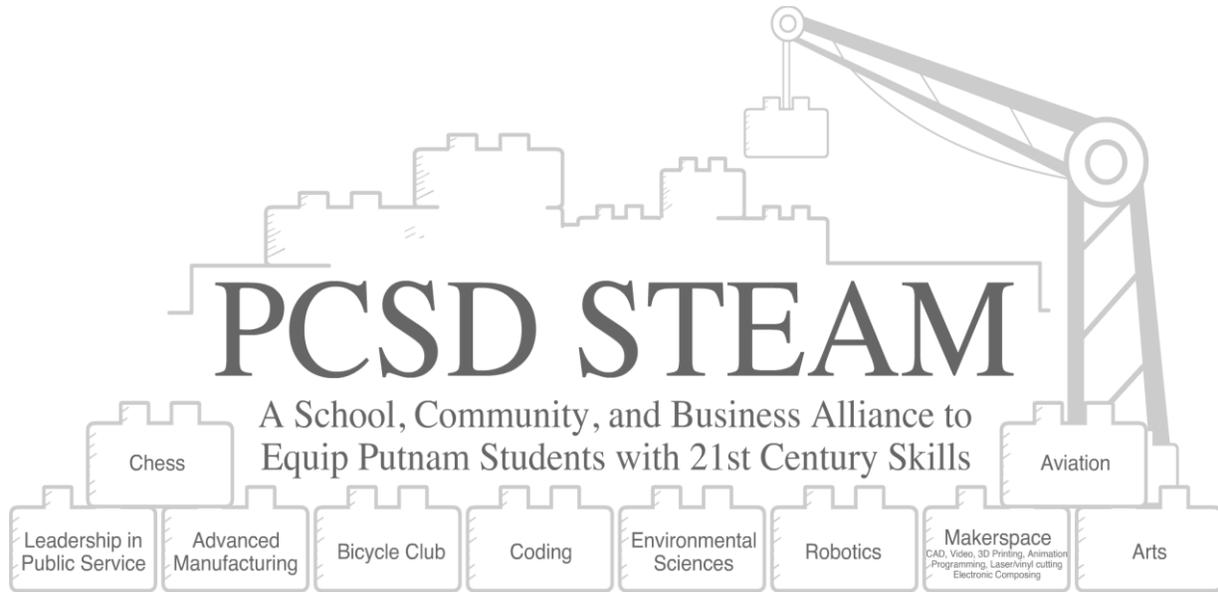


**PCSD STEAM, ELEMENTARY AND MIDDLE CENTERS:**

A 21st Century Community Learning Center Program Proposal



In partnership among:

**Putnam County School District**

**St. Johns River State College**

**Putnam County Library System**

**Palatka Sheriff's Department**

**North Point Youth**

**Seminole Electric**

**Jacksonville Museum of Science and History**

**Girls on the Run,**

**Palatka Municipal Airport Advisory Board, and the**

**Northeast Florida Stem2 Hub**



## Needs Assessment (7 points)

How can a rural educational system help students prepare for the 21st Century workforce given the multidimensional challenges of poverty in a rural community? PCSD STEAM welcomes the opportunity to provide students academic enrichment, tutorial services, STEAM-related experiences and activities for families to engage in student opportunities through a collaboration capable of leveraging local resources around a common goal.

**Demographics and Risk Factors Rural.** The Rural and School Community Trust reports the following: “Florida has one of the most diverse rural student populations in the nation. More than half of all rural students live in poverty, more than 40% of all rural students are minorities... almost one in 10 adults are unemployed in rural Florida (Johnson, et. al., 2014).” This reality is dire for Putnam County, a statutorily designated rural LEA in Northeast Florida that serves over 11,000 students including 694 Limited English Proficiency students in their first five years of school and 675 homeless students (Table 1). Putnam County has received the designation as a “Rural Area of Critical Economic Concern” with 79% of residents living in unincorporated rural areas. In FY16, the United States Department of Agriculture categorized Putnam County as a “StrikeForce Community,” a high poverty rural community designated by the Presidential Administration’s initiative to address persistent poverty across America.

**Poverty.** In FY17, 67.0% of families participated in government-subsidized poverty programs including SNAP, Medicaid, and TANF. Using the CEP Federal 1.6 multiplier guideline, the LEA’s **poverty rate is 107.2%**. All schools in the LEA qualify for CEP provisions.

**Table 1. Student Risk Assessment: High poverty/school performance**

	Enrollment	Grade Span	Title I	FY16 Grade	2017 State DA Status
Interlachen Elementary	922	K-5	Yes	D	Focus
Moseley Elementary	515	K-5	Yes	D	Focus
Miller Middle	491	6-8	Yes	D	Focus

**Community challenges.** The LEA reflects many of the challenges that are present in the community at-large, a community that has violent crime and property crime rates well above the National and State average in all areas including robberies, assaults, burglaries, thefts, auto thefts, arson, rapes, and murders. Along with staggering crime statistics, health and lifestyle problems abound. The Florida Department of Health reports that 36.3% of adults are disabled.

**Income and educational attainment.** According to the U.S. Department of Commerce, the county average per capita income is \$27,031, 11.6% of residents have a bachelor’s degree or higher, and 19% of residents have an associates degree or higher (Table 2).

**Table 2. Community Risk Assessment: Educational attainment**

	Clay County	St. Johns County	Putnam County	Florida
Associate's Degree or Higher	35%	50%	<b>19%</b>	36%

**Student achievement.** When comparing 2015-2016 state assessments results with other State LEAs of comparable size, grade levels, and poverty, Putnam County scored lower than comparable LEAs in all categories including English, math, science & social studies (Table 3).

**Table 3. Student Risk Assessment: FY16 LEA Student Standards Mastery Data.**

	% ELA Proficient	% Math Proficient	% Science Proficient	% SS Proficient
PUTNAM	37	40	37	50
STATE	53	54	56	68

**Attendance.** In FY17, 25.1% of students have already missed 18 or more days. Another 27.4% of students are projected to miss greater than 10% of the school year if their attendance trajectory does not change. The University of South Florida (2017) studied the chronic absenteeism in Putnam County. Primary research recommendations involve structured mentoring programs and adult or peer-directed academic support. PCSD STEAM is structured to provide mentoring and academic support as well as student enrichment experiences.

**Course failure.** Table 4 delineates the number of students with one or more D or F grade, a significant barrier to high school graduation; one that will be addressed through PCSD STEAM.

**Table 4. Student Risk Assessment: FY17 Students with one or more D or F by school.**

School	Number of Unique Students with one or more D/F Grade
Miller Middle	328

**Postsecondary enrollment & success.** According to the Florida Department of Education High School Feedback Report, of the students who graduate high school, around 41% enroll at either a community college, state university, or technical center and about half of those are proficient in first year college courses, challenges addressed by PCSD STEAM.

**Postsecondary educational vocational placement rates.** On a positive note, the Educational Testing Service found that for Putnam County students enrolled at St. Johns River State College, the vocational placement rate for program completers is 92% (St. Johns River State College Factbook, 2016). The employment data is promising if a system could be created to prepare LEA students to be college and career ready, a key component of PCSD STEAM.

**Activities used to identify Need.** A needs assessment was conducted as follows:

1. A Grant Steering Board was established, comprised of school and district administrators, STEM experts, and community members.
2. The Steering Board identified data sources, collected data, and reviewed student and community needs based upon the data, completing a thorough needs assessment.
3. A survey was sent to all LEA Employees for input on student needs. Survey results indicated that 40.9% of employees believe that Putnam County students do not possess 21st century skills, 39.8% believe that Putnam County District Programs are not currently aligned to workforce expectations, and 99.4% of employees believe that Putnam County students would benefit from additional science, technology, engineering, art, and math opportunities.

4. Enrichment programs across the United States and in neighboring LEAs were reviewed.

The Grant Administrator attended programs involving STEM and Makerspaces in neighboring counties within the last 30 days to learn research-based ideas in programming.

5. Contacts were made with organizations in neighboring LEAs to elicit help bringing opportunities to Putnam students including Girls on the Run, NorthPoint Youth, and the Jacksonville Museum of Science and History.

6. Extensive meetings occurred with the STEM2 Hub in the Northeast Florida area to glean expertise regarding community 21st century needs and STEM resources.

**Community and private school involvement in determining the need.** The following activities occurred in collaboration with area businesses and postsecondary institutions:

1. Meetings occurred with the Putnam Library System to establish collaborative structures.
2. In conjunction with CareerSource Northeast Florida, area industry needs were identified.
3. School principals met with the grant steering board to review student achievement data and provide input regarding specific programs based upon student need.
4. Current teachers at school sites were consulted regarding STEAM possibilities.
5. Meetings were held with special interest groups including Northpoint Youth to align ministry and outreach services with proposed grant activities.
6. A meeting was held with private schools to ensure that private schools located within the service area have equitable opportunities for participation.

**Availability and accessibility of out-of-school services for the target population.** Current after-school services in the region are limited to the following tuition-charging programs: Pak's Karate, Academy of Rising Stars Gymnastics, and Putnam County Parks and Recreation sports programs. Key limitations involve lack of transportation and lack of parental funding to pay for after school enrichment. The committee could not identify any free-of-charge programs.

**Data sources used for the needs assessment.** Data sources included State assessment scores, demographic data from Skyward, a student management system, stakeholder surveys,

work source data, community college offerings and data from the State High School Feedback Report, Health Department Statistics, and U.S. Census Bureau data.

**Gaps and weaknesses in services, infrastructure, and opportunity have been identified and will be addressed.** Roderick (1993) and Neild & Balfanz (2006) found that students who eventually drop out of school can be identified as early as sixth grade with 50% accuracy and at the 9th grade with 80% accuracy based on attendance, behavior and failing grades. Allensworth and Easton (2007) expanded on this research by identifying on track indicators to predict on time graduation. As the need assessment indicates, the high school graduation rates are well below state average. PCSD STEAM will use data monitoring through Skyward to monitor student progress factors including grades and attendance with the hope that monitoring these factors will allow personnel to identify students needing more help on the pathway towards on-time graduation and intervene with these students during academic time after school.

Findings by the National Council for Community and Education Partnerships (2014) reveal that rural LEAs face challenges that limit the college readiness of the population including inadequate resources and lack of postsecondary opportunities. The LEA is plagued by poverty, a rural location, low educational attainment, and low school district achievement, all factors pointing to the need for an afterschool program that will not only address student academic needs but also provide students with enrichment opportunities with parent involvement geared towards 21st century skills beneficial for postsecondary and workforce success.

NCEE results on the impact of the U.S. Department of Education's Student Mentoring Program (2009) document the tie between mentoring and improved academic outcomes and decreased truancy. Noted benefits of students working with an adult mentor during academic time are incorporated into PCSD STEAM's design.

Workforce data from the Florida Department of Economic Opportunity (2017) indicates that the majority of high demand jobs in the future will require high skill technological knowledge. Stakeholders expressed concern that math and science scores and postsecondary success

statistics may result in a future workforce in Putnam County not prepared for high demand jobs, particularly in the areas of Science, Technology, Engineering, Art and Math (STEAM). Thus, a focus on STEAM is established as a key component of the current application.

### **Program Evaluation (Elementary and Middle Schools) (15 points)**

**Independent evaluator identification and qualifications.** Program evaluation plan will be implemented by CIC Planning Group, a Third-Party Evaluator uniquely qualified to serve as the evaluator on a 21<sup>st</sup> Century project. CIC has been providing professional evaluation services to school districts for over 27 years. Since 2000, CIC has conducted evaluations on nearly \$60 million in grant-funded initiatives in states across the Midwest and Southeastern U.S. Projects were completed for the U.S. Department of Education including four prior 21<sup>st</sup> Century projects, three of which were completed in Florida.

The evaluation plan will consist of not only an analysis of data but an on-site review of actual program operations and implementation. On-going formative evaluation will be summarized into semi-annual reports using both quantitative and qualitative data. Results of the formative evaluations will be used to improve and refine the program.

**Evaluation activities.** The Evaluation encompasses all required aspects of reporting under the FY17-18 Request for Proposals, including both Formative (each year of the project) and Summative (years 2 and 5, with brief reports in years 1, 3, and 4) reporting requirements. The Evaluation methods are: 1. Rapid-cycle, with timely, actionable feedback for continuous quality improvement; 2. Theory-driven, ensuring course corrections are targeted and evidence-based.

**Timeline.** The Program Evaluation Team will collect documentation that the program has developed and completed all the required elements related to the Deliverables under this Request for Proposals. Each year of the program will be guided by the following schedule:

- Within the first quarter of the program, Evaluators will ensure that all Baseline Data is compiled for students entering the program and procedures are in place to assure that baseline data is collected for students entering the program throughout the year. The Evaluators will also

assure that procedures are in place to gather and compile documents pertaining to student participation, attendance, and nutrition (monthly); documentation of the appropriate screening and training of staff and safety inspections of the facilities has been provided; collection of baseline data on all program objectives and formal methods for disseminating program information to stakeholders has been completed; documentation of certified teachers is in place.

- In the Quarter 2 of the program, Evaluators will ensure that methods are in place to collaborate with day school teachers; documentation has been provided on professional development with staff; family participation logs have been completed; a preliminary update of baseline data has been done; documentation is in place on an active Advisory Board, including attendance and minutes. Quarter 2 will conclude with preparation and submittal of contributions to the first Mid-Year Data Report, including a Formative Evaluation Summary.

- Quarter 3 will include Evaluator observations regarding whether the recommendations of the Formative Evaluation have been incorporated into program modifications.

- Quarter 4 will complete the documentation of all program activities and requirements and completion of a Summative Evaluation Report including an Executive Summary appropriate for distribution to community stakeholders. A Brief Summative Evaluation in Years 1, 3, and 4 will review program activities; assess participant progress in relation to program objectives, compile; compile and analyze teacher, student and parent satisfaction surveys; and analyze student attendance. Year 1 reporting will focus on evaluation of program and curriculum development at each of the target schools, development of identification and tracking systems for purposes of reporting program participation and attendance by subgroup to FLDOE, engagement of Community Partners in the delivery of programs, implementation of baseline student and parent assessments, and assessment of student recruitment and retention levels. Years 3 and 4 will assess general program effectiveness through review of the Management submittals to FLDOE.

Years 2 and 5 will be analyzed and reported by means of a Comprehensive Summative Evaluation including a detailed analysis of operational implementation examining the following

issues in addition to those included in the Brief Summative Evaluation: (1) Curriculum Development; (2) Participation & Engagement – Students, Parents, and Partners; (3) Communication and Professional Development Issues; and (4) Tracking Systems Development. Years 2 and 5 will each include reports regarding the effectiveness of each participating school and the District in achieving the overall milestones and goals of the program. The Evaluation team will review milestones and deliverables data provided by each participating school and compile data prepared by the Management Team. Analysis will be conducted at race, gender, and grade sublevels with comparisons to baseline data and targeted milestones. The Year 5 assessment will also address a review of the entire five-year project period as well as addressing questions of sustainability and overall impact of the program.

**Coordination with staff, students, families and others.** Evaluation team members will conduct on-site observations but will ensure that interruptions of classroom activities are minimal and collection of documents is scheduled so that program services are not impacted. Careful coordination will be carried out with staff, students, families and others to ensure programs align with State guidelines and program goals. Data collection efforts by the Evaluation team will coordinate with the activities of Program staff and regular school programs.

**Process to ensure accurate data is collected, maintained, and reported.** Summative evaluation shall be completed each year with comprehensive reports provided in years 2 and 5 of the project. Summative evaluation will evaluate the impact of the program on all identified outcomes including both state standard objectives and applicant objectives (Table, below). State Standard Objectives (measured on the basis of Academic Report Cards; Maintaining an A/B grade or improve from a grade of C to B or a grade of D/F to C; Data collection at Quarters 1, 2, and 4, completed by the Program Manager through the Skyward data system):

- **50 %** of regularly participating students will improve to a satisfactory ELA grade or above, or maintain a high grade across the program year.

- 50% regularly participating students will improve to a satisfactory mathematics grade or above, or maintain a high grade across the program year.
- 50% regularly participating students enrolled in a science course will improve to a satisfactory science grade or above, or maintain a high grade across the program year.
- 90% regularly participating 3<sup>rd</sup> grade students will be promoted to the 4<sup>th</sup> grade.
- 50% regularly participating students enrolled in Algebra I will pass the algebra EOC exam.

**Table 5: Applicant-Specified Objectives & Measurement Tools Elementary Middle School**

Measurable Objectives	Tools
<b>DROPOUT PREVENTION/COLLEGE &amp; CAREER READINESS</b>	
50% of participating students will improve their core academic skills as measured by report card grades.	Report Card Grades
<b>PERSONAL ENRICHMENT #1 – CODING, CHESS, LEADERSHIP, MANUFACTURING, ENVIRONMENTAL SCIENCES, ROBOTICS, ARTS, AVIATION, BICYCLE, MAKERSPACE</b>	
70% of participating students will increase their skills in the Personal Enrichment area selected from the list above.	Student Perception Survey
<b>PERSONAL ENRICHMENT #2 – CODING, CHESS, LEADERSHIP, MANUFACTURING, ENVIRONMENTAL SCIENCES, ROBOTICS, ARTS, AVIATION, BICYCLE, MAKERSPACE</b>	
70% of participating students will increase their skills in the Personal Enrichment area selected from the list above.	Student Perception Survey
<b>ADULT FAMILY MEMBERS</b>	
70% of participating family members will increase their career opportunities, using household supplies to reinforce STEAM skills, coding skills, and community health and safety issues as measured by pre-post rating scales developed for the program.	Rating Scales

**Design and data will examine the intended impact.** Outcomes will be compiled by school, by subgroup, and by subject area of programming. Correlation and multiple regression analysis will assess the variable impact of each program developed and implemented by the program. Multiple Regression analysis will determine the amount of variance in participant outcomes, including changes in academic and personal enrichment proficiency levels and student, parent, and staffing retention that can be accounted for by participation in the programs at each school. Significance of pre-post differences will be examined with a repeated-measures t-test. Analysis of Variance will compare the relative effectiveness of individual programs in predicting retention

in 21<sup>st</sup> Century programs, behavioral and perceptual outcomes, and overall academic achievement and growth. Independent samples t-tests will examine differences between (1) all students participating in programming, (2) students who regularly participated (30 days or more), and (3) students whose parents were also engaged in the program.

**Results will be used for program improvement.** Yearly formative evaluation will assess the processes to ensure fidelity of implementation and examine the results of formative and interim assessments to determine whether the implementation is likely to be successful (Table 6).

**Table 6: Formative Measures.**

<b>Formative Measures – Recruitment and Retention</b>
Number of Students participating, by specific target group and school level participation
Number of Students participating over 30 days, by specific target group and school level participation
Number of Parents participating in parent educational opportunities by companies / employers participating on advisory councils
Number of Community Partners participating in the delivery of programs, by program type, student and parent participation, and schools
<b>Formative Measures – Curriculum Development and Implementation</b>
Implementation of programs addressing all academic areas, including ELA/literacy, math, and science
Implementation of programs addressing Personal Enrichment areas
Implementation of programs designed to increase parent involvement and awareness
Number of students and parents participating in each program, by target group & school
<b>Formative Measures – Process and Organizational</b>
Creation of an online portal for disseminating information about the program
Utilization of student tracking system
Development of program website and social media outlets

## Delivery of Professional Development/Required Participation in Project Meetings

Formative assessments will be conducted in Years 1, 3, and 4 of the Program and formal reports to management will be augmented by meetings between the Evaluation and Management to identify course-corrections to ensure the program reaches its outcomes.

**Evaluation results will be shared with the community.** The Program Evaluators will prepare Executive Summaries of all reports that can be used by the Program to disseminate results to the community and stakeholders. As needed, the Evaluation Team can also be available to discuss the results of the program at public meetings at the discretion of program staff.

### **Applicant's Experience and Capacity (10 points)**

**Program administration and fiscal management.** Dr. Coleman will serve as the Grant Administrator. The Grant Administrator and District Finance Director will provide fiscal oversight. The Grant Management Team is experienced in managing public and federal funding and uses Skyward, a fiscal management system used to manage the LEA budget, a budget that included \$90,088,786 general fund dollars and over \$192,000,000 in General Fund plus Federal and Capital grant funds for FY16. Extensive fiscal management policies exist to comply with pertinent rules and regulations for state and federal funding. No adverse audit findings were found in FY15 and FY16. The Grant Administrator will maintain financial records of expenditures to ensure alignment with project guidelines. Internal controls including unannounced inventories and site visits will occur on a monthly basis. Dr. Coleman has managed state and federal grants and is experienced in managing deliverables for public sector funding.

**Program Implementation.** The Grant Management Team includes Dr. Richard Surrency, Superintendent, Laura France, Assistant Superintendent, Dr. Melissa Coleman, Director of Acceleration Opportunities, and Natalie Dixon and Charles Buresch from CIC Group, Independent Evaluators. Dr. Richard Surrency, Laura France, and Dr. Melissa Coleman have 39, 23, and 19 years experience including principalships and have all been principals in schools

operating a 21st Century Learning Center grant in past years (all resumes attached). As the Grant Administrator, Dr. Coleman has experience initiating and operating a K-12 Cambridge Program currently serving over 1100 students that has resulted in 100% of graduating seniors accepted to college with existing college credits, has implemented Magnet Programs, is experienced in starting Career Academies that have been Nationally certified, is experienced in managing grant deliverables including Small Learning Community Grants and Magnet Schools Grants, and has a history of Highly Effective Schoolwide VAM scores every year that she has served in the principalship capacity.

Principals at each of the target schools have experience managing after school programs funded at the site through Title I funding that include tutoring, enrichment, and parent programs, all programs that have strong parental support. Additionally, volunteer teachers are currently running successful after school programs at each school. Community partnerships as documented below will further enhance the LEA capacity to implement a program of this scope. The Superintendent also implemented Community Advisory Boards in all areas of the county to elicit input on both during and after school programs from parents, staff, and the community.

The LEA was previously awarded a 21st Century Learning Center grant in FY09. All members of the Grant Management Team were employed as principals at the time with the grant at their site. The grant was instrumental in starting programs in the county including a still-active Leadership in Public Service program through the Police Athletic League, still-active school gardening programs, and after-school clubs still running, though funded only on a volunteer basis at this point. Please note the letter of support detailing the enormous and continued contribution that the 21st Century grant brought to Putnam County as a result of the FY09 21st Century Grant. The positive impact on the county is still felt. The LEA feels that it is an appropriate time for the county to start additional programs that are hoped to have the same long-lasting positive effect on the community.

A program coordinator will be hired who is experienced in after school and curriculum program leadership to serve as a point of contact for site leaders at each site. The coordinator will oversee and actively seek out community partnerships, oversee operations, develop curriculum, lead parent involvement activities, collect data, prepare reports, align programs to during-school activities, identify professional development, and work closely with the Management Team. Principals at each site will select the Site Leader and all teachers.

**Program Evaluation.** Program Evaluation will be conducted by CIC Planning Group (CIC), a third-party evaluator with a 27 year history. CIC has conducted evaluations on nearly \$60 million in grant-funded initiatives in states across the Midwest and Southeastern U.S. and has served as evaluators on a broad range of U.S. DOE programs including five prior TRIO-related projects targeting high risk youth. CIC Planning Group has served as the evaluator for several 21st Century grants, all of which were academically and programmatically successful.

### **Partnerships, Collaboration and Sustainability (8 points)**

**Community notice.** The following activities occurred:

1. During a public Putnam County School District school board meeting on May 23rd, the public was made aware of the LEA's intent to apply for a grant and a request was made for input from all stakeholders. The Superintendent also announced his support.
2. At the end of May, a Putnam School District Facebook thread was initiated to glean input from community members. Responses to the thread were captured from late May through June. The thread reached over 2,556 people, several of whom responded (attached).
3. On May 30th, information about the grant application was posted on the Putnam County School District website at [www.putnamschools.org](http://www.putnamschools.org), asking for input. After submission of the application, a copy of the grant narrative will be posted on the website. A separate web page will be created for the program on the LEA website upon award. The Grant Administrator and Program Coordinator will maintain the website and post current 21st Century activities, program staff, grant information, resources, and other pertinent information. The website will be launched

within one week of award and modeled after successful 21st Century websites from neighboring LEAs.

**Partnerships.** Directors from St. Johns River State College, the Community Coordinator of the Putnam Library System, School Liaisons from the Palatka Sheriff’s Department, The Director of Careersource Northeast Florida, leaders at Georgia Pacific and Seminole Electric, the founder and director of NorthPoint Youth, the Director of the Jacksonville Museum of Science and History, the Director of Girls on the Run, members of Palatka Municipal Airport Advisory Board, and the Educational Director for the Northeast Florida STEM2 Hub met with the LEA to design inputs responsive to the needs of students and parents and the community as a whole. A formal agreement was reached as evidenced by the attached letters of support. Table 7 depicts the program services to be supported by partners.

**Table 7. Partner role.**

Partner	PCSD STEAM Support/Services
St. Johns River State College	-In-kind facility support for students to engage in work with postsecondary programs aligned to STEAM, in-kind facilitators -Hosting events to expose students to career choices
Seminole	-Volunteers to come in to the sites to train students in STEAM areas
Palatka Sheriff’s Department	-In-kind staff to mentor and train students
North Point Youth	-In-kind staff to mentor and tutor students
Jacksonville Museum of Science and History	- Parent and student event hosting to explore STEAM areas -Financial support per student to fund events
Girls on the Run	-Volunteers to work with students on mentoring, academics, and physical activities
Palatka Municipal Airport Advisory Board	-Volunteers to work with students in an aviation program a few times per year

Northeast Florida Stem2 Hub	-Code.org training (in-kind trainers and free materials) -LEA collaboration with other LEAs/IHLs and business partners
Putnam County Library System	-Volunteer to come in a work with students

**Collaboration with the Regular School Day.** Planning for PCSD STEAM involved a partnership with each school principal, stakeholders at each school site, and LEA curriculum specialists. School-based stakeholders worked with the Grant Administrator to design a program that would meet academic needs during the school day as well as target postsecondary and workforce needs of the students as described by the leadership at each school. A survey was sent to all school employees, and feedback was used to develop the program objectives and plan. School Improvement Plans (SIPs) for each site were reviewed and activities were aligned to the goals in each school plan including the following identified areas of SIP alignment:

- Increase opportunities for industry certification
  - PCSD STEAM will expose students to career-focused enrichment aligned to industry certification pathways.
- Increase standards mastery
  - PCSD STEAM will provide remediation and homework help in academic areas.
- Increase the number of students graduating on time
  - PCSD STEAM will provide student mentoring to improve student’s abilities to have positive future aspirations and set targets to accomplish both academic and career goals.

Structures for ongoing communication have also been developed between the schools and Grant Administrator that include bi monthly in-person feedback sessions. Project-based topics will reinforce the concepts learned during the school day and will align to the instructional pacing guides for each course. The program will give preference to employing teachers who work during the school day to promote further collaboration.

**Sustainability.** Given that funding reduces over time, PCSD STEAM is designed to support systemic changes. In FY16 the LEA began a graduation initiative aimed at dropout prevention and developing early warning systems. Florida Rural GEAR UP aligns with and complements the intent of the graduation initiative and efforts to identify, support, and monitor students who are off-track and most likely to experience adverse outcomes. PCSD STEAM increases partnerships with the area IHL and business community that will support the continuation of activities in the future. Moreover, PCSD STEAM strategies including academic services, enrichment services, and parent programs will create a culture that provides equitable opportunities for student academic activities and enrichment, creating a culture that will impact systemic change in the future. Also supporting the long-term sustainability of this project is the fact that local stakeholder support of this project is high. The Project Director is committed to a continuous improvement model to analyze data, adjust delivery, focus on professional development in response to the data, and articulate progress to all stakeholders. Instructors across the LEA and partner entities have already begun to reflect on their personal practice. Business leaders and parents have expressed their support for fostering higher standards of academic performance and student opportunities, as manifest in the letters of endorsement attached. Finally, the large number of stakeholders committing both in-kind support reflects the partnership's ability to successfully implement and manage a project of this scope, offering the same level of support in years 3 through 5 and beyond.

Program Plan (40 points)

**Target students.** As described above, the LEA has an EWS system in place to track students off track for graduation as well as a student management system that tracks student academic and behavior indicators. The Grant Management team will meet with school principals to identify students in need of services prior to the beginning of the school year and at half-year in order to identify the students facing the most significant barriers to academic achievement. All students will attend target schools. All schools are D-rated schools. As aligned to the needs

assessment, student risk factors include low grades, low standardized test scores, low attendance, low income, low postsecondary success, and family educational attainment.

**Recruitment and retention.** Invitations for student participation will be sent with the goal of full implementation the first week of school. School counselors will be employed to help recruit students. Family meetings and phone calls will occur as needed in order to recruit the students facing the most significant barriers to academic achievement. Given that PCSD STEAM requests funding for transportation and few after-school programs exist in the area, the committee does not foresee significant barriers for retention. Student enrollment will, however, be carefully monitored. Parent activities will enhance retention. Students will be encouraged to remain in the program from the beginning of the program to end of the program day. Transportation times will enhance whole day participation. Students and parents will be surveyed throughout the program to ensure satisfaction and responsiveness to identified area of need in order to increase retention. Consistent attendance is a primary goal.

**Daily schedule.** The program is designed to run Monday through Thursday. Buses are not available on Friday due to sports activities out of town. The program needs to run past 6:00 at Miller Middle only because school starts at 9:10 in the morning and ends at 3:55. School times were changed in May of 2017 in alignment to research recommendations (see attached).

**Table 8. Miller Middle: Daily schedule.**

		Monday	Tuesday	Wednesday	Thursday
Group A	4:00-4:15	Snack / Nutrition	Snack / Nutrition	Snack / Nutrition	Snack / Nutrition
	4:15-5:15	Academic Enrichment/ HW Help			
	5:15-5:30	DropOut Prev	DropOut Prev	DropOut Prev	DropOut Prev
	5:30-6:30	Enrichment	Enrichment	Enrichment	Enrichment

Group B	4:00-4:15	Snack / Nutrition	Snack / Nutrition	Snack / Nutrition	Snack / Nutrition
	4:15-5:15	Enrichment	Enrichment	Enrichment	Enrichment
	5:15-5:30	DropOut Prev	DropOut Prev	DropOut Prev	DropOut Prev
	5:30-6:30	Academic Enrichment/ HW Help			

**Table 9. Moseley Elementary and Interlachen Elementary: Daily schedule.**

		Monday	Tuesday	Wednesday	Thursday
Group A	2:40-2:55	Snack / Nutrition	Snack / Nutrition	Snack / Nutrition	Snack / Nutrition
	2:55-3:55	Academic Enrichment/ HW Help			
	3:55-4:10	DropOut Prev	DropOut Prev	DropOut Prev	DropOut Prev
	4:10-5:10	Enrichment	Enrichment	Enrichment	Enrichment
Group B	2:40-2:55	Snack / Nutrition	Snack / Nutrition	Snack / Nutrition	Snack / Nutrition
	2:55-3:55	Enrichment	Enrichment	Enrichment	Enrichment
	3:55-4:10	DropOut Prev	DropOut Prev	DropOut Prev	DropOut Prev
	4:10-5:10	Academic Enrichment/ HW Help			

**Snack.** The LEA Food and Nutrition Department has committed to feeding the students in the 21st Century Program a nutritious snack each day through a USDA Afterschool Snacks program. Following the presentation of the snack, program personnel will facilitate an activity that complies with Healthy Eating and physical Activity Standards ([www.niost.org](http://www.niost.org)).

Informational activities and materials including those published by the Harvard School of Public

Health (<https://www.hsph.harvard.edu/prc/projects/food-fun/>) will be sent home to parents in an effort to engage families in opportunities for healthy eating and physical activities.

**Student program activities: Academic enrichment.** Personnel will be employed to help students with homework, tutoring, and academic enrichment.

→ Literacy and English Language Arts activities will be geared towards preparing students to be successful readers for college and career. The Literacy and English Language arts activities will align to Florida standards and support the school day as well as address the different learning styles and needs of the students. Examples include Odysseyware to remediate standards not mastered during the school day, independent reading, and interaction with ebooks, Smarty Ants, Moby Max, Read Works, iReady, and Achieve3000. Student lexiles will be used to differentiate reading content based upon student lexile levels.

→ In the area of Mathematics, platforms such as Khan Academy, Math iXL, Ten Marks, Algebra Nation, Smarty Ants, Moby Max, iReady Toolkit, and Odysseyware will help prepare students for successful mastery of math standards in alignment to coursework during the school day. Coding opportunities via platforms such as code.org will be incorporated as enrichment in the areas of math and science.

→ In the area of science, students will work on homework as well as work within platforms such as Odyssey and Achieve3000. Teachers will be available to assist students in all academic areas, meeting with students in small groups and individually as needed in order to cater instruction to the needs of the individual student.

→ In the area of academic benchmarks, select students may additionally be preparing more extensively to master standards in order to pass the FSA reading and math assessments. . Other students will work with tutors and via online programs such as Odysseyware, Khan

Academy and Shmoop. Advanced students will work with tutors to prepare to take their Cambridge exams.

**Dropout Prevention and College and Career Readiness.** Each student will work in a small group with a mentor to set goals and learn about essential skills for college and career readiness. The AVID curriculum and Career Choices curriculum published by Academic Innovations will be used to provide students with a pathway to examine their lives, evaluate education and career options, and make reasoned and researched goals for their future. Mentors will talk with students about current progress towards their goals including grades, attendance, and test scores. Students will also have access to resources such as Learning Blade, an interactive online tool to introduce students to careers and tools and technology found throughout the STEM fields.

**Student program activities: Other enrichment activities.** Students will be able to choose from among several STEAM-related enrichment activities such as coding, chess, leadership in public service, manufacturing, environmental sciences, robotics, arts, aviation, Bicycle Club, and MakerSpace. Other enrichment activities will be considered in STEAM areas as interest arises.

→ A Coding and Robotics Program will be supported through a partnership with the Northeast Florida STEM2 Hub and Code.org. The STEM2 Hub will train all personnel and facilitate personnel getting free-of-charge coding materials in conjunction with separate grant funding. Code training will align with algebraic thinking and 21st century workforce technology skills. The Robotics component will use resources such as those offered through Lego Education, CoderZ, LittleBits, and Ozobots.

→ A Chess Program will be established in partnership with area Chess experts. The effect of chess training on scholastic achievement has been well-documented (Bart, 2014, Kazemi, et al., 2012).

→ A Leadership in Public Service Program will be established in conjunction with the Putnam County Sheriff's Department to promote mentoring, physical activity, logical thinking, and a focus on STEAM and careers. Members of the Sheriff's Department PALs Program will facilitate sessions along with PCSD STEAM program staff.

→ A Manufacturing Program will be established to align to Florida industry certification areas such as welding, auto mechanics, and advanced manufacturing. The program will be supported through area business and IHL involvement through partnerships such as St. Johns River State College, Seminole Electric, Georgia Pacific, and smaller businesses. The program will prepare students with skills necessary for workforce and postsecondary success. Student internships will be considered as appropriate.

→ An Environmental Sciences Program will focus on environmental activities and awareness including both agricultural awareness and water management. The LEA is situated on the St. Johns County River with over 440 farms and is a prime place to incorporate a keen awareness of environmental sciences.

→ An Arts Program will focus on areas such as digital arts including Graphic Arts, Web Design, Animation, and Market Messaging and traditional arts including painting, drawing, drama, and music.

→ An Aviation Program will be geared towards an appreciation of aviation. Curriculum will incorporate *You can Fly* curriculum through the Aircraft Owners and Pilots Association (AOPA) and involve a partnership with pilots involved with the Palatka Municipal Airport (<https://youcanfly.aopa.org/high-school>).

→ A Bicycle Club will be modeled after the Greater Cincinnati STEM Bicycle Club (<http://greatercincystem.org/gcsc-in-action/projects/bicycle-club>). Students will receive a

dismantled bicycle and engage in a science and math lessons aligned to Common Core math and science standards involving concepts such as geometry, and physics. As the lessons unfold, students will assemble a particular bicycle part while mastering the math and science standards. Students will keep the bicycle at the end of the project.

→ A Makerspace will be established at each site as a place where students can engage in tinkering and inventing in the areas of STEAM. Students will be provided with resources within the Makerspace such as a 3D printer, laser printer, CAD program, programming platforms, electronic synthesizer for electronic composing, and arts materials. The space will serve as a place to inspire students to be creative and explore new skills.

**Adult family member program activities.** Family member activities at each center will include activities such as the following yearly activities:

1. Introduction to 21st Century Programs and Activities
2. A parent night sponsored by Careersource Northeast Florida highlighting area careers and methods to use to pursue career opportunities in the region.
3. A parent and student trip to the Museum of Science and History in Jacksonville to explore STEAM activities and provide parents with ideas to reinforce STEAM activities at home using everyday household supplies.
4. A parent and student coding night sponsored by the STEM2 Hub.
5. A parent session sponsored by the Putnam County Health Department to educate parents about health and safety issues related to high school students.
6. A parent and student session sponsored by the Putnam County Library System to involve parents in helping students tinker and create using Makerspaces to increase STEAM skills.
7. A parent and student night sponsored by the Putnam County Sheriff's Office to educate parents about setting goals for students at home to be model citizens.

**Staffing plan and professional development.** The Grant Management Team includes Dr. Richard Surrency, Superintendent, Laura France, Assistant Superintendent, Dr. Melissa Coleman, Director of Acceleration Opportunities, and Natalie Dixon and Charles Buresch from CIC Group, Independent Evaluators. Dr. Richard Surrency, Laura France, and Dr. Melissa Coleman have 39, 23, and 19 years experience including principalships and have all been principals in schools operating a 21st Century Learning Center grant in past years.

A program coordinator will be hired who is experienced in after school and curriculum program leadership to serve as a point of contact for site leaders at each site. The coordinator will oversee and actively seek out community partnerships, oversee operations, develop curriculum, lead parent involvement activities, collect data, prepare reports, align programs to during-school activities, identify professional development, and work closely with the Management Team.

Principals at each site will select the Site Leader for each site and all teachers and instructional support personnel. A student-teacher ratio of 10:1 will be maintained for all academic programs and a ratio of 20:1 will be maintained for all enrichment programs. Teachers and support personnel at the school will be given first priority consideration. Teachers will receive a stipend of \$25/hr. Support personnel will receive a stipend of \$12.50/hr.

An Advisory Board of a minimum of 2 parents, 2 students, 1 regular school day, and 1 community agency will meet with the Grant Management Team at least twice yearly.

A team of key personnel including the Program Coordinator and members of the Leadership Team will attend the mandatory 21st Century conferences and training. PCSD STEAM will additionally provide appropriate professional development for leaders, teachers and support personnel that will enable them to more fully carry out the program activities as detailed above.

Professional development will be differentiated based upon role and program involvement and may be through an online or face-to-face format. Many partners such as the STEM2 Hub and the Putnam Library System have committed to assist in professional development. The Coordinator will follow up with personnel after professional development to ensure fidelity in

implementation. Additional information will be posted for personnel through online platforms such as Canvas and a dedicated website.

**Program centers.** Each of the high school targeted for implementation have a wide array of environments conducive to the proposed program activities. The facilities are of sufficient size to accommodate the number of proposed students (Table 10). Each of the facilities complies with the safety guidelines set forth by the LEA in accordance with state and federal guidelines. The facilities are openly accessible to students and adults.

**Table 10. Program Centers.**

	Student Capacity	Sq Ft	Gym	Cafeteria	Media	Sports Areas
Miller Middle	716	91,822	Y	Y	Y	Y
Moseley Elem	806	95,316	Y	Y	Y	Y
Interlachen Elem	906	125,528	Y	Y	Y	Y

**Safety and student transportation.** All PCSD STEAM personnel will undergo level two criminal background screening and will be vetted by the LEA Staff Services Department to ensure that personnel have required licensing and certifications. All school sites are currently operational during the day and are required to meet safety guidelines including ADA accessibility, health, safety, and fire regulations. Drills and safety inspections occur regularly. Students will be appropriately supervised by program staff at all times on campus. Students will be supervised during transition and entry and exit times. Professional development will be provided to program staff regarding safety yearly including emergency and field trip procedures.

Processes will be in place to receive and release students. Students will be checked in and out using carefully recorded logs. Parents will fill out a form upon enrollment detailing who can check out students. Personnel checking out students will be verified by State ID. Students will regularly transition to the program at the end of the school day, reporting to a designated site for check-in. Students will leave by way of bus that will drop the student to their house or a regular school day bus stop unless an authorized person picks up the student via the above procedure.

School bus drivers will be licensed and screened by the LEA Director of Transportation and will be the same personnel employed during the school day. Vehicles will be inspected for safety and dependability by the LEA Director of Transportation. The program will ensure student safety during the fall and winter months when the sun sets earlier.

**Dissemination Plan.** PCSD STEAM will disseminate information about the program, including the locations, to the community via a dedicated website, through Facebook and Twitter, and through a phone call system. The website will be established within one week of award and will be maintained by the Program Director and Coordinator and linked to the LEA main website.

**Possibilities.** College and career readiness in the 21st century requires a different set of critical thinking skills. Students must have the ability to think in an interdisciplinary manner while applying their learning to authentic problems. Problem-based learning in the context of STEAM provides a context for engaging learning and exposure to career possibilities. It has been a strong focus and goal of the LEA to prepare life-long learners for success in a global and competitive workplace. For an LEA that produces few high school graduates prepared for college and the workforce within a society riddled by high poverty, crime, and fiscal deprivation, providing STEAM experiences to students is crucial. Putnam County truly welcomes this opportunity.

#### **Budget (20 points)**

**Budget.** The requested financial support represents a viable investment given the anticipated results, as detailed in the evaluation plan, and benefits to a rural, impoverished community. A detailed budget plan is attached.

**All references are included in the attachments.**

