) American Society for Quality AMSFQ011 Six Sigma Black Belt (CSSBB) American Society for QualityNIMS
Pneumatics, Hydraulics, and Motors for Manufacturing	615061303	College Credit Certificate 12 Credits	NIMS Industrial Technology Maintenance
Digital Manufacturing Specialist	615000009	College Credit Certificate 24 Credits	MANSI001 Manufacturing Technician 1 (MT1) Manufacturing Skills Institute (MSI)NIMS
Medical Quality Systems	641010105	College Credit Certificate 15 Credits	AAMIN001 Certified Biomedical Equipment Technician Association for the Advancement of Medical Instrumentation (AAMI)NIMS
CNC Machinist Operator/Programmer	615000015	College Credit Certificate 12 Credits	CNCSI001

Attachment 1

			Mastercam Certified Programmer Mill Level 1 (CPgM1) CNC Software Inc. CNCSI002 Mastercam Associate Certification - Mill Design and Toolpaths CNC Software Inc. NIMS CNC Milling Operator (Level I) NIMS CNC Milling Programming and Setup (Level I) NIMS CNC Turning: Operator (Level I) NIMS CNC Turning: Programming and Setup (Level I) NIMS Measurement, Materials, and Safety (Level I)
All CCC's and AS in Engineering Technology			AMDDA004 Certified Drafter - Mechanical American Design Drafting Association ADESK021 Autodesk Certified Professional - AutoCAD Autodesk

Attachment 1

I. Does this project have a local match amount? NO

J. Provide any additional information or attachments to be considered for the proposal.

PBSC has a robust Business Partnership Advisory Council who support the creation of the Center and College Credit Certificates that support their industry sector. Many of the Business Partnership Advisory Council members listed below offer internships and hire students upon graduation from the Electrical Power Technology program. Many students leave behind their current jobs to work at the industry partners for higher pay, fringe benefits, more responsibility and for the opportunity to start their professional career.

Table 9 shows a list of 90 members of PBSC's Business Partnership Advisory Council at the Belle Glade, Lake Worth, Loxahatchee Groves and Palm Beach Gardens campuses. These business partners support the expansion of the seven CCCs and commit to consider developing internships and hiring graduates.

Table 9 Members of Palm Beach State College's Business Partnership Advisory Council		
Aerojet Rocketdyne	Agilis Engineering	All Lake Electrical Contractors
Atlas Sign Industries	Belcan	BHI Energy
Blair's Electronics	Brightline/Siemens (All Aboard Florida)	Carpenter Electric
Carter Electric Of Belle Glade	CC Controls	City of Palm Beach Gardens
Cyient	Environmental Technology Control	Everglades Farm Eqpt Co Inc
Florida Crystals	Florida Turbine Technologies	Florida Power and Light
Glade & Grove Supply Co Inc	Glades Gas Co	Glades Precooler Inc
Glades Truck Ice Inc	Hoerbriger Corporation	Honeywell Security Group
Hydraulic Supply Co	J & G Transport	Jay's Plumbing
Jim Hooks Welding & Truck Equipment	Jma Electric Inc	Kimley Horn
King Ranch Inc	Kirchman Oil Corp	Knight Corporation
Krieger Machine Company	Lake Welding Supplies Inc	Larry's Laundry
Lockheed Martin	Logus Microwave	M P Heavy Duty Truck Parts
Mcneill Contracting Inc	Miami Sod Co	NAPA Auto Parts-Performance
New Hope Sugar Co-Op	Niagara Bottling	Okeechobee Center-Housing
Original Equipment Auto	Original Equipment Co	Orsenigo Farms Inc
Orsenigo Repair & Maintenance	Palm Beach County Co-Op Ext	Palm Beach Facilities Mgmt
Performance Napa Corp	Power Systems Manufacturing	PowerWright Technology
Pratt & Whitney	PrimeTest Automation	Proveg
QC Data	Quality Telephone Svc Inc	Ray's Heritage LLC
Renco Plumbing Inc	Robbie Tire Co Inc	Roma Services Inc

Attachment 1

Roth Farms	Royal's Furniture	Rustys Portable Sand Blasting
S M Jones & Co Inc	Scosta Corp	Scotlynn Sweet Pac Growers
Sem Chi Rice Products Corp	Seminole Supply Co	Sikorsky Aircrafts
South Florida Conservancy Dist	South Florida Water Management District	Star Farms
Stitchworks Plus	Sugar Cane Golf Club	Sugar Cane Growers Co-Op Of Florida
Sugar Farms	T & S Construction Inc	Tecomet, Inc.
Tire Service Plus	TKM Farms Inc	TRC Solutions
Tripp Electric Motors Inc	Tru-Flo Corp	Water Utility Department of Palm Beach County
Zimmer Biomet		

3. Program Budget

Estimated Costs and Sources of Funding: Include all applicable workforce training costs and other funding sources available to support the proposal.

A.	**Workforce Training Project Costs:**		
	Equipment	**$2,991,096**	
	Personnel	**$2,210,042**	**Includes Fringe Benefits**
	Facilities	**$750,000**	
	Tuition	**$0**	
	Training Materials	**$20,000**	
	Other	**$332,000**	**Please Specify: Computers for Staff, general office supplies, safety supplies, Career Source Palm Beach County contract for services.**
	Indirect Cost (5%)	**$315,157**	**PBSC has an indirect cost rate of 37.60% with the Department of Health and Human Services.**
	Total Project Costs	**$6,618,295**	
B.	**Other Workforce Training Project Grant Funding Sources:**		**Not Applicable**
	City/County	**$ 0**	

Attachment 1

	Private Sources	**$ 0**	
	Other (grants, etc.)	**$ 0**	**Please Specify:**
	Total Amount Requested	**$6,618,295**	

C. Provide a detailed budget narrative, including the timing and steps necessary to obtain the funding, how equipment purchases will be associated with the training program, if applicable, and any other pertinent budget-related information.

The project requests a six month implementation period (January 1, 2018 – July 31, 2018) to purchase and install the equipment, renovate classroom space, hire the Center's personnel and faculty, develop the CCC curriculum and initiate the STEM and Engineering faculty collaborative curriculum development project.

Table 10 depicts the timeline and steps necessary to implement the two year project.

Table 10 The Center for Excellence in Engineering Technology Timeline (January 1, 2018 Start Date to December 31, 2020)	
Timeline	**Activity**
January 2018 to July 2018	Inform internal stakeholders and Business Partnership Advisory Council; Develop press releases, marketing and recruitment materials; Advertise and hire positions; Recruitment of first cohort into CCCs. Renovate the classroom space to prepare for the installation of equipment; Order and install equipment; Order supplies; Sign Contract with Career Source Palm Beach County; Faculty develops CCC curriculum. STEM and Engineering faculty initiate curriculum projects.
August 2018 to December 2018 (Fall Semester)	First cohort of students enrolled in seven CCCs on four campuses. Equipment is installed and fully operational. STEM and Engineering Technology faculty collaborate on curriculum project. Recruitment of second cohort.
January 2019 to May 2019 (Spring Semester)	First cohort persists. STEM and Engineering faculty continue to collaborate on curriculum project. Continuous recruitment of second cohort.
June 2019 to August 2019 (Summer Semester)	First cohort persist in CCCs and third cohort enrolls. STEM and Engineering faculty deliver instruction of the new curriculum in courses. Continuous recruitment of second cohort.
August 2019 to December 2019	First cohort completes CCCs and continues towards AS in Engineering Technology; Second cohort enrolls.

Attachment 1

(Fall Semester)	Continuous recruitment into CCCs. STEM and Engineering faculty collaboratively refine new curriculum and deliver new course instruction.
January 2020 to May 2020 (Spring Semester)	First cohort enrolls into AS Engineering Technology. Second cohort persists. STEM and Engineering faculty deliver new course instruction. Continuous recruitment into CCCs.
June 2030 to August 2020 (Summer Semester)	First cohort persists through AS Engineering Technology, Second cohort persists in CCCs. Continuous recruitment into CCCs. STEM and Engineering Faculty refine curriculum.
August 2020 to December 2020 (Fall Semester)	First cohort completes AS Engineering Technology, Second enrolls in AS Engineering Technology, and third cohort enrolls in CCCs. Continuous recruitment into CCCs. STEM and Engineering Faculty deliver new curriculum.

Budget Narrative:

The budget narrative includes the hiring of personnel for the Center, faculty and laboratory and instructor specialists, partnership with Career Source of Palm Beach County for recruitment and placement services, renovation of classrooms space into training laboratories, training supplies, a 5% Indirect Cost rate and the purchase of equipment for the proposed seven CCCs at the four campuses. The equipment consists of program specific trainers for each CCC from the following training equipment manufacturers: Festo, Kuta, EMCO Group and Haas.

A.	**Workforce Training Project Costs:**			
		Year 1	**Year 2**	**Total**
	EQUIPMENT			
	Belle Glade Campus:			
	Mechatronics CCC, Automation CCC	$616,082	$0	$616,082
	Lake Worth Campus:			
	CNC Machinist Operator Programmer CCC CNC Machining Student Learning Stations; Haas VF-2SS $78,000; Haas ST-15 $67,000; 20mm Tsugami Model B0205 $165,000; 32mm Tsugami Model B0325 $220,000	$530,000	$0	$530,000
	Loxahatchee Groves Campus:			

Attachment 1

	Mechatronics CCC, Automation CCC	$616,082	$0	$616,082
	Medical Quality Systems CCC	$100,000	$0	$100,000
	Palm Beach Gardens Campus:			
	Mechatronics CCC, Automation CCC, Pneumatics, Hydraulics and Motors for Manufacturing CCC, Lean Manufacturing CCC	$1,028,932	$0	$1,028,932
	Medical Quality Systems CCC	$100,000	$0	$100,000
	►TOTAL EQUIPMENT	**$2,991,096**	$0	**$2,991,096**
	PERSONNEL			
	Center Director at Palm Beach Gardens, Salary Grade 63 Provides overall management of the project, communicates to and from the College's executive leadership; provide reports to the President; supervise the Center staff; provide administrative oversight for all Center activities, allocations, expenditures, and reporting; communicate with Business Partnership Advisory Council	$76,970	$79,279	$156,249
	Program Grant Coordinator at Palm Beach Gardens (100% FTE) Salary Grade 59 Reports to the Center Director, supports activities of project. Develops reports, manages budget, creates purchase requisitions and supports Business Partnership Advisory Council and Career Source. Works with the Advisor to host recruitment events and information sessions.	$54,163	$55,788	$109,951
	Postsecondary Advisor at Palm Beach Gardens (12 months @ 100% FTE) Salary Grade 58. Recruits participants into CCC, provides academic advising and supports participants as they persist through the programs.	$49,351	$50,832	$100,183
	Administrative Assistant I Salary Grade 54. Provides administrative support to the Centers activities.	$34,015	$35,035	$69,050
	Lab Specialist, Full-Time at 4 campuses Salary Grade 56. $40,971 x 4 Lab Specialists	$163,884	$168,801	$332,685

Attachment 1

	Provides assistance in the lab for set up and maintenance. Inspects equipment, stocks and transports materials and equipment. Performs maintenance and controls inventory of supplies and equipment.			
	Instructional Support Specialist Salary Grade 55. Responsible for providing support to faculty and staff by coordinating the activities and operations in instructional support such as distance learning activities. Assists faculty with special needs as requested.	$37,332	$38,452	$75,784
	Associate Professor Full Time Faculty (3) one faculty member per campus @ $43,555 x 3	$130,665	$134,585	$265,250
	Full Time Faculty and Adjunct Faculty course development 37 courses @ $3,500/course	$129,500	$0	$129,500
	Adjunct Faculty to teach 134 sections of course @ $2,035/ section	$272,690	$272,690	$545,380
	Faculty Stipends for collaborative curriculum projects $3,500 @ 10 faculty	$35,000	$35,000	$70,000
	► TOTAL PERSONNEL	**$983,570**	**$870,462**	**$1,854,032**
	Fringe Benefits			
	Fringe Benefits are computed at current Palm Beach State College (PBSC) rates. PBSC offers a very specific benefits packages that varies slightly for each employee. The package includes: FICA/Medicare at 1.45%; Florida State Retirement contribution at 7.26%; health/medical insurance at $538 per month; dental insurance at $11.95 per month; life and accidental death and dismemberment insurance at 0.27 per $1,000/month; and Employee Assistance Plan (EAP) @ $1.35 per month.			
	Center Director at Palm Beach Gardens,	$19,190	$19,551	$38,741
	Program Grant Coordinator at Palm Beach Gardens	$15,622	$15,876	$31,498
	Postsecondary Advisor at Palm Beach Gardens	$14,866	$15,101	$29,967
	Administrative Assistant I	$12,395	$12,560	$24,955
	Lab Specialist, Full-Time at 4 campuses SG 56 $13,516 x 4	$54,064	$54,856	$108,920
	Instructional Support Specialist	$12,930	$13,110	$26,040
	Associate Professor Full Time Faculty (3) one faculty member per campus @ $43,555 x 3	$41,796	$42,429	$84,225
	Full Time Faculty and Adjunct Faculty course development 37 courses @ $3,500/course	$1,878	$1,878	$3,756

Attachment 1

	Adjunct Faculty to teach 134 sections of course @ $2,035/ section	$3,954	$3,954	$7,908
	► TOTAL FRINGE BENEFITS	**$176,695**	**$179,315**	**$356,010**
	FACILITIES			
	Office Space renovation for Engineering Laboratory at Palm Beach Gardens	$250,000	$0	**$250,000**
	Classroom renovation for Engineering Technology at Belle Glade	$250,000	$0	**$250,000**
	Classroom renovation for Engineering Technology at Loxahatchee Groves	$250,000	$0	**$250,000**
	► TOTAL FACILITIES	**$750,000**	$0	**$750,000**
	TRAINING MATERIALS			
	Educational training materials for Engineering Laboratory at Palm Beach Gardens campus	$10,000	$10,000	$20,000
	►TOTAL TRAINING MATERIALS	**$10,000**	**$10,000**	**$20,000**
	OTHER			
	Desktop Computers for Center Director, Program Coordinator, Post-Secondary Advisor, Administrative Assistant I, (Quantity of 4 @ $1,500)	$6,000	$0	$6,000
	General office consumable supplies.	$3,000	$3,000	$6,000
	Safety supplies for CCC programs – eye protection, gloves, program t-shirts for identification and safety.	$10,000	$10,000	$20,000
	Career Source of Palm Beach County to provide recruitment and placement services. Career Source will hire two staff personnel who will work with the Center's Director, Coordinator and Advisor to develop outreach plan, recruitment strategy and placement of graduates. $75,000 x 2 personnel, includes fringe benefits = $150,000	$150,000	$150,000	$300,000
	► TOTAL OTHER	**$169,000**	**$163,000**	**$332,000**
	TOTAL DIRECT COSTS	**$5,080,361**	**$1,222,777**	**$6,303,138**
	INDIRECT COSTS (5%)	**$254,018**	**$61,139**	**$315,157**
	TOTAL COSTS	**$5,334,379**	**$1,283,916**	**$6,618,295**