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Adjusted Allocation: 0.00

Remaining: -957,250.00
Please respond to the prompts or questions in the areas listed below in a narrative form.

A) APPLICANT INFORMATION - General Information

1. Project Title:
   Design & Innovation for the Future

2. Project Summary: Please limit your responses to no more than three sentences.
   The goal of this program is to improve student achievement in preparation for future educational studies and careers in engineering.
   
   *This is an ultra-concise description of the overall project. It should only include a brief description of the project and the goals it hopes to achieve.*

3. Estimate of total students at each grade level to be directly impacted each year.
   
   *This is the number of students that will receive services or other benefits as a direct result of implementing this project. This does not include students that may be impacted if the project is replicated or scaled up in the future. It excludes students who have merely a tangential or indirect benefit (such as students having use of improved facilities, equipment etc. for other uses than those intended as a part of the project). The Grant Year is the year in which funds are received from the Ohio Department of Education. Years 1 through 5 are the sustainability years during which the project must be fiscally and programmatically sustained.*

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<td>5</td>
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<td>7</td>
</tr>
</tbody>
</table>
4. Explanation of any additional students to be impacted throughout the life of the project. This includes any students impacted or estimates of students who might be impacted through future scale-ups or replications that go beyond the scope of this project.

The anticipation from this project will be to grow the program at the elementary and middle school levels. Including the middle school and elementary schools in growing the program will not be directly related to the grant, but will be funded and sustained by the Beachwood City Schools to create a "feeder" program for the Design & Engineering program.

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

First and last name of contact for lead applicant
Ken Veon
Organizational name of lead applicant
Beachwood City Schools
Address of lead applicant
24601 Fairmount Blvd Beachwood, OH 44122
Phone Number of lead applicant
216-464-2600
Email Address of lead applicant
kev@beachwoodschools.org

Community School Applicants: After your application has been submitted and is in Authorized Representative Approved status an email will be sent to your sponsoring entity automatically informing the sponsor of your application.

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 (vendors, service providers, sponsors, management companies, schools, districts, ESCs, IHEs) 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. The following questions will address specific outcomes and measures of success.

a. The current state or problem to be solved; and

The overarching problem, as Norman Augustine, Lockheed Martin chairman pointed out, is that there has been an 18 percent decline in the U.S. in engineering, math, and physical and geoscience bachelor's degrees during the previous two decades. He also noted a 40 percent decline in the proportion of students studying these subjects. By 2006, the United States ranked 17th in the percentage of university science and engineering graduates, down from third 30 years before (Brown, 2009). More specifically, the problem the Beachwood City Schools face with the implementation of the Engineering/Design curriculum, to help address this global competition problem, is that there is a lack of institutional knowledge when it comes to engineering/design/architecture. Because engineering/design components take a specialized set of skills and knowledge, a typical (core subjects) teacher or administrator does not have the expert knowledge needed to implement the program to the fullest extent. This project takes a team of people and experts to implement a curriculum with integrity and rigor. The reliance on one teacher for the entire project is a daunting task. The idea is for students to focus on project based learning in architecture, industrial design and various engineering fields. By partnering with Cleveland State University's Washkewicz College of Engineering, students in Beachwood will not only be provided with the expertise of a qualified instructor, but also a variety of professors and graduate assistants with the knowledge to help implement specific interests in design in a rigorous and worthy manner. The teacher(s) for this program are able to handle the day to day operations and activities, but as the project based learning concepts and assessments are implemented, one teacher,
b. The proposed innovation and how it relates to solving the problem or improving on the current state.

The mission of the Beachwood City Schools is: To Develop Intellectual Entrepreneurs With a Social Conscience. To succeed with this mission, a partnership has been developed with Cleveland State University. With the cooperation of experts from Cleveland State University’s Washkewicz College of Engineering and the Beachwood City Schools’ teacher(s) and administrators, the project will be implemented to encourage students to work diligently on creative ideas that push the limitations of the possible and help change the world in the areas of engineering, industrial design, and architecture. In an increasing global society, students need to become critical thinkers, but also collaborators with originality and an entrepreneurial spirit. By working with Cleveland State and funding from the Straight A Fund, the Beachwood City Schools will provide students with the appropriate space, tools, support and rigor that are vital for student success. The purpose of the Straight A Fund is to fund innovative projects, and this will be unmatched in the implementation and sustainability by any public school in the US. The support from Cleveland State will be in the form of access to graduate assistants and professors for projects, feedback and curriculum development. In addition, Cleveland State University will allocate a coordinator to provide Beachwood City Schools with opportunities for internships, lectures, competitions, and field trips to enhance their experiences over four years. Part of this innovative project, as supported by the Straight A Fund, will be to provide a facility that is world-class and provides students with the tools and resources to freely delve into their interests and explore careers that will help them stay in the fields of engineering/design/architecture for years to come. Being housed in a “regular” classroom will not provide students with the opportunities to explore. By providing students with a sequencing/progression with regard to engineering/design, the district will be affording students the opportunity to learn material that is not typical of a K-12 public education. Research suggests that 40% of engineering students switch to other majors or drop out, especially in the first two years. If Beachwood, and if replicated other districts, can provide students with some of the background information (design process, information about the careers/fields, the rigor), students will achieve success and possibly stay with the major in college and beyond. In addition, research suggests there is a miniscule number of females and African-American students in the fields of engineering/design as compared to other groups. By introducing these groups to the field at an earlier age, we can help improve the declining number of African-Americans in the field. In addition to the number of African-Americans that are not even attempting to go into a STEM field, women are getting degrees and not entering the field. In a study from the University of Wisconsin-Milwaukee, a staggering 80% of women with a bachelor’s degree in engineering are not working in their field. This program will encourage students of all groups to participate in the fields of engineering, industrial design, and architecture; and give them the tools and background knowledge to be successful in college. If we talk about student achievement, it is more than just scoring well on the mandated state assessments and end-of-course exams; it is encouraging/ensuring ALL students are truly college/career ready. This means exposing them to the STEM fields of their interest and provide the intensity of the programs in a supportive, positive and reassuring environment. This is the epitome of preparing students for their college and career in the fields of engineering, industrial design, and architecture. Some of this can be accomplished outside of the bricks/mortar building of the high school.

9. Select which (up to four) of the goals your project will address. For each of the selected goals, please provide the requested information to demonstrate your innovative project. - (Check all that apply)

_**a. Student achievement**_

_i. List the desired outcomes._

_Examples: fewer students retained at 3rd grade, increase in graduation rate, increased proficiency rate in a content area, etc._

Ultimately, the goal of this program is to: Provide students with greater depths of knowledge and understanding in the field of engineering

Recruit and retain African-American and female students into the field of engineering Afford learning opportunities for students and teachers above and beyond any school system, public or private, in the US Encourage students to contribute to the quality of life in Northeast Ohio as adults Challenge students to be world changers

_ii. What assumptions must be true for this outcome to be realized?_  

_Examples: early diagnosis and intervention are needed to support all children learning to read on grade level; project-based learning results in higher levels of student engagement and learning, etc._

According to The National Action Council for Minorities in Engineering, African-Americans make up less than 5% of engineers in the USA.

Women make up less than 15% according to The American Society of Mechanical Engineers. More than three-quarters (77%) of female and underrepresented minority chemists and chemical engineers polled say significant numbers of women and underrepresented minorities are missing from the U.S. STEM workforce today because they were not identified, encouraged, or nurtured to pursue STEM studies early on (Bayer, 2010). Alvarez, Edwards, and Harris (2010) suggested exploring programs that allow underrepresented students to overcome issues linked to educational underachievement, including socioeconomic status, cultural trends, and lack of awareness of STEM opportunities and career fields. Introduce STEM education and career options at an earlier age to minority students, by providing access to academic support programs, after-school tutoring for ACT/SAT preparation, and STEM integrated curriculum to increase the ability for high school graduates to enter the college arena prepared for the academic rigor required for these fields.

_iii. Describe any early efforts you have made to test these assumptions (pilot implementation, etc), or how these are well-supported by the literature._

The Beachwood City Schools have approximately 50% female and 20% African-American students. The goal for this program was to get it up and running. However, after 2+ years of implementation, the focus is shifting from "what" the program was focused upon, to more specific recruitment and retention techniques geared towards African-American and female students. One technique to do this was to hire a female K-5 science coordinator and female K-12 math coordinator. This complements the studies done to show that female teachers in STEM have an impact on female students pursuing STEM careers. Researchers found that girls who went to high schools where at least 72 percent of the math and science teachers were female were 19 percent more likely to graduate from college with a science or math major than similar students whose only difference was that they went to a high school where only 54 percent of the math and science teachers were female (Bottia, Stearns, Mickelson, Moller, and Valentino, 2015). A second study looked at four years' worth of students in Florida starting in fifth grade through college graduation, and discovered that female STEM teachers as early as middle school make a difference in how many females pursue math and science in college (Sass, 2015). Beachwood Schools has made a conscious effort to hire female teachers in the STEM fields when available. It will continue to do so each year when vacancies exist. In addition, the same holds true for African-American teachers. It is important to hire well qualified teachers that are representative of the student body.
Although there will be an ongoing evaluation of the program, formal evaluations of the program will be completed every June. This will be reported to the State Board of Education, the Beachwood Board of Education, administration, Cleveland State University's Washkewicz College of Engineering and all stakeholders in the Beachwood City Community. The following information will be tracked: 1. Students enrolled in each year of the program - attrition rates 2. Percentages of African-American and female students in comparison to students body enrolled in the D&I program. 3. The percentage of students accepted to selective colleges 4. Alumni interviews will be conducted to learn the effects of the Design & Innovation program's learning experiences on students' eventual success in their engineering colleges' programs of study 5. The number of students graduating college in an engineering/design&innovation field and are still in that field after 5-10-15 years. This will be broken down by gender and race.

### iv. List the specific indicators that you will use to monitor progress toward your desired outcome.

**These should be measurable changes, not merely the accomplishment of tasks.** Example: Teachers will each implement one new project using new collaborative instructional skills, (indicates a change in the classroom) NOT; teachers will be trained in collaborative instruction (which may or may not result in change).

The plan if the program is not succeeding is to determine what shortcomings we have with the program. Audits would be taken about what types of projects are engaging students, what time demands are placed upon students, and what needs to be done prior to students entering HS to make a positive impact. One way the program would be audited will be through surveys of students and staff. Specifically, students will be asked about the program, the positive and negatives. If the program is not producing college/career ready students, the curriculum will be reviewed with CSU, and if necessary another institution of higher learning to determine the gaps in what is expected in HS and what is expected of students in college and careers. This will be done on a continuous basis with alumni/grads regardless of the program's success. Flexibility in this program is key. If adjustments are needed based on the data gathered, they will be implemented. For example, the percentage of African-Americans grew by 7.5% from year one to two, but declined in year three. The focused recruitment strategies were not implemented in years 2 to 3. This will be something that will be started in January with parents and students.

### v. List and describe pertinent data points that you will use to measure student achievement, providing baseline data to be used for future comparison.

The data points to determine student achievement will be conducted over time, but the baseline information includes enrollment: 2013-14 - 24 students enrolled 2014-15 - 45 students enrolled 2015-16 - 73 students enrolled 2013-14 - 12.5% (3/24) students female, 8% (2/24) African-American 2014-15 - 13% (6/45) students female, 15.5% (7/45) African-American 2015-16 - 8% (6/73) students female, 8% (6/73) African-American Attrition rates this year: Year 1 to Year 2 - 60% Year 2 to Year 3 - 100% Students have not been accepted to colleges yet, as this is the 3rd year of a 4 year track.

### vi. How are you prepared to alter the course of your project if assumptions prove false or outcomes are not realized?

The focused recruitment strategies were not implemented in years 2 to 3. This will be something that will be started in January with parents and students.

### b. Spending reductions in the 5 year forecast

#### i. List the desired outcomes.

*Examples: lowered facility cost as a result of transition to more efficient systems of heating and lighting, etc.; or cost savings due to transition from textbook to digital resources for teaching.*

#### ii. What assumptions must be true for this outcome to be realized?

*Example: transition to “green energy” solutions produce financial efficiencies, etc.; or available digital resources are equivalent to or better than previously purchased textbooks.*

#### iii. Describe any early efforts you have made to test these assumptions (pilot implementation, etc), or how these are well-supported by the literature.

#### iv. List the specific indicators that you will use to monitor progress toward your desired outcome.

*These should be specific dollar savings amounts. THESE MUST MATCH THE COST SAVINGS AS PROJECTED IN THE FINANCIAL IMPACT TABLE (FIT).*

#### v. List and describe pertinent data points that you will use to measure spending reductions, providing baseline data to be used for future comparison.

#### vi. How are you prepared to alter the course of your project if assumptions prove false or outcomes are not realized?

### c. Utilization of a greater share of resources in the classroom

#### i. List the desired outcomes.

*Example: change the ratio of leadership time spent in response to discipline issues to the time available for curricular leadership.*

#### ii. What assumptions must be true for this outcome to be realized?

*Examples: improvements to school and classroom climate will result in fewer disciplinary instances allowing leadership to devote more time to curricular oversight.*
iii. Describe any early efforts you have made to test these assumptions (pilot implementation, etc), or how these are well-supported by the literature.

iv. Please provide the most recent instructional spending percentage (from the annual Ohio School Report Card) and discuss any impact you anticipate as a result of this project. 
*Note: this is the preferred indicator for this goal.*

v. List any additional indicators that you will use to monitor progress toward your desired outcome. Provide baseline data if available. 
*These should be specific outcomes, not just the accomplishment of tasks. Example: fewer instances of playground fighting.*

vi. How are you prepared to alter the course of your project if assumptions prove false or outcomes are not realized?

d. Implementing a shared services delivery model

i. List the desired outcomes.
*Examples: increase in quality and quantity of employment applications to districts; greater efficiency in delivery of transportation services, etc.*

ii. What assumptions must be true for this outcome to be realized? 
*Example: neighboring districts have overlapping needs in administrative areas that can be combined to create efficiencies.*

iii. Describe any early efforts you have made to test these assumptions (pilot implementation, data analysis etc), or how these are well-supported by the literature.

iv. List the specific indicators that you will use to monitor progress toward your desired outcomes. 
*These should be measurable changes, not the accomplishment of tasks. Example: consolidation of transportation services between two districts.*

v. List and describe pertinent data points that you will use to evaluate the success of your efforts, providing baseline data to be used for future comparison. 
*Example: change in the number of school buses or miles travelled.*

vi. How are you prepared to alter the course of your project if assumptions prove false or outcomes are not realized?

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

   a. New - Never before implemented
   b. Existing - Never implemented in your community school or school district but proven successful in other educational environments
   c. Replication - Expansion or new implementation of a previous Straight A Project
   d. Mixed Concept - Incorporates new and existing elements
   e. Established - Elevating or expanding an effective program that is already implemented in your district, school or consortia partnership

C) BUDGET AND SUSTAINABILITY

11. Financial Information: - All applicants must enter or upload the following supporting information. The information in these documents must correspond to your responses in questions 12-19.

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

   Enter Budget

   b. If applicable, upload the Consortium Budget Worksheet (by clicking the Upload Documents link below)

   c. Upload the Financial Impact Table (by clicking the Upload Documents link below)
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 of the workbook. Applicants must submit one Financial Impact Table with each application. For consortium applications, please add additional sheets instead of submitting separate Financial Impact Tables.

957,250.00 12. What is the amount of this grant request?

13. Provide a brief narrative explanation of the overall budget. Responses should provide a 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.

Facilities - $920,250 (This includes building, plumbing, electricity, networking, HVAC, etc.) Cleveland State University Coordinator - $25,000 per year Graduate Assistant(s) - $12,000 - per year The total cost for the Straight A Funding portion of the project: $957,250. In addition to the grant portion, the total cost will be $1,063,733. The costs associated with this grant application are to provide the students of Beachwood City Schools with a well-equipped facility that matches the expectations for the program. The basic facility, composed of approximately 4050 square feet, will be equipped with some of the best equipment available to help student achievement. This facility will be unrivaled in the K-12 environment in both its form and function. Without the funding from this grant, the Beachwood Schools will not be able to grow the program to its full potential due to limited spatial constraints of the current facility. In addition to the space/equipment provided by the Straight A Funding grant, the Beachwood City Schools local funding, along with additional grant funding provided to Cleveland State University, will absorb the additional costs of this program. Providing additional equipment, technical services, such as Internet and networking, staffing, prototyping materials (costs vary among different types of projects) and day to day operations is a commitment Beachwood is willing to make. The cost for Cleveland State, outside of the grant fund, is approximately $2500 per year for transportation, professor and coordinators’ times, and materials as demonstrations (which they supply through grant funding through partnerships). The total cost, per year for this project, outside of the Straight A Fund grant, is approximately $90,000 per year. This will be explained in the sustainability portion below, but the district is making a financial commitment to ensure the success of this program. The sustainability will be ensured through reductions in other areas of expenses. This program is a high priority for the BCS.

14. Please provide an estimate of the total costs associated with maintaining this program through each of the five years following the initial grant implementation year (sustainability costs). This is the sum of expenditures from Section A of the Financial Impact Table.

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<tr>
<td>Year 5</td>
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15. Please provide a narrative explanation of sustainability costs.

Sustainability costs include any ongoing spending related to the grant project after June 30, 2017. Examples of sustainability costs include annual professional development, staffing costs, equipment maintenance, and software license agreements. To every extent possible, rationale for the specific amounts given should be outlined. The costs outlined in this 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.

The Beachwood City Schools has committed to making this program a focus of attention and sustain it. The teacher reduction, in addition to the grant would be: Computer Lab (with 1 refresh during the 5 year look ahead), Diagnostic materials (instant temp., speed, sound, moisture, etc.) Delta V Fluid Systems 3-D Scanners Full Size PRSalpha CNC HP DesignJet T2300 eMFP (large format printer) HP DesignJet 3D MultiColor Printer Misc. Supplies

16. What percentage of these costs will be met through cost savings achieved through implementation of the program?

Total cost savings from section B of the Financial Impact Table divided by total sustainability cost from section A of the Financial Impact Table. If the calculated amount is greater than 100, enter 100 here.

17. Please explain how these cost savings will be derived from the program.

Applicants who selected spending reductions in the five-year forecast as a goal must identify those expected savings in questions 16 and 17. All spending reductions must be verifiable, permanent, and credible. Explanation of savings must be specific as to staff counts; salary/benefits; equipment costs, etc.

The cost savings will be obtained through reallocated funds.

18. What percentage of sustainability costs will be met through reallocation of savings from elsewhere in the general budget?

Total reallocation from section C of the Financial Impact Table divided by total sustainability cost from section A of the Financial Impact Table. Note: the responses to questions 16 and 18 must total 100%

19. Please explain the source of these reallocated funds.

Reallocation of funds implies that a reduction has been made elsewhere in the budget. Straight A encourages projects to determine up front what can be replaced in order to ensure the life of the innovative project.
will be saved over the short-term are the hiring of the coordinator and graduate assistants will be approximately $37,000. However, the expertise obtained by working with Cleveland State University is hard to put a calculation to for the purpose of developing curriculum, offering institutional knowledge, and helping develop business relationships that will provide students with opportunities that may not have been realized without this grant/partnership. In addition, this grant funding will allow CSU and Beachwood to seek additional grant opportunities to support/expand this initiative within the district and CSU will be able to replicate with other districts. Without the grant, the world-class facility would not be realized either. This is a one time cost, but the district would not be able to provide the space needed for students to prototype, test, analyze, and refine their projects with the same resources if this generous grant was not afforded to the school district. This will allow students to have world-class facilitators from CSU assist within the world-class facility.

D) IMPLEMENTATION

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

This response should include a list of qualifications for the applicant and others associated with the grant. Please list key personnel only. 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 Key Personnel information by clicking the link below:

Add Implementation - Key Personnel

For Questions 21-23 please describe each phase of your project including its timeline, and scope of work.

A complete response to these questions will demonstrate awareness of the context in which the project will be implemented and the time it will take to implement the project with fidelity. A strong plan for implementing, communicating and coordinating the project should be apparent, including coordination and communication in and amongst members of the consortium or partnership (if applicable). Not every specific action step need be included, but the outline of the major steps should demonstrate a thoughtful plan for achieving the goals of the project. The timeline should reflect significant and important milestones in an appropriate time frame.

21. Planning

a. Date Range January 2016 - August 2016

b. Scope of activities - include all specific completion benchmarks.

Although this program will not have an "end date", the request for funding will supply capital outlay that will begin in January. The curriculum side of the planning has already started and has been implemented over the last 2.5 years and will be expected to be completed, in the entire scope and sequence, by the end of May 2016 (4th year course). This will include assessing and realigning the curriculum, both vertically within the program, and horizontally, with classes students need (or are encouraged to participate in during the sequencing) being addressed during the planning stages (for example chemistry no later than sophomore year for students taking chemical engineering). This is where CSU professors, the Beachwood teachers/administrators, and students will work in unison to develop a rigorous and worthwhile curriculum revision. If we are awarded the grant on January 29th, we will spend the next week (February 1-5) with architectural firms to develop drawings based on our (administration and teachers) expectations for the space provided to the students for their "Engineering Lab". Engineers from Cleveland State and local businesses will have their input solicited too within that time frame. Finally, most inspiring, students, especially the ones focusing on architecture, will be provided the opportunity to work with the architectural firm to develop a space that is aesthetically pleasing, but more importantly, provides students with a state of the art engineering/design facility. Think about the opportunity. Students from a high school helping to develop, draw, and critically analyze a space that they are in turn going to learn more about the process and create for future engineering/design students. This is a real world application that cannot be provided too often. With this grant, students will be afforded the opportunity and will create a world-class learning environment.

22. Implementation(grant funded start-up activities)

a. Date Range January 2016 - August 2016

b. Scope of activities - include all specific completion benchmarks.

The partnership between Beachwood City Schools and Cleveland State University has already started and will be strengthened by the Straight A Fund grant. The number of students wanting to participate in this program has been phenomenal. We increased from 24 students in 2013-2014 to 73 students 2015-16. This will provide the financial assistance needed to provide resources to Cleveland State University and Beachwood City Schools to hire a coordinator for this project as well as graduate assistants as needed to help develop the curriculum, become resources to the students and teachers in Beachwood, and very importantly, develop relationships with businesses and professors to assist in the project based learning process. This will begin right after the start of the new year (with the grant being awarded on January 29th). Work with professors and coordinators was started last year, but this will provide the time needed to focus attention to the curriculum and mapping out the course of action. Because this facility will be an addition to the high school, students and staff will not be interrupted for the construction aspect of the facility and building can start immediately. This gives the builders four months (break ground in April) to implement the building process and have it ready by the end of August 2016 for the start of school. The jointly created curriculum (BCS and CSU) will be implemented in the world-class facility on the first day of school using the highly focused technology tools to enhance student achievement.

23. Programmatic Sustainability (years following implementation, including institutionalization of program, evaluation and communication of program outcomes)

a. Date Range January 2016
E) SUBSTANTIAL IMPACT AND LASTING VALUE

24. 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 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 changes that will occur based on this initiative will be the focus on the science and math instruction at the lower levels in preparation for all students leaving middle school and entering high school in this STEM program. The Beachwood Schools have hired a science coordinator/teacher to help the elementary science programs become more rigorous and expand project based learning at the early stages of development. By doing this at the early levels, students will have a more mature skill set of critical thinking and understanding the scientific process. In addition, the Beachwood City Schools have changed the way gifted programming is delivered. The students in the gifted program are now served in a science based model rather than a language arts based model. This provides students with a challenging curriculum that will prepare them for the next level of science education. This vertical progression will enhance student achievement for all students in science. As stated earlier, the US is falling behind in the engineering fields. It is important for each district to do their own share and keep the talent in Ohio, Greater Cleveland, and Beachwood and promote science education. In addition, the design classes that are established at the middle school will serve to provide students with an overview of what they are going to be expected to do at the high school if they choose to participate in this program. Competitions in First Robotics allows students to have fun while competing to be the best in their design choices. An expectation for this program will be to participate in not only local and state competitions, but national competitions such as the TSA Conference (Technology Student Association). One opportunity that may be developed by creating the world-class facility is the idea that students will be able to use the facility outside of school hours. An attendant, preferably a graduate assistant from CSU, will be hired to allow students access to the materials, facility, and knowledge to allow them to explore and create outside of the school day. This will help in students being competitive in the competitions, but also in preparing for college life. School is no longer a 7:30-2:30 learning place. School is a 24-7 learning environment with longer hours for students through the use of technology and availability of the facilities.

25. Please provide the name and contact information for the person and/or organization who will oversee the evaluation of this project.

Projects may be evaluated either internally or externally. However, evaluation must be ongoing throughout the entire period of sustainability and have the capacity to provide the Ohio Department of Education with clear metrics related to each selected goal.

Please enter your response below:

Ken Veon Director of Operations & Technology 24601 Fairmount Blvd. Beachwood, OH 44122 216-464-2600 x230 kev@beachwoodschools.org

26. Describe the overall plan for evaluation, including plans for data collection, underlying research rationale, measurement timelines and methods of analysis.

This program 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 shortfall. The applicant should provide information on how the lessons learned from the project can and will be shared with other education providers in Ohio. Note: A complete and comprehensive version of the evaluation plan must be submitted to ODE by all selected projects.

According to the Bureau of Labor Statistics, the engineering fields that the Beachwood City Schools are focusing upon have a range of job outlooks over the next ten years to be +6% for chemical engineering all the way to a +62% increase in need for biomedical engineers. The purpose for this program/initiative is to promote the idea of every student being college and career ready. With an attrition rate of about 40% (according to a UCLA study cited in the NY Times), students are not prepared for what they are going to encounter in the college coursework and corresponding career. This program will help prepare students for the rigor they will face, but in a supporting and scaffolding manner. By providing students with the opportunity to "tinker" with the different careers, projects involved, developing critical thinking skills as well as collaboration skills, they will be prepared to be a force in college and in their engineering/design field. According to the Partnership for 21st Century Learning, students, in addition to the 3 R's, are supposed to develop "Learning and Innovation Skills - 4C's" (which are critical thinking, communication, collaboration, and creativity). This program stresses all of those components. In addition, students are to learn life and career skills, which are comprised of flexibility, initiative, cross-cultural skills, productivity and leadership. This program is the living embodiment of those skills. In addition to this program helping students in the area of engineering/design, the Beachwood City School District has a history of academic success, ranked #8 in the state according to performance index and Beachwood High School is ranked #199 in the nation according to Newsweek. This rich education, coupled with this program for students, will produce a high level of college student that will be accepted into the college of engineering at any university. The goal of this program is two-fold. Short-term it is to provide students with rigorous expectations to prepare them for college/careers. Long-term it is to keep talent in the local area, which is Ohio and Northeast, OH. Throughout this program, students will be tracked after high school to determine if, how, and where they are practicing their engineering/design skills. If students are being accepted into colleges of engineering, design or architecture, and THEN going into fields of engineering in the great state of Ohio, this program will be a success. Providing them with the resources is key. A facility that matches
27. Please describe the likelihood that this project, if successful, can be scaled-up, expanded and/or replicated. Include a description of potential replications both within the district or collaborative group, as well as an estimation of the probability that this solution will prove useful to others. Discuss the possibility of publications, etc., to make others aware of what has been learned in this project.

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 this 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 noted here.

Many districts are able to replicate this program. The key to the implementation/replication is to form partnerships with institutions of higher learning, in this case Cleveland State University, and local businesses in the field. Most K-12 institutions do not have the expert knowledge to know where to start with a program such as this. Through the last few years, several surveys, face to face interactions and meetings were held to gather more information about what the goal of the program was and how a partnership would be mutually beneficial. This ranged from higher institutions, local businesses, to individuals. Making sure students were provided with the baseline knowledge without moving too quickly seemed to be a key. By making this program last over four years (and actually building some of the scientific methods base at the elementary and middle school levels), students will be provided with a thorough understanding of what it will take to be a successful engineer, industrial designer or architect. Schools could replicate this by developing a strong elementary science program, with a focus on the design/scientific method process. Because we have a freshmen level course, students are introduced to the various components of the program, given an overview, and slowly developed into the higher level of students we expect. By the time they are seniors, students will be working on a "capstone project" (not necessarily solo, but a project that takes planning, consideration of variables, constraints, revision and presentation). The teacher, along with the collaboration from Cleveland State University's professors and senior students, will help Beachwood students with their project. The capstone projects will be based on the real world problems Northeast, OH is facing during the semester or school year. The projects will be timely and worthwhile. This process can easily be communicated to all districts across the state and school districts will be welcome to come observe the classroom in action at any time. One goal is to present this process/partnership with school districts from all over the state and US as a model. This unique partnership with CSU could and will be shared at local, state and national conferences.

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).

Ken Veon
No consortium contacts added yet. Please add a new consortium contact using the form below.
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<tbody>
<tr>
<td>Majid</td>
<td>Rashidi</td>
<td>(216) 687-2575</td>
<td><a href="mailto:m.rashidi@csuohio.edu">m.rashidi@csuohio.edu</a></td>
<td>Cleveland State University</td>
<td>062950</td>
<td>1860 E 22nd St, Cleveland, OH, 44114-4435</td>
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<tr>
<td>Ken</td>
<td>Veon</td>
<td>Director of Operations &amp; Technology</td>
<td>Oversees the program. Assisted in the creation and implementation from the start of the program. Helped in developing partnership with Cleveland State University.</td>
<td>Administrator for Beachwood City Schools.</td>
<td>Previous title Director of Curriculum, oversaw curriculum writing for this program. Director of Technology and oversees tech for this program and entire district.</td>
<td>BA in education. MA in Educational Administration. PhD in final stages.</td>
<td>100</td>
</tr>
<tr>
<td>Majid</td>
<td>Rashidi</td>
<td>Professor, Mechanical Engineering Department and Director of Fenn Academy at Cleveland, State University</td>
<td>Dr. Rashidi helped in the initial curriculum development of this program. He is the lead contact for the partnership with Cleveland State University. He is developing the 4th year course (slated for next school year) where students will partner with CSU seniors on real-world problems/projects.</td>
<td>Dr. Rashidi is a practicing engineer and is a professor at CSU. He has his PhD and PE.</td>
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