

Budget

Apollo (050773) - Allen County - 2015 - Straight A Fund - Rev 0 - Straight A Fund - Application Number (54)

U.S.A.S. Fund #:

Plus/Minus Sheet ([opens new window](#))

Purpose Code	Object Code	Salaries 100	Retirement Fringe Benefits 200	Purchased Services 400	Supplies 500	Capital Outlay 600	Other 800	Total
Instruction		0.00	0.00	0.00	0.00	326,253.33	0.00	326,253.33
Support Services		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Governance/Admin		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prof Development		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Family/Community		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Safety		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Facilities		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Transportation		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00	326,253.33	0.00	326,253.33
Adjusted Allocation								0.00
Remaining								-326,253.33

Application

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Please respond to the prompts or questions in the areas listed below in a narrative form.

A) APPLICANT INFORMATION - General Information

1. Project Title:
Career Exploration through Fab Lab Educational Outreach

2. Executive summary: Please limit your responses to no more than three sentences.

Apollo Career Center, along with seven other school districts in our four county regions will form a partnership with four local industry leaders in manufacturing to provide hands-on exploration of manufacturing careers to 7th and 8th graders during the school year, as well as 9th and 10th graders who are pursuing Career Exploration courses. A traveling mobile lab equipped with the latest technology equipment will be used as a platform for learning and innovation to help students develop a personal plan to be career ready within the spectrum of manufacturing pathways; making them more prepared to meet the specific high demand/high wage local employer job opportunities in one of NW Ohio's strongest employment sectors.

This is an ultra-concise description of the overall project. It should not include anything other than a brief description of the project and the goals it hopes to achieve.

1350 3. Total Students Impacted:

This is the number of students that will be directly impacted by implementation of the project. This does not include students that may be impacted if the project is replicated or scaled up in the future.

4. Please indicate which of the following grade levels will be impacted:

- | | |
|--|--|
| <input type="checkbox"/> Pre-K Special Education | <input type="checkbox"/> Kindergarten |
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 |
| <input type="checkbox"/> 3 | <input type="checkbox"/> 4 |
| <input type="checkbox"/> 5 | <input type="checkbox"/> 6 |
| <input checked="" type="checkbox"/> 7 | <input checked="" type="checkbox"/> 8 |
| <input checked="" type="checkbox"/> 9 | <input checked="" type="checkbox"/> 10 |
| <input type="checkbox"/> 11 | <input type="checkbox"/> 12 |

5. Lead applicant primary contact: - Provide the following information:

First Name, last Name of contact for lead applicant
Doug Bodey

Organizational name of lead applicant
Apollo Career Center

Address of lead applicant
Apollo Career Center 3325 Shawnee Rd. Lima, OH 45806

Phone Number of lead applicant
4199982909

Email Address of lead applicant
doug.bodey@apollocc.org

6. Are you submitting your application as a consortium? - Select one checkbox below

- Yes
 No

If you are applying as consortium, please list all consortium members by name on the "Consortium Member" page by clicking on the link below. If an educational service center is applying as the lead applicant for a consortium, the first consortium member entered must be a client district of the educational service center.

[Add Consortium Members](#)

7. Are you partnering with anyone to plan, implement, or evaluate your project? - Select one checkbox below

Yes

No

If you are partnering with anyone, please list all partners by name on the "Partnering Member" page by clicking on the link below.

[Add Partnering Members](#)

B) PROJECT DESCRIPTION - Overall description of project and alignment with goals

8. Describe the innovative project: - Provide the following information

The response should provide a clear and concise description of the project and its major components. Later questions will address specific outcomes and the measures of success.

The current state or problem to be solved; and

There is a pressing need in NW and West Central Ohio to ensure that our students are best prepared to fill skilled trade jobs in manufacturing. Today, numerically controlled machines touch almost every commercial product, whether directly or indirectly. Companies increasingly complain that they can't find workers with the right set of skills to fill their job vacancies, particularly in the areas of manufacturing. Some of the disconnect stems from automation in manufacturing, which requires today's workers to have more technical skills. Another factor boils down to demographics. Older workers are retiring and younger workers aren't as interested in learning to become manufacturing technicians. The paradox between employers needing workers and being unable to find them is especially critical given the 8.6 million jobs lost nationally and 435,000 jobs lost in Ohio during the recession. The problem is finding applicants who have the skills the company needs in computers and diagnostics. Area manufacturers have had trouble filling jobs in maintenance and tool and die, as well as other skilled trades, as business increases and manufacturing returns to the region. A poll released in November by the Society of Human Resource Management found that more than half of companies and organizations are having trouble filling openings. High-tech companies (71 percent) and manufacturers (68 percent) were having the most trouble, according to the poll of 2,280 human-resources professionals. The US Bureau of Labor Statistics has predicted the growth of Ohio manufacturing jobs to grow over 18% through 2020. Companies have to invest significant resources in training new workers and, at the same time, are developing internships and apprenticeships as manufacturing shifts to a more high-tech environment. Apollo, along with their partners want to set up mobile training programs for area 7th and 8th graders to educate and increase student's interest to pursue skilled trade jobs.

The proposed innovation and how it relates to solving the problem or improving on the current state.

The Mobile Fab Lab (short for Fabrication Laboratory) will be used in our region to promote digital fabrication and STEM education, similar to what is currently being done in the Columbus and Cleveland school areas. The Fab Lab will teach kids about materials science and what various pieces of equipment can do. The Fab Lab will be a place where kids have an outlet to explore and be innovative. The Lab will be equipped with 60 laptop computers running easy-to-use design software, and linked to cutting-edge production machinery - laser-powered cutters and etchers, table-top milling equipment, high-precision robotic routers, and a 3D printer. The Lab will be managed and maintained by Apollo Career Center and shared with 7 area school districts on a monthly basis. Apollo's staff person in charge of Automated Manufacturing Technology will train partnership school personnel in using the Fab Lab. Apollo will be responsible for purchasing the mobile unit and do all the modifications in-house in their Automotive Technology and Construction/Carpentry departments. The majority of the equipment will be purchased from Advanced Technologies Consultants in Northville Michigan (costing a total \$212,603.33). Apollo and its partnership schools will work with area businesses to donate the small scale equipment and consumable materials like foam, paper and metals when they are needed. The 7 partnership schools will be responsible for maintenance and replacement of the laptops. The Fab Lab will provide special focus on education and on the connection with the disciplines (sciences, technology, math, and engineering). Our hopes are that exposing students to digital fabrication and hands-on learning at an earlier age will help ensure they pursue education and careers in engineering and manufacturing, thus keeping jobs in Ohio.

9. Which of the stated Straight A Fund goals does the proposal aim to achieve? - (Check all that apply)

Applicants should select any and all goals the proposal aims to achieve. The description of how the goals will be met should provide the reader with a clear understanding of what the project will look like when implemented, with a clear connection between the components of the project and the stated goals of the fund. If partnerships/consortia are part of the project, this section should describe briefly how the various entities will work together in the project. More detailed descriptions of the roles and activities will be addressed in Question 16.

Student achievement (Describe the specific changes in student achievement you anticipate as a result of this innovation (include grade levels, content areas as appropriate) in the box below.)

Some of the most innovative practices in education are coming from informal education environments like Fab Labs. Leading educators in the Fab Lab network are joining forces to share emerging practices and projects for engaging and inspiring young people in digital fabrication. The Teaching Institute for Excellence in STEM (TIES) has endorsed Fab Labs as a valid curriculum that encourages curiosity and exploration but still delivers on evolving best practices in education pedagogy.

Spending reductions in the five-year fiscal forecast or positive performance on other approved fiscal measures (Describe the specific reductions you anticipate in terms of dollars and spending categories over a five-year period in the box below or the positive performance you will achieve on other approved fiscal measures. Other approved fiscal measures include a reduction in spending over a five-year period in the operating budget approved by your organization's executive board or its equivalent.)

Apollo Career Center will experience a \$3000 budget cut annually by eliminating supply purchases in their Manufacturing training facility that will now be expensed through their Manufacturing Partnership agreements.

Utilization of a greater share of resources in the classroom (Describe specific resources (Personnel, Time, Course offerings, etc.) that will be

enhanced in the classroom as a result of this innovation in the box below.)

The Fab Lab will help enhance our network of school societies, peer to peer, and provide a new collaboration of sharing economies. Some of the partnership schools already offer some form of manufacturing courses, but Apollo Career Center specializes in career placement courses and will be taking a lead role in bringing their level of expertise to younger students that would not normally get this exposure until the 11th grade, which is Apollo's earliest enrollment. We anticipate that our Fab Lab will be a part of the global network of other labs that share ideas and resources.

Implementing a shared services delivery model (Describe how your shared services delivery model will demonstrate increased efficiency and effectiveness, long-term sustainability, and scalability in the box below.)

N/A

10. Which of the following best describes the proposed project? - (Select one)

New - never before implemented

Existing: Never implemented in your community school or school district but proven successful in other educational environments

Mixed Concept: Incorporates new and existing elements

Established: Elevating or expanding an effective program that is already implemented in your district, school or consortia partnership

C) SUSTAINABILITY - Planning for ongoing funding of the project, cost breakdown

11. Financial Documentation: - All applicants must enter or upload the following supporting information. The information in these documents must correspond to your responses in questions 11-14.

* Enter a project budget in CCIP (by clicking the link below)

[Enter Budget](#)

* If applicable, upload the Consortium Budget Worksheet (by clicking the link below)

* Upload the Financial Impact Table (by clicking the link below)

* Upload the Supplemental Financial Reporting Metrics (by clicking the link below)

[Upload Documents](#)

For applicants without an ODE Report Card for 2012-2013, provide a brief narrative explanation of the impact of your grant project on per pupil expenditures or why this metric does not apply to your grant project instead of uploading the Supplemental Financial Reporting Metric.

The project budget is entered directly in CCIP. For consortia, this project budget must reflect the information provided by the applicant in the Consortium Budget Worksheet. Directions for the Financial Impact Table are located on the first tab. Applicants must submit one Financial Impact Table with each application. For consortium applications, each consortium member must add an additional tab on the Financial Impact Tables. Partners are not required to submit a Financial Impact Table.

Applicants with an "Ohio School Report Card" for the 2012-2013 school year must upload the Supplemental Financial Reporting Metrics to provide additional information about cost savings and sustainability. Directions for the Supplemental Financial Reporting Metrics are located on the first tab of the document. If your organization does not have an "Ohio School Report Card" for the 2012-2013 school year, please provide an explanation in the text box about how your grant project will impact expenditures per pupil or why expenditure per pupil data does not apply to your grant project.

Educational service center, county boards of developmental disabilities, and institutions of higher education seeking to achieve positive performance on other approved fiscal measures should submit the budget information approved by an executive board or its equivalent on the appropriate tabs of the Financial Impact Table. Educational service centers should use the "ESC" tab and county boards of developmental disabilities and institutions of higher education should use the "non-traditional" tab.

12. What is the total cost for implementing the innovative project?

Responses should provide rationale and evidence for each of the budget items and associated costs outlined in the project budget. In no case should the total projected expenses in the budget narrative exceed the total project costs in the budget grid.

326,650.00 State the total project cost.

* Provide a brief narrative explanation of the overall budget.

We have price and equipment quotes from the suppliers for the 60 laptops, including warranties and software, totaling \$93,650. Advance Technologies Consultants will provide all the necessary equipment used to stock the Fabrication Lab with the tools needed to educate the students, totaling \$212,603.33 We estimate the cost of the mobile unit for transporting all the equipment to cost \$20,000. All other incidental costs will be shared by the 7 partner school districts and manufacturing partners as defined in the signed partnership agreements.

13. Will there be any costs incurred as a result of maintaining and sustaining the project after June 30th of your grant year?

Sustainability costs include any ongoing spending related to the grant project after June 30th of your grant year. Examples of sustainability costs

include annual professional development, equipment maintenance, and software license agreements. To every extent possible, rationale for the specific amounts given should be outlined. The costs outlined in the narrative section should be consistent and verified by the financial documentation submitted and explained in the Financial Impact Table. If the project does not have sustainability costs, applicants should explain why.

Yes - If yes, provide a narrative explanation of your sustainability costs as detailed in the Financial Impact Table in the box below.

As stated earlier, we anticipate ongoing costs in replacing the initial 60 laptops as they wear out but that cost will be shared by each of the 7 schools as we have spelled out in our signed Partnership Agreements. The small consumable costs of disposable material will be absorbed by all participating business partners. We also have signed agreements with area businesses to donate small scale tools when they break or need replaced. Apollo Career Center will also absorb the costs of running and maintaining the vehicle used to transport the Lab equipment to each location on a rotating monthly schedule.

No - If no, please explain why (i.e. maintenance plan included in purchase price of equipment) in the box below.

14. Will there be any expected savings as a result of implementing the project?

Yes

No

Applicants with sustainability costs in question 13 or seeking to achieve significant advancement in spending reductions in the five-year forecast must address this response. Expected savings should match the information provided by the applicant in the Financial Impact Table. All spending reductions must be verifiable, permanent, and credible. Applicants may only respond "No" if the project will not incur any increased costs as a result of maintaining and sustaining the project after June 30th of your grant year. The Governing Board will use the cost savings as a tiebreaker between applications with similar scores during its final selection process. Cost savings will be calculated as the amount of expected cost savings less sustainability costs relative to the project budget.

2,250.00 If yes, specify the amount of annual expected savings. If no, enter 0.

If yes, provide details on the expected savings (i.e. staff counts and salary/benefits, equipment to be purchased and cost, etc.). If no, please explain

We estimate the savings will amount to \$2,250 annually. This amount is a result of the \$750 a year commitment from each of the 3 Manufacturing Partners ($\$750 \times 4 = \2250) who will supply tools and consumable supplies (i.e. diamond cut drill bits, scrap metals, miscellaneous tool supplies) for the Fab Lab.

15. Provide a brief explanation of how the project is self-sustaining.

All Straight A Fund grant projects must be expenditure neutral. For applications with increased ongoing spending as documented in question 11-14, this spending must be offset by expected savings or reallocation of existing resources. These spending reductions must be verifiable, permanent, and credible. This information must match the information provided in your Financial Impact Table. Projected additional income may not be used to offset increased ongoing spending because additional income is not allowed by statute. Please consider inflationary costs like salaries and maintenance fees when considering whether increased ongoing spending has been offset for at least five years after June 30th of your grant year. For applications without increased ongoing spending as documented in questions 11-14, please demonstrate how you can sustain the project without incurring any increased ongoing costs.

For educational service centers and county boards of developmental disabilities that are members of a consortium, any increased ongoing spending at the educational service center or county board of developmental disabilities may also be offset with the verifiable, permanent, and credible spending reductions of other members of the consortium. This increased ongoing spending must be less than or equal to the sum of the spending reductions for the entire consortium.

Explain in detail how this project will sustain itself for at least five years after June 30th of your grant year.

Once the mobile vehicle and all the equipment is purchased, the only ongoing costs will be gas and insurance for the vehicle, estimated at \$1950 a year and Apollo will cover that expense with the annual savings of \$3000 year. The other costs will be replacement of the 60 laptops as they malfunction or wear out and all 7 partner schools will absorb these minimal costs as part of their IT maintenance costs. We also have written agreements with multiple manufacturing companies in our service area that have agreed to provide small equipment tools and supplies as they are needed.

D) IMPLEMENTATION - Timeline, scope of work and contingency planning

16. Please provide a brief description of the team or individuals responsible for the implementation of this project, including other consortium members and/or partners.

This response should include a list of qualifications for the applicant and others associated with the grant. If the application is for a consortium or a partnership, the lead should provide information on its ability to manage the grant in an effective and efficient manner. Include the partner/consortium members' qualifications, skills and experience with innovative project implementation and projects of similar scope.

Enter Implementation Team information by clicking the link below:

[Add Implementation Team](#)

For Questions 17-19 please describe each phase of your project, including its timeline, scope of work, and anticipated barriers to success.

A complete response to these questions will demonstrate specific awareness of the context in which the project will be implemented, the major barriers that need to be overcome and the time it will take to implement the project with fidelity. A strong plan for implementing, communicating and coordinating the project should be outlined, including coordination and communication in and amongst members of the consortium or partnership (if applicable). It is recognized that specific action steps may not be included, but the outline of the major implementation steps should demonstrate a thoughtful plan for achieving the goals of the project. The time line should reflect significant and important milestones in an appropriate and reasonable time frame.

17. Planning - Activities prior to the grant implementation

* Date Range June 2014 - June 2015

* List of scope of work (activities and/or events including project evaluation discussions, communication and coordination among entities).

Discussions on this project began in February with all partnering school district's Superintendents on how best to collaborate on a project that will help students and the community in which they serve. The group decided to focus their efforts on junior high students because they don't always get the exposure to manufacturing technology trends as older students and they are usually more engaged with critical thinking and hands-on design projects. The Fab Lab will provide STEM learning and get students to think more about career opportunities in manufacturing and engineering. Students will be tested on their analytical and creative skills prior to taking course work with the Fab Lab and then again their post Fab Lab experience. This will help establish measurable benchmarks to evaluate the success of the program. Apollo and its partners will utilize the vast amount of resources available for this proven concept to improve and expand this well established teaching model. We will use the "United States Fab Lab Network" and the Teaching Institute for Excellence in STEMS (TIES) as a resource for planning, implementing and evaluating our program. We do not anticipate any obstacles or barriers in implementing this vital program.

* Anticipated barriers to successful completion of the planning phase

None at this time.

18. Implementation - Process to achieve project goals

* Date Range July 2016 - June 2020

* List of scope of work (activities and/or events, including deliverables, project milestones, interim measurements, communication, and coordination).

We anticipate having the Fab Lab up and running in the Fall of 2016. Once our proposal has been approved, we will begin immediately purchasing the necessary equipment and installing it in the mobile unit. Apollo Career Center is in operation 12 months out of the year so work will continue during the summer months to get everything in operation and ready to begin when students come back to school in the Fall. We do not anticipate any barriers in completing our objectives in this timeframe.

* Anticipated barriers to successful completion of the implementation phase.

None at this time.

19. Summative Evaluation - Plans to analyze the results of the project

* Date Range Ongoing through June 30, 2020

* List of scope of work (activities and/or events, including quantitative and qualitative benchmarks and other project milestones).

As stated before, we will have documented evidence of the success of this program by providing students with a means to evaluate their knowledge of the principles of science, technology, engineering and math before they take the program and then again after they complete the program to see how much they've learned. The evaluation forms will be a composite of questions already in existence from other Fab Lab teaching providers, along with input from Apollo and its partners. The pre and post evaluations will provide us with the quantitative and qualitative information we need to adjust our teaching mechanisms as needed. Again, we do not anticipate any barriers to this portion of the program.

* Anticipated barriers to successful completion of the summative evaluation phase.

None at this time

20. Describe the expected changes to the instructional and/or organizational practices in your institution.

The response should illustrate the critical instructional and/or organizational changes that will result from implementation of the grant and the impact of these changes. These changes can include permanent changes to current district processes, new processes that will be incorporated or the removal of redundant or duplicative processes. The response may also outline the expected change in behaviors of individuals (changes to classroom practice, collaboration across district boundaries, changes to a typical work day for specific staff members, etc.). The expected changes should be realistic and significant in moving the institution forward.

Please enter your response below:

The potential of digital-personal fabrication goes beyond the STEM learning model. Fab Labs strongly reinforce the nature and dimensions of community in learning and enhance Next Generation Manufacturing to an emerging and advanced STEM learning model. A Fab Lab learner ("inventor") goes through a "learning spiral". The sharing the idea or fabrication with others is a critical part of the learning spiral and that the learning cycle is repeated. In the face of current economic challenges, today's manufacturing industries are employing Advanced or Next Generation Manufacturing tools, techniques, and technologies to survive. Fab Labs provide an ideal means for students to learn these next generation manufacturing skills. Successful next-generation manufacturers will need to respond quickly to customer needs by rapidly producing customized, inexpensive, and high-quality products. This will require fabrication capabilities that can be quickly reconfigured to adapt to changing production and that can be operated by highly-motivated and skilled knowledge workers. Our hopes are that exposing our 7th and 8th grade students to this new resource will provide them with the flexibility to translate their imaginative and innovative design ideas into commercial products in just a few iterations. They will need the skills to flexibly adjust their designs to just-in-time supply chains and resource availability with a minimum of waste. And they must be able to work in teams to collaborate on projects during their educational experience, inside a company environment and most likely on a global scale in their future. Lastly, they must thoroughly understand and apply

advanced technologies while adopting emerging technologies to maintain their expertise. The Fab Lab will open up all kinds of opportunities and advancements in education for 21st Century Learning. We expect these young students will excel when they are able to actively participate in their learning experience.

E) SUBSTANTIAL IMPACT AND LASTING VALUE - Impact, evaluation and replication

The responses in this section are focused on the ability to design a method for evaluating the project's capacity for long-term sustainable results. Therefore, the questions focus on the method of defining the problem(s) the project hopes to solve and the measures that will determine if the problem(s) have been solved.

21. Describe the rationale, research or past success that supports the innovative project and its impact on student achievement, spending reduction in the five-year fiscal forecast or utilization of a greater share of resources in the classroom.

The response should provide a concise explanation of items which provide rationale that will support the probability of successfully achieving the goals of the project. Answers may differ based on the various levels of development that are possible. If the proposal is for a new, never before implemented project, the response should provide logical, coherent explanations of the anticipated results based on some past experience or rationale. For projects that have been implemented on a smaller scale or successfully in other organizations, the response should provide the quantifiable results of the other projects. If available, relevant research in support of this particular proposal should also be included.

Please enter your response below.

Fab Labs started at the Massachusetts Institute of Technology (MIT) in the 1990s as a way to make manufacturing equipment available for fledgling inventors. But more schools and colleges worldwide are using Fab Labs as platforms for project-based learning and STEM programs. With the prospect of this Fab Lab, we become connected to a global community of learners, educators, technologists, makers and innovators. As of 2013 there were 125 Fab Labs spread across 34 countries, giving us a considerable amount of resource information. National educators are closely watching the MC2 Fab Lab in Cleveland which already has helped raise students' math test scores and is attracting imitators. Apollo Career Center and its partners have been working together for over 38 years to provide quality education to their students. The sharing of the Fab Lab will solidify our commitment and alliance to stimulate interest in STEM fields and nurture these competencies. We anticipate our Fab Labs to include the following: 1 Laser engraver system - ideal solution for marking, engraving or cutting a wide variety of materials such as plastics, wood, acrylic, coated metals, glass, leather... and many more 1 3D Printing System - Helps Accelerate a design process. This is used to make rapid prototypes by using a CAD 3d Software that we already have 1 Fanuc CNC Milling System - 3 software/programs provided, these will work from the beginner through expert. Milling is the machine process of using rotary cutters to remove material from a work. 1 Fanuc CNC Lathe System - 3 software/programs provided, these will work from the beginner through expert. Turning is a machining process in which a cutting tool, typically a non-rotary tool bit, 1 Robotic Workcell Motoman - The Motoman STEM Robotics Platform Turnkey Education Cell teaches students robotic programming using the same equipment and systems used in factories throughout the world. The STEM educational cell provides students with the robotic skills required for today's careers in the quickly advancing world of manufacturing The Workcell Motoman provided with the cell allows for many different exercises for students to get hands-on experience with industrial robotics

22. Describe the overall plan to evaluate the impact of the concept, strategy or approaches used in the project.

This plan should include the methodology for measuring all of the project outcomes. Applicants should make sure to outline quantitative approaches to assess progress and measure the overall impact of the project proposal. The response should provide a clear outline of the methods, process, timelines and data requirements for the final analysis of the project's progress, success or failure. The applicant should provide information on how the lessons learned from the project can and will be shared with other education providers in Ohio.

* Include the name and contact information of the person who will be responsible for conducting the evaluation and whether this will be an internal or external evaluation.

Fab Labs foster the development of 21st century skills, through collaborations, internet-based communication, documentation and portfolio building. They provide teachers with an environment that catalyzes and amplifies their effectiveness. We will utilize all the resources available from the global Fab Lab network to develop an evaluation process to test students on their knowledge of math, science, technology and engineering prior to their month long study using the Fab Lab equipment and then again after they have completed their course work to determine what knowledge they have gained in STEM literacy. Toby Prinsen from Apollo will be the lead person on collecting the formative outputs and outcomes on the project and be responsible for sharing the information with other education providers

* Include the method by which progress toward short- and long-term objectives will be measured. (This section should include the types of data to be collected, the formative outputs and outcomes and the systems in place to track the project's progress).

Fab Labs foster the development of 21st century skills, through collaborations, internet-based communication, documentation and portfolio building. They provide teachers with an environment that catalyzes and amplifies their effectiveness. We will utilize all the resources available from the global Fab Lab network to develop an evaluation process to test students on their knowledge of math, science, technology and engineering prior to their month long study using the Fab Lab equipment and then again after they have completed their course work to determine what knowledge they have gained in STEM literacy.

* Include the method, process and/or procedure by which the project will modify or change the project plan if measured progress is insufficient to meet project objectives.

All career/technical programs at Apollo have Advisory Boards to keep the program current and include members with business and industry backgrounds and connections. The Manufacturing Engineering Technologies Advisory Board may be utilized if modifications or changes to the Fab Lab are required

23. Describe the substantial value and lasting impact which the project hopes to achieve.

The response should provide specific quantifiable measures of the grant outcomes and how the project will lead to successful attainment of the project goals. Applicants should describe how the program or project will continue after the grant period has expired.

Please enter your response below.

It is no surprise that the world in which we live is becoming more and more technical based due to the rapid advancements in computer science and technology. Nor is it no surprise that our method of teaching needs to change in order to keep students actively involved in the changing world in which they live and learn. Failure to address the development of e-skills within the education system as well as the broader society will leave individuals on the wrong side of the digital divide as they cannot compete in a global economy. The project has four main components: -A carefully-designed teacher preparation program, refined over the last few years, and tested in multiple countries and cultures. -Full integration with school curricula. We have a special focus on the connection with the disciplines (sciences, math, engineering) -A set of tens of activities designed for children together with teacher guides, allowing students to engage in cutting-edge scientific investigation and engineering projects. -Software tools for scientific modeling and simulation, and equipment for sensor-enabled scientific experiments in physics and chemistry. -Easy to use, age-appropriate robotics and sensing equipment. -A fully-developed research program, with custom-made impact measures and learning metrics especially designed for digital fabrication and project-based environments. -Lower cost of implementation and ownership, intensive use of re-purposed and low-cost materials. There is a recognition and a sense of urgency that we have to be more radical in education and we feel the use of this Fab Lab will enable us to fill the training gap in manufacturing while providing our students with the tools they need for creative thinking for now and the future.

24. Describe the specific benchmarks, by goal as answered in question 9, which the project aims to achieve in five years. Include any other anticipated outcomes of the project that you hope to achieve that may not be easily benchmarked.

The applicant should provide details on the quantifiable measures of short- and long- term objectives that will be tracked and the source of benchmark comparative data points. Responses should include specified measurement periods and preliminary success points that will be used to validate successful implementation of the project. If a similar project has been successfully implemented in other districts or schools, identification of these comparable benchmarks should be included.

* Student Achievement

September, 2015 - students will be tested on their knowledge of basic science, technology, engineering and mathematical skills. Then immediately following their month long class work in the Fab Lab, students will be tested again on how much they learned and their ability to solve a rudimentary schematics of a hypothetical system. This will help measure their analytical skills and ability to solve problems using the principles they learned while using the Fab Lab equipment

* Spending Reduction in the five-year fiscal forecast

All industry partners have signed a 'Partnership Agreement Addendum', which states the specific responsibilities for their part of the project. The responsibilities include committing to supplying needed materials, supplies, and consumable products necessary for operation of the equipment in the Fab Lab, and donating small tools and supplies for use in Apollo's Manufacturing and Welding labs. The agreement also states that the value of the donated items would be equal or greater than \$750 per year. Since we have four industry partners, this equals to a \$3,000 savings per year.

* Utilization of a greater share of resources in the classroom

Cooperation, collaboration, and an extended network will be another outcome of this project. Participating districts and key industry personnel will be coming together to develop a schedule for the mobile unit and working together on preparation, implementation, and evaluation of related coursework. This new network has a great potential to expand into other areas for increased project-based, industry-connected learning.

* Implementation of a shared services delivery model

N/A

* Other Anticipated Outcomes

None at this time.

25. Is this project able to be replicated in other districts in Ohio?

Yes

No

If the applicant selects "Yes" to the first part of the question, the response should provide an explanation of the time and effort it would take to implement the project in another district, as well as any plans to share lessons learned with other districts. To every extent possible, applicants should outline how this project can become part of a model so that other districts across the state can take advantage of the learnings from the proposed innovative project. If there is a plan to increase the scale and scope of the project within the district or consortium, it should be included here.

* Explain your response

Yes, this project can easily be replicated in any school district. There are over 150 Fab Labs in existence now, the closest being in the Columbus and Cleveland areas. We will rely on their expertise in developing our Fab Lab project and avoid any mishaps they may have already encountered

By virtue of applying for the Straight A Fund, all applicants agree to participate in the overall evaluation of the Straight A Fund for the duration of the evaluation time frame. The Governing Board of the Straight A Fund reserves the right to conduct an evaluation of the project and request additional information in the form of data, surveys, interviews, focus groups and other related data on behalf of the General Assembly, Governor and other interested parties for an overall evaluation of the Straight A Fund.

PROGRAM ASSURANCES: I agree, on behalf of this applicant, and any or all identified consortium members or partners, that all supporting documents contain information approved by a relevant executive board or its equivalent and to abide by all assurances outlined in the Straight A Assurances (available in the document library section of the CCIP).

I agree, on behalf of this applicant, and any or all identified consortium members or partners, that all supporting documents contain information

approved by a relevant executive board or its equivalent and to abide by all assurances outlined in the Straight A Assurances.

Consortium

Apollo (050773) - Allen County - 2015 - Straight A Fund - Rev 0 - Straight A Fund

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Consortium Contacts

No consortium contacts added yet. Please add a new consortium contact using the form below.

Partnerships

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Partnerships

First Name	Last Name	Telephone Number	Email Address	Organization Name	IRN	Address	Delete Contact
Dr. Suzanne	Darmer	4196346421	darmers@ada.k12.oh.us	Ada Exempted Village	045187	725 W North Ave, Ada, OH, 45810-1176	
Judy	Wells	4199982910	judy.wells@apollocc.org	Apollo	050773	3325 Shawnee Rd, Lima, OH, 45806-1454	
Dale	Lewelln	4192210807	lewellen@bathwildcats.org	Bath High School	001750	2850 Bible Rd, Lima, OH, 45801-2242	
Greg	Denecker	4193585901	deneckerg@blufftonschools.org	Bluffton Exempted Village	045211	102 S Jackson St, Bluffton, OH, 45817-1218	
Nick	Verhoff	4196592639	cg_verhoff@cg.noacsc.org	Columbus Grove Local	049312	201 W Cross St, Columbus Grove, OH, 45830-1237	
Omer	Schroeder	5679401414	pe_supt@noacsc.org	Perry Local	045781	2770 E Breese Rd, Lima, OH, 45806-9743	
Mike	Lamb	4199988342	mike@shawnee.noacsc.org	Shawnee Local	045799	3255 Zurmehly Rd, Lima, OH, 45806-1434	
Keith	Horner	4197392900	hornke@wapak.org	Wapakoneta City Schools		1102 Gardenia Dr., , Wapakoneta, Ohio, 45895	
Tim	Toland	4192231075	ttoland@randallbearings.com	Randal Bearings		1046 Greenlawn Ave, , lima , ohio, 45805	
Dave	Prinsen	4192270103	daveprinsen@gasdorf.com	Gasdorf Tool		445 N. McDonel St., , Lima, ohio, 45801	
Brent	schnell	4199967800	mailto:info@metokote.com	MetoKote Corp		1340 Neubrecht Rd, , Lima, Ohio, 45801	

Implementation Team

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Implementation Team

First Name	Last Name	Title	Responsibilities	Qualifications	Prior Relevant Experience	Delete Contact
Toby	Prinsen	Director of Automated Manufacturing Technology	The entire project will be overseen by Apollo's director of Automated Manufacturing Technology,	Toby Prinsen. Mr. Prinsen has 12 years of experience working in the manufacturing field before he began teaching at Apollo Career Center. At Apollo, Mr. Prinsen has been a teacher for 10 years. During his tenure at Apollo, Toby has developed a close working relationship with several manufacturing firms in the area. These manufacturing firms understand and appreciate the tremendous value Apollo has to their bottom line and helping to train the workforce with qualified candidates they need to produce quality work. Tody will be responsible for setting up the Fab Lab and training qualified representatives from each of the participating school districts on how to use the Lab.	Due to Mr. Prinsen's passion and ability to work with students in the field of manufacturing, Apollo has been able to place 98% of their graduating students in the workforce for the last 3 years.	