

Budget

Bio-Med Science Academy STEM School (014231) - Portage County - 2017 - Straight A Fund - Rev 0 - Straight A Fund - Application Number (7)

U.S.A.S. Fund #: 466

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 | 37,491.00 | 505,000.00 | 0.00 | 542,491.00 |
| Support Services | | 0.00 | 0.00 | 58,000.00 | 0.00 | 0.00 | 0.00 | 58,000.00 |
| Governance/Admin | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Prof Development | | 0.00 | 0.00 | 50,000.00 | 0.00 | 0.00 | 0.00 | 50,000.00 |
| 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 |
| Indirect Cost | | | | | | | 0.00 | 0.00 |
| Total | | 0.00 | 0.00 | 108,000.00 | 37,491.00 | 505,000.00 | 0.00 | 650,491.00 |
| | | | | | | | Adjusted Allocation | 0.00 |
| | | | | | | | Remaining | -650,491.00 |

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

A) APPLICANT INFORMATION - General Information

1. Project Title:

Increasing public health innovations and college readiness through deep analysis and appraisal of Bio-Medical Lab/curriculum.

2. Project Tweet: Please limit your responses to 140 characters.

Bio-Med will increase student success & college readiness, leveraging partners to create a cutting-edge Bio-Medical Lab/Curriculum

This is an ultra-concise introduction to the project.

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.*

| Grant Year | | | | | |
|------------|---------------|-------|-------|---|---|
| Education | Pre-K Special | K | 1 | 2 | 3 |
| 4 | 5 | 6 | 7 | 8 | |
| 100 9 | 105 10 | 78 11 | 68 12 | | |

| Year 1 | | | | | |
|-----------|---------------|--------|-------|---|---|
| Education | Pre-K Special | K | 1 | 2 | 3 |
| 4 | 5 | 6 | 7 | 8 | |
| 100 9 | 100 10 | 105 11 | 78 12 | | |

| Year 2 | | | | | |
|-----------|---------------|--------|--------|---|---|
| Education | Pre-K Special | K | 1 | 2 | 3 |
| 4 | 5 | 6 | 7 | 8 | |
| 100 9 | 100 10 | 100 11 | 105 12 | | |

| Year 3 | | | | | |
|-----------|---------------|--------|--------|---|---|
| Education | Pre-K Special | K | 1 | 2 | 3 |
| 4 | 5 | 6 | 7 | 8 | |
| 100 9 | 100 10 | 100 11 | 100 12 | | |

| Year 4 | | | | | |
|-----------|---------------|--------|--------|---|---|
| Education | Pre-K Special | K | 1 | 2 | 3 |
| 4 | 5 | 6 | 7 | 8 | |
| 100 9 | 100 10 | 100 11 | 100 12 | | |

| Year 5 | | | | | |
|-----------|---------------|---|---|---|---|
| Education | Pre-K Special | K | 1 | 2 | 3 |
| 4 | 5 | 6 | 7 | 8 | |

4. Explanation of any additional students to be impacted throughout the life of the project.

This includes any students impacted indirectly and estimates of students who might be impacted through replication or an increase in the scope of the original project.

Once fully implemented, the Bio-Medical (BM) Lab will also benefit neighboring schools, community members, and NEOMED's medical students. The lab provides a unique space for students to demonstrate concepts learned in courses to improve their application of Bio-Medical and STEM concepts. Other schools may visit, digitally connect or attend evening credentialing courses (ex. Phlebotomy technician). The Lab also provides students with a space to conduct unique, open-ended research that cannot be done in the classroom. Long-term, the Lab will be part of the teacher PD sessions through our teacher training center, and develop online, packaged teaching lessons that can be downloaded for classroom use. Teachers will learn to conduct STEM-related lessons through a healthcare lens. Over the scope of this grant the external impact could more than double our initial impact to nearly 5,000 students.

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

First and last name of contact for lead applicant
Stephanie Lammlein

Organizational name of lead applicant
Bio Med Science Academy

Address of lead applicant
4209 St. Rt. 44 Rootstown, Ohio 44272

Phone Number of lead applicant
3303256169

Email Address of lead applicant
slammlein@biomedscienceacademy.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 AAMC and S.P. Juraschek States will face a shortage of 61,700-94,700 physicians over the next decade and a shortage of RNs up to 1 million jobs by 2020. The state's health and economic future depends on its ability to produce workforce that is educated, skilled, trained, and ready to fill available jobs. Bio-Med Science Academy (BMSA) is keenly alert to its role in preparing students for this workforce. BMSA has significant partnerships with invested and engaged stakeholders; however, in order to meet healthcare workforce demand, BMSA needs to provide hands-on experiences for students to gain skills and demonstrate their learning in a meaningful way. Without state-of-the-art industry-standard training equipment and labs, partnerships with medical schools/providers will not provide relevant opportunities for BMSA students and faculty. To strengthen the college and career pipelines BMSA needs to bring new programing to the students and create a BM lab utilized by every student.

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

Even as the US job economy struggles to recover from the Great Recession, job opportunities in STEM fields are on the rise. STEM jobs span a wide range of occupations, including architects, computer technicians, software developers, engineers, actuaries, medical scientists, and many others. The Brookings Institute determined that as of 2011, 20% of all US jobs require a high-level of knowledge in any STEM discipline. In 2012, the US Dept of Commerce reported that STEM jobs grew 3x as fast during a 10-year period (from 2000 to 2010) as non-STEM jobs, and STEM jobs will grow another 17% by 2018 (compared to 10% projected growth for non-STEM jobs). The US Bureau of Labor Statistics (2011) forecasts there will be 274,000 STEM related jobs added in Ohio by 2018, ranking Ohio 11 in U.S. for STEM jobs. Preparing students for post-secondary education is core to BMSA's mission. BMSA is a partnership with NEOMED University--a unique, public medical school--and is located on the medical school's campus. BMSA's curriculum includes opportunities for its students to work with NEOMED faculty and students on cooperative projects that expose the high school students to the upper reaches of higher education. BMSA also partners with Hiram College, Kent State Univ., and Stark State Univ.. The ongoing work with nearby universities helps to strengthen Ohio has particularly struggled to produce enough STEM candidates to fill open jobs in the state, which is why as early as 2007, government funds and private philanthropy helped launch K-12 STEM schools and training centers throughout the state. These investments in STEM education will directly benefit state and local economies, and provide immediate educational and personal benefit to Ohio students. In alignment with BMSA's mission the BM Lab space will provide exploration and deep learning opportunities for students while focusing on content important to the public health fields. The commitment from BMSA's Governing Board to support pushing the school's curriculum development, further creates a positive collaborative team of BMSA staff, Governing Board, and partners. Leveraging our human capital with our partners will create a successful and deep support system for the lab's implementation and development. According to Journal of Anatomical Sciences, one of the most difficult milestones in the path to achieving prof. expertise is overcoming the learning curve; the well-known concept that practice improves performance holds true. Students will be able to safely immerse themselves in Gross Anatomy, Bio-simulation, Bioengineering and Modeling throughout their entire 4-year curriculum. Understanding how students learn is at the root of this project's development. The Deans for Impact "the Science of Learning" stated it well, students learn by relating, through opportunities to practice and to transfer knowledge into application. The BM lab takes the proven success of a "maker space" and applies it to biomedical concepts and curriculum. Creating a space where students can manipulate, test and explore the human anatomy and physiology without interacting with actual cadavers. This lab has removed all the regulations and hazards for students by utilizing digital technology and simulation equipment that mirrors true human characteristics; creating an interactive learning space essentially replacing a didactic form of learning human anatomy and physiology. Increasing confidence and academic performance with students will increase successful workforce. These jobs promise higher earning potential for graduating students. This even includes individuals, who do not complete a bachelor's degree, whose wages are 10% higher on average than those of non-STEM workers without a college education and 47% earn more than non-STEM workers with PhDs according to Georgetown Univ. Center on Education and the Workforce.

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 process. - (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.

Outcome 1 - By 6/30/2022, BMSA will increase composite ACT Math Score by an average of 7 points among graduates; Outcome 2: By 6/30/2022, BMSA will increase composite ACT Science score by an average of 6 points among graduates; Outcome 3: By 6/30/2022, BMSA will have a 100% acceptance of graduates into post-secondary training/education program of their choice or military (self-report survey); Outcome 4: By 6/30/2022, BMSA will increase # of students declaring STEM major in medical-focused academic post-secondary training/education pathways (self-report survey); Outcome 5: By 6/30/2022, BMSA will increase # of students self-identifying an interest in medical field (annual survey) to 65% interest in healthcare fields by graduation.

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.

Through hands-on learning, using professional medical devices/facilities with trained faculty/mentors, students will experience increased applied knowledge retention. The Lab will afford students and faculty alike the ability to apply and demonstrate instruction in an authentic and relevant environment. This will greatly enhance the likelihood of students developing and/or deepening their interest in post-secondary training programs in medical fields and disciplines. Rationale: Students will be safely immersed in Gross Anatomy, Bio-simulation, Bioengineering and Modeling throughout their entire 4-yr curriculum. Understanding how students learn is at the root of this project's development. The Deans for Impact "the Science of Learning" stated, students learn by relating, through opportunities to practice and to transfer knowledge into application. Increasing confidence and academic performance with students will increase successful workforce, and higher post-graduation earning potential.

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

Presently, Ohio is in desperate need for Public Health innovations. According to the Health Policy Institute of Ohio, research suggests that Ohio ranks 51st in the nation in terms of the quality and value of our public health and prevention services. The disastrous state of public health and prevention services contributed to Ohio being evaluated 47th in the nation for health value. The state of public health in Ohio is a call to make rapid and sweeping changes to public health instruction. There is opportunity to empower students to recognize their inner strength to achieve academic success in 21st century skills and STEM disciplines. This will in turn strengthen the college and career pipeline into public health pathways. Many of the disciplines taught at Bio-Med Science Academy (BMSA) find their ultimate expression in human health and wellness. Students can experience the end result of their classroom education in biology, chemistry, geology, physics, engineering, and medicine. To ensure that real-world experience complements classroom and laboratory lessons, BMSA has recently planned to add the Bio-Medical Lab into our students' daily learning. This Lab is a crucial component of students' education, as it allows them to continue their lessons in a setting that compels them to see classroom theory put into practice. BMSA is a state-designated STEM school, Ohio STEM Learning Network (OSLN) regional STEM training center site and recently recognized as one of the state's competency-based education (CBE) pilot sites. As a STEM school and training center site, the school is compelled to be a demonstration and education R&D site. Since inception, BMSA has been an incubator for innovative teaching and learning strategies and models, and has

been a training site to spread effective practices to other educators throughout Ohio and the country. BMSA has tested the assumptions through experience with the students, stakeholders, partners and medical community. The feedback is resounding. Students need expansive and deeper opportunities to demonstrate and practice their skill attainment in a low-stakes but rigorous learning environment. Only then, can those students fully appreciate the application of their learning within the medical/healthcare context, and hopefully increase their interest and desire to pursue additional academic training and ultimately a medical career. Beyond daily use within an integrated curriculum, the Lab is an ideal venue for longer research projects as well. BMSA shares education theory with www.edutopia.org, particularly the PBL and assessment sections. "PBL is a dynamic classroom approach in which students actively explore real-world problems and challenges and acquire a deeper knowledge." "Standardized tests aren't the only way of gauging student achievement. Through various measures, including portfolios, presentations, and tests, educators are using performance assessments to measure what students know and can do." These two areas combined are the basis for much of the work done at BMSA. The new Bio-Medical lab will expand PBL opportunities for staff and students, broadening our ability deepen the learner's academic experience. In a recent interview with CNN, Neil deGrasse Tyson explains the importance of STEM education, even for those who do not go into STEM careers. As he says in the interview "whether or not you ever again use the math that you learned in school, the act of having learned the math established a wiring in your brain that didn't exist before, and it's the wiring in your brain that makes you the problem solver." He also goes on to discuss the high employability of those with STEM backgrounds and the importance of robust STEM-based economy to the overall economic health of the nation. As an innovative STEM school, the Academy is heartened to hear these comments from such an esteemed source.

iv. List the specific indicators that you will use to measure 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).

Formative Indicators to measure progress %BMSA graduates accepted into post-secondary education/training program of their choice or military (self-report survey); # students declaring STEM major in medical-focused academic post-secondary training/education pathways (self-report survey) at graduation # students self-identifying an interest in medical field (annual survey) to 65% interest in healthcare fields by graduation. Summative Indicators to measure progress # students with increase in ACT composite Math scores # students with increase in ACT composite science scores # teachers participating in PD/training and curriculum development activities The budget is aligned with these indicators due to the BM Lab with state-of-the-art and industry-standard medical devices and simulation equipment being purchased, which will impact students skills attainment and capacity to demonstrate learning in an applied and relevant manner.

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

1)BMSA graduates accepted into post-secondary education/training program of their choice or military (self-report survey); 2) students declaring STEM major in medical-focused academic post-secondary training/education pathways (self-report survey) at the time of graduation 3) students self-identifying an interest in medical field (annual survey) to 65% interest in healthcare fields by graduation. 4) students with increase in ACT composite Math scores 5) students with increase in ACT composite science scores 6) teachers participating in PD/training and curriculum development activities

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

The project team will meet regularly during the grant year and often during the sustainability years to review and modify project implementation and sustainability based upon data collection, survey results and information gathered during the grant year and beyond. The information gathered will inform curriculum development, student learning experiences and teacher PD/training throughout the project. If the assumptions prove false or outcomes are not realized, the project team will modify project implementation and activities to address the barriers to achieving the project outcomes. However, it is highly unlikely that the assumptions will prove false because BMSA and other schools across Ohio and the country have been employing hands-on and accessible technology to provide relevant and real-world learning for students for quite sometime. In doing so, BMSA will increase the likelihood of students developing or deepening their interest in pursuing or persisting into a STEM-focused post-secondary academic or training program and ultimately into a medical-related career field. The BM lab takes the proven success of a "maker space" and applies it to biomedical concepts and curriculum. Creating a space where students can manipulate, test and explore the human anatomy and physiology without interacting with actual cadavers. This lab has removed all the regulations and hazards for students by utilizing digital technology and simulation equipment that mirrors true human characteristics; creating an interactive learning space essentially replacing a didactic form of learning human anatomy and physiology. A significant majority of the project costs and activities are reliant upon one-time capital outlay expenses to develop and establish the Bio-Medical Lab within BMSA/NEOMED's campus, with professional-grade devices, training equipment and resources that will enable the school, faculty and students to expand hands-on and applied learning offerings.

■ 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. Please enter the Net Cost Savings from your FIT.

v. List and describe the budget line items where spending reductions will occur.

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 measureable 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)

[Upload Documents](#)

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.

650,491.00 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.

A significant portion (77.6%) of the requested \$650,491 are considered one-time capital outlay expenses meant to enhance and augment the school's immersive and hands-on learning offerings. The following is an itemized listing of the budget items: \$108,000 in PURCHASED SERVICES, including: \$50,000 PD contract to provide equipment and curriculum integration/planning training for teachers and staff; \$58,000 for multi-year (support services) evaluation services contract (6-year) over the life of the project, allowable per ODE guidance; \$37,491 in SUPPLIES (Instruction): \$20,000 for high-resolution scopes for BMSA student use within lab; \$5,000 for basic medical supplies and materials; \$5,600 for 8 Wall Unit Ot/Ophthalmoscope devices (\$700/device); \$1,200 for 8 Wall BP cuffs (\$150/cuff); \$3,000 for 3 Nasco BP simulators (\$1000/device); \$2,691 for 3 Adv IV Arm Trainers; \$505,000 in CAPITAL OUTLAY (Instruction): \$210,000 is budgeted for 3 Anatomage Virtual Dissection tables (\$70,000/table), \$69,000 is budgeted for a Vector 3sp - 3D printer (medical grade) and \$12,500 for accompanying monitors, \$50,000 for Anatomy in Clay modeling; \$82,000 for the Body VIZ; \$30,000 for 3 Otosium devices (\$10,000/device); \$6,000 for 2 AirSim Adv. Airway Trainer (\$3,000/trainer) \$3,700 for 2 AirSim Baby devices (\$1,850/device); \$6,300 for 3 CPR Mannequins - full body (\$2,100/device) \$35,500 for Lab furnishings

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.

13,500.00 a. Sustainability Year 1

13,500.00 b. Sustainability Year 2

13,500.00 c. Sustainability Year 3

13,500.00 d. Sustainability Year 4

13,500.00 e. Sustainability Year 5

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 total sustainability costs amount to \$67,500 over 5-years or \$13,500/year, which is inclusive of the projected annual maintenance and supplies expenses related to maintaining and sustaining supplies for the devices and machinery within the Bio-Medical Lab. Estimated costs are provided by the suppliers and manufacturers and verified by industry/education experts who utilize and maintain the specified equipment with great frequency. The sustainability costs will be covered entirely through cost-savings directly linked to the project implementation.

100 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.

As a result of the project and since the school is co-located on the NEOMED University campus, BMSA has negotiated an agreement for

reduced lease/rent expenses within the purchased services line in the budget, in exchange for NEOMED students and faculty having after-hours or non-peak time access to the lab, equipment and resources. This transaction will be made in lieu of BMSA paying a full \$100,000/year in lease expense to NEOMED, as a result of this project and the agreement, BMSA will agree to pay \$90,000/year and realize a net cost-savings of \$10,000/year. Within the BMSA budgeted for monitors, supplies and materials within the forecasted years, but these expenses are accounted for and budgeted within the grant request and will not be incurred by the school, if awarded. The school estimates a \$5,000/year reduction in furniture expenses as well as \$5,000/year in other supplies and materials (i.e. monitors, simulation devices, BP cuffs, etc). This will net the school approximately \$10,000/year in cost-savings, for a total combined cost-savings of \$20,000/year or \$100,000 total over 5-years. When accounting for sustainability costs, the 5-year net cost-savings is \$32,500.

0 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.

Not applicable due to sustainability costs being covered through direct cost-savings in their entirety.

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 Team Key Personnel information by clicking the link below:

[Add Implementation Team](#)

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 August 2016-October 2016

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

Upon Award: (August/September) notify all project team and partners, hold initial meeting with all partners to review lab outline, tentative schedule, equipment requirements and other specifications related to the project; BMSA project team meets with NEOMED facilities and business operations team to communicate project outcomes, deliverables, tentative timelines and determines constraints or barriers to timeline completion; communicate project award and outcome through NEOMED/BMSA joint media release; generate a contract/vendor listing and schedule; setup and secure staff training/PD dates throughout the 2016-2017 school year; conduct a staff meeting to communicate to internal stakeholders regarding project and timeline; meet with with evaluator and schedule benchmarks and data collection timeline; and report to the BMSA Governing Board regarding the budget, timeline and finalized project outcomes and scope of work. Sept/October 2016: Create finalized plan of action; finalize partnership agreements/contracts; begin teacher/staff PD/training, if/when appropriate; start curriculum roadmapping to facilitate effective integration into BMSA schedules/curriculum; determine internal/external points of contact; secure board approval of all contracts/agreements; receive quotes from all vendors; issues purchase orders; order/purchase devices/equipment based on agreed upon schedule; finalize and submit evaluation plan to ODE with benchmarks and logic model documentation; setup quarterly evaluation and project team meetings; finalize communication and stakeholder engagement plan, including media releases and showcase events throughout the implementation year; and communicate with students/partners and all other community stakeholders.

22. Implementation(grant funded start-up activities)

a. Date Range October 2016-June 2017

b. Scope of activities - include all specific completion benchmarks

Oct-Dec. 2016: Project team meets monthly and also quarterly with the evaluator to ensure appropriate data collection and project monitoring progress toward project outcomes/benchmarks; all equipment/devices delivered and installed; BMSA teachers and staff continue training/PD on related to fully integrating the equipment/devices and strategies into the school's competency-based education (CBE) and mastery-based learning environment; depending on delivery and installation date, some equipment/devices may be ready for inclusion into current school year curriculum and projects; project evaluator will continue to collect appropriate data and information based upon stated outcomes and indicators; Project team and evaluator will report progress of project to ODE and BMSA Governing Board, and provide recommendations on project modifications based upon data/information gathering, if applicable; Jan-June 2017: All equipment/devices are fully installed, all initial

teacher PD/training is complete and teachers are ready to utilize the Bio-Medical Lab as an integrated part of the school's learning experiences and curriculum; student trainings scheduled/conducted on proper use and integration of devices/equipment, when appropriate; BMSA/NEOMED project team and partners develop and implement a usage schedule based primarily on the BMSA students' hands-on learning and skills application schedules; BMSA and partners create community engagement and outreach programs to get partners energized and engaged in project/Bio-Medical Lab's success; Project team continues to meet monthly throughout the implementation year and quarterly with the evaluator to ensure project progression based upon established timelines and benchmarks; BMSA hosts at least one showcase event for partners/community/parents/students and other stakeholders once all equipment/devices are installed and students/teachers are trained on their use. Report provided to BMSA Governing board (June 2017).

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

a. Date Range July 2017-June 2022

b. Scope of activities - include all specific completion benchmarks

July 2017-June 2018: Project team meets quarterly along with evaluator to ensure data collection and project outcomes are achieved within the desired timeline; project team and evaluator adjust evaluation plan, if applicable; evaluator will continue to gather data and information related to monitoring project progress against desired outcomes using stated indicators and measures; teachers and students are implementing their training/PD utilizing the Bio-Medical Lab and the equipment/devices within the lab; BMSA/NEOMED are collaborating for graduate medical students to mentor high school students and faculty on medical devices and techniques; project team continues to communicate with community and other stakeholders through showcase events, newsletters, media releases, school visits, and teacher PD; initial evaluation report will be provided to BMSA governing board and/or ODE for review and verification of progress toward project outcomes (June 2018). July 2019-June 2022: Starting in August 2018, the project team will meet bi-annually with the evaluator and partners to ensure project progress; using the train-the-trainer model, existing teachers/students/staff will sustain internal capacity to integrate the Bio-Medical Lab and resources into BMSA's curriculum and schedules with fidelity; students will be internally certified to operate and train other students/teachers on equipment/devices - demonstrating their learning and knowledge within a competency-based education environment; BMSA/NEOMED continue to collaborate to provide access to the lab and resources to internal/external stakeholders; evaluator will provide an annual report to the project team and/or BMSA governing board related to the project's progress toward desired outcomes and benchmarks, based upon data collection and analysis. During the sustainability years of the project, the school will host educator visits, teacher PD and other showcase events to communicate the project success and impact.

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:

BMSA strives to push students beyond their limits through rigorous and experiential academics while utilizing a holistic educational approach. BMSA's multi-faceted curriculum integrates 21st century skills into our daily regime. The expected changes through our implementation of the BM Lab will be to enhance and improve our core academic experience. The core experiences will exemplify what it means to be a learner at BMSA will be: Experimentation- students will be given problems and tools to promote discovery of their own solutions for learning outcomes. Mastery-the mindset of success needs to be changed so that time does not equal success but rather a student's true understanding and application of content knowledge. Community- students will have an awareness of being part of a community and part of a team. Learning how to interact with the surrounding community to connect to the learning opportunities all around them. The school will not stand on its own and will always recognize its ties to the community while offering educational opportunities to our adult population. Project-Based- BMSA will continue to focus on best practices in project-based learning with an emphasis on learning over teaching. Teachers will guide students to work together, apply knowledge, and innovative solutions to problems. Preparation for Careers- BMSA is an inquiry-based and competency-based, individualized learning experience that positions students to succeed in any number of career fields. BMSA will ensure students are college and/or career ready as the students will be pushed harder than they have experienced before, while also receiving more support than they have ever had. The school will have an uncompromising academic and intellectual rigor that is led by the students themselves, preparing them for a self-driven future in higher education and careers.

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:

Dustin A. Pyles, MPA, MBA, CEO/Managing Consultant - Vaza Consulting, LLC (dustin@vazaconsulting.com)

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

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 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.

The overall plan for evaluation involves both formative (qualitative) and summative (quantitative) evaluation. Use of both formative and summative evaluation is intended to aid the project in 1) establish baseline data, 2) determine effective modifications during the course of the grant, 3) regularly assess fidelity to project goals and outcomes, 4) identify constraints encountered that may pose threats to validity within the implementation process, and 5) review evidence of change and impact. Evaluation will be embedded within the project to assure the project is focused and responsive. Quarterly evaluation reports to the project team beginning in fall 2016 will provide timely review of interim findings, and annual reports will begin September 1, 2017. The final formative evaluation report will be submitted by August 1, 2022. Cumulative summative evaluation reports will continue annually through June 2022. Formative evaluation will use a mixed-methods approach, involving qualitative and quantitative assessments, producing quarterly reporting and real-time data to the project team during planning and start-up activities in the grant year (2016-17), and continue through June 2022. Formative evaluation will combine key informant interviews and mostly surveys, capturing the voice of students and teachers to identify enabling strategies that emerge in early stages of the project, and constraints encountered. Reflective surveys will be administered by BMSA staff to determine student growth in: declaring medical-focused STEM major post-graduation (self-report) and self-identifying an interest in medical field as well as % of BMSA graduates accepted into post-secondary education/training program of their choice or military (self-report). Pre/post surveys will be employed in years 1 to 5 to track change over time associated with implementation at the classroom level, including teacher understanding of short-term and long-term goals, sense of empowerment for successful implementation of the Bio-Medical Lab curriculum program and sharing of best practices, and sharing strategies for increased student exposure to STEM/CTE career pathways in medical fields and participation in career exploration activities. Summative evaluation will track metrics during the grant period associated with student achievement factors detailed in question #9. These include: # of students with increase in ACT composite Math scores; # of students with increase in ACT composite science scores; and # of teachers participating in PD/training and curriculum development activities. A metric tracking instrument will be designed in the grant year and will be used to measure project results throughout the grant period to June 2022. These metrics will not be relevant to demonstrate project impact and/or provide information for project modification until the end of project year 2. A complete and fully detailed evaluation plan will be submitted by October 2016. Quarterly meeting and reporting will be designed to provide regular communication with the project team to present data derived from a multi-faceted approach to assess corrective actions that can amplify desired change and address constraints. Annual evaluation reporting through June 2022 will provide an assessment of progress toward attaining project outcomes during successive phases of implementation, and present recommended actions to inform modification during succeeding years of the grant. Summative evaluation will continue to track data through June 2022, reporting quantitative findings using the metric tracking instrument now familiar to BMSA. The information garnered from the evaluation of the project will be shared through a published report available online digitally and through presentations at professional meetings related to K-12 STEM education, and applied research and evaluation in STEM education.

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.

There is a very high likelihood that the project can be replicated, scaled-up and/or expanded. The Bio-Med Science Academy (BMSA) is a state-designated independent STEM school in the state of Ohio, and as such is required and compelled to be a demonstration site for innovative teaching and learning as well as educational R&D. Since inception, the school has been at the forefront of education innovation, both as a STEM school and as the only 9-12 HS in the state, perhaps country that is on a graduate medical school campus. As such, BMSA is a member of the Ohio STEM Learning Network (OSLN), which boost nearly 40 STEM schools and also serves as an OSLN regional STEM training center sites. In this capacity, BMSA serves as an incubator for effective teacher training/PD and early adoption of cutting-edge instructional strategies. One such opportunity has been BMSA being recognized by the state as one of the state's competency-based education (CBE) pilot sites (December 2015), which has been a catalyst for BMSA spreading and demonstrating of how mastery-based learning can work within a CBE learning environment. Other schools and groups of educators from across the country are already coming to visit. The Bio-Medical Lab will further the school's mission to be an education R&D and demonstration site, as well as enabling BMSA to perfect teaching and learning strategies using the equipment/devices and then train other educators. In addition, the unique partnership with NEOMED will provide significant levels of statewide and national education attention, which will only grow the number of teachers, partners and other stakeholders who come to the school to visit every year. The project team and leaders plan to present the results, processes and impact of the project at numerous regional, statewide 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).

Stephanie Lammelin CAO - Bio-Med Science Academy 05/05/16

Sections 

Consortium Contacts

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

Partnerships

Bio-Med Science Academy STEM School (014231) - Portage County - 2017 - Straight A Fund - Rev 0 - Straight A Fund

Sections

Partnerships

| First Name | Last Name | Telephone Number | Email Address | Organization Name | IRN | Address | Delete Contact |
|---------------|-----------|-----------------------|---------------------------|-----------------------------------|--------|---|----------------|
| Dr. Elizabeth | Young | 330-325-6338 | eyoung1@neomed.edu | Northeast Ohio Medical University | | 4209 St. Rt. 44 Rootstown, Ohio 44272, , Rootstown, Ohio, 44272 | |
| Dustin A. | Pyles | (614) 859-5413 | dustin@vazaconsulting.com | Vaza Consulting, LLC | | 2327 Village at Bexley Drive, , Columbus, Ohio, 43209 | |
| Dr. Holly | Gerzina | 330-325-6740 | hgerzina@neomed.edu | Northeast Ohio Medical University | | 4209 St. Rt. 44 , , Rootstown, Ohio, 44272 | |
| Jake | Lehman | 408-885-1474 Ext. 114 | Jake.lehman@anatomage.com | Anatomage | | 111 N Market Street #500, , San Jose, CA, 95113 | |
| Shelly | Combs | 330-494-6170 | SMcCombs@starkstate.edu | Stark State College of Technology | 062455 | 6200 Frank Ave NW, North Canton, OH, 44720-7228 | |

Implementation Team

Bio-Med Science Academy STEM School (014231) - Portage County - 2017 - Straight A Fund - Rev 0 - Straight A Fund

Sections 

Implementation Team

| First Name | Last Name | Title | Responsibilities | Qualifications | Prior Relevant Experience | Education | % FTE on Project | Delet Conta |
|------------|-----------|--------------------------------------|--|---|---|--|------------------|-------------|
| Stephanie | Lammlein | CAO - Bio-Med Science Academy (BMSA) | Mrs. Stephanie Lammlein will handle project oversight and partnership development, ensure project aligns with school/district's overall mission and improvement plans; manage project budget, conduct walk-throughs and observations of project implementation to continually provide formative and summative feedback for staff regarding implementation of blended instructional model. Lead will work closely with Project Manager to ensure all project outcomes are completed on time and within budget. She is the direct supervisor of Project Manager. They will meet regularly to review progress, address barriers and Mrs. Stephanie Lammlein will support Project Manager in ensuring project success. Lead will facilitate school/district's Project Leadership Team that includes Project Manager, ... | To date Mrs. Lammlein has managed the implementation of a variety of grants, totaling more than \$500,000. She has also been responsible for the vision, development and continual growth of the Academy from our initial stages. Currently, she manages the implementation of the Competency Based Education Pilot, Federal Assessment Waiver, and the State STEM Training Center for the Academy. | Has 20 years experience in education in a variety of leadership capacities. | BS from Hiram College(1996) Master's from Miami University (2000) and Administrator License (2012) | 35 | |

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|-----------|---------|--|--|---|--|--|----|--|
| | | | These meetings will focus on monitoring progress and reporting outcomes. Mrs. Stephanie Lammlein will continue to reach out to new partners to provide new opportunities and experiences for collaboration for district partners and students. | | | | | |
| Dale | Hluch | Treasurer/Fiscal Agent - Bio-Med Science Academy | Mr. Hluch will be responsible for all fiscal oversight and compliance reporting related to the grant and the project. He will participate as part of the project team and attend the project meetings, when appropriate, to ensure compliance and progress toward grant fiscal outcomes/goals. | Ohio licensed School Treasurer and School Business Manager (7/1/2015 - 6/30/2020) | Mr. Hluch has 3 years of experience as the CFO for Garaway Local School District, administering \$800,000.00 in 21st Century Grants, and over \$1,000,000.00 in Federal Grants. In addition, 1.5 years of experience as Bio-Med Fiscal Agent/Treasurer overseeing all expenses and Grants. | Bachelors (1984) and Masters (1994) of Biology from Kent State. School Treasurer and Business Manager licenses (2011) from Ashland Univ. | 15 | |
| Ryan | Willard | Anatomy and Physiology Teacher | Mr. Willard will conduct and facilitate all necessary trainings for lab equipment. He will be the lead instructor to help design curriculum integration with the lab and BMSA courses. | Through college, work experience and PT certifications Mr. Willard brings years of experience to the program. | Has 8 years experience teaching a variety of Biological courses and holds a Physical Therapy license. | BS in Biology Dickinson College, MAT Johns Hopkins University, Master of Kinesiology University of Texas Pan American | 30 | |
| Dustin A. | Pyles | CEO/Managing Consultant - Vaza Consulting, LLC | Mr. Pyles, as CEO/Managing Consultant of Vaza Consulting, LLC, he will serve as the external evaluator for the project and will meet regularly with the project team to review data/information collection, and modify project | Mr. Pyles has significant experience in public administration, state education policy, legislation, grant-writing, program evaluation, state performance/financial auditing, project management, grants management, contracts management, research, advocacy, | Mr. Pyles began his career in Performance Audit Section of the Ohio Auditor of State's office, on the team that conducted the Ohio Medicaid Program audit that yielded recommendations that, if fully implemented, would save Ohio more than \$300 million. In this role, he also conducted performance/compliance audits of Ohio school | MPA/MBA - Public Administration. (DeVry University); B.A.- Public Adm., Political Science and Management - HR (Minor) (Capital University) | 10 | |

activities accordingly. He will track and monitor student achievement data and outcomes, as specified within the grant. He will serve as a member of the project leadership team and provide project reporting and compliance supports, in accordance with grant guidelines.

relationship management, education development, and STEM school design/start-up and state-designation. He is managing one of five Ohio Competency-Based Education (CBE) pilot grants, which includes Bio-Med Science Academy. While Director of Operations of the Ohio STEM Learning Network (OSLN), he managed the waiver from state assessments process for all Ohio STEM schools. While with OSLN, he managed the nearly \$6 million Ohio Race to the Top (RTTT) P2/STEM application area, which helped equip and establish nine (9) schools, including BMSA, to be regional STEM training center sites across the state.

districts and state agencies, reviewing financial indicators and operations for opportunities for efficiencies and cost-savings. He also has served in support and program management roles at the Ohio Dept of Education, Ohio Historical Society and Tri-Rivers Educational Computer Association (TRECA)/TRECA Digital Academy. Most recently, he served as the Director of Operations for Ohio STEM Learning Network (OSLN), where he was instrumental in tracking program data/information that led to proliferation of STEM education throughout Ohio. In this role, he was the program manager for the Ohio Race to the Top (RTTT) P2/STEM Application Area (\$6 million), which involved equipping and establishing STEM schools as training center sites to provide STEM-related teacher PD/training throughout Ohio. He was responsible for monitoring, tracking and reporting to the Ohio and U.S. Departments of Education on progress of the project against stated deliverables/benchmarks. In addition, he was instrumental in the launch and sustaining of the Bill & Melinda Gates Foundation-support College Ready Tools deployment in OH, TN, TX and other states, leveraging the network as a training and spread mechanism. This led to add'l investments by the Ohio Dept of Education in the amount of \$725,000 to support the spread of the tools through the Ohio High Schools That Work (HSTW) network. His major contribution to education within Ohio has been through leveraging the network of high-functioning STEM schools to assist other educators

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|-----------|---------|---|--|--|---|---|----|--|
| | | | | | in designing and launching add'l schools in OH, TN and others states. He helped grow the network from 10 to almost 40 STEM schools today. | | | |
| Dr. Holly | Gerzina | Executive Director of Interprofessional Education Services - Northeast Ohio Medical University (NEOMED) | Dr. Gerzina will help establish and train BMSA staff in the simulation equipment in the lab. She will also serve as a critical resource as the lab is implemented into our daily curriculum. | Dr. Gerzina holds a master's degree in evaluation and measurement and completed her Doctor of Philosophy Degree in health education, health promotion and disease prevention with an emphasis on population and systems-based health | Holly Gerzina, Ph.D. is the executive director of interprofessional education services, standardized patients and simulation at Northeast Ohio Medical University (NEOMED). | Master's and Doctorate degree from Kent State University. | 10 | |