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EXAMPLE:
STEM

APPEX Program Description

The Advanced Placement Programs of Excellence is a Signature Program available to high school students in Stafford County Public Schools striving to "scale to new heights and achieve new dreams"

As written on the Colonial Forge High School APPEX Fusion Page, "The Advanced Placement Programs of Excellence provides students in their high school career, a journey that will promote life-learning across all subjects and grades to equip them with the practical knowledge and skills necessary to succeed in society and the real world of work. There will be opportunities to apply their knowledge to area of interest and develop a Community Leadership and Service Above Self project".

The APPX program is a College Board sponsored partnership between the SCPS participating high schools and the colleges and universities.

Sir Isaac Newton Track Description

Within the APPEX program there are various course concentration areas in which students are to commit to and follow a rigorous coinciding course schedule. All the students this proposal concerns have enrolled in the Sir Isaac Newton Concentration--for Science, Technology, Engineering, and Mathematics.

As in the APPX brochure, " A concentration of courses in the areas of Science and Mathematics (STEM), with a service-learning project that reflects a theme/concept of that nature. AP Exams scores in Science and Mathematics courses must be 3 or higher."

Students participating in the Sir Isaac Newton Concentration area, are required to fulfill a service-learning project as APPEX mandates. This proposal outlines the current plans these students have for their project.

Proposed Project: Mission Statement and Goals

Proposed Project: Summer STEM for Stafford

Project Overview: Summer STEM for Stafford consists of a five day, all day, day camp in which elementary to middle school aged Stafford County Students will attend at a central location (NOTE: Age of campers currently consists of a wide range. Further research will narrow this scope depending on need and interest. Location will also depend on what is offered and when locations are available).

Mission Statement: To inspire students in the Stafford County Public School system to have an avid interest in Science, Technology, Engineering, and Mathematics (STEM), as it relates to their core academia and projected career paths.

Goals: The Goal of Summer STEM for Stafford is to create a new found knowledge and understanding of basic STEM principles and concepts through a five-day day camp. This camp should coincide with the projected goals laid out by Stafford County Public Schools where it applies to Science and Mathematics classroom education. In order to achieve this goal, we plan to offer a variety of activities not completed in a traditional classroom setting, yet paralleling and falling within a singular STEM principle.

Rationale

The three students proposing this event--~~Jessica Salinas, Taylor Decker, and Alex Wood~~-- see a need to further STEM opportunities that are offered outside of the academic classroom; however, first and foremost, these students have a passion for sharing their interest and knowledge of STEM. Each of these students has had experience with STEM summer camps and/or classes which they believe offers them a unique perspective for coordinating and directing their own event. Participation has ranged from enrollment in Engineering Studies, to volunteering at a local clinic, to acting as member of a local For the Inspiration and Recognition of Science and Technology (FIRST) Robotics Competition Team.

These three Colonial Forge Students have chosen to complete their APPX project as a coordinating effort for various reasons. First, as a vital concept of careers in the STEM field, teamwork is unavoidable-- these students hope to gain a deeper understanding of the STEM Education and the communication and teamwork skills necessary to be successful. Secondly, the coordinated effort to present and plan the camp will not only make the process much more efficient, but hopefully generate more appeal and instill more confidence in the validity of the organization. Thirdly, these three students simply believe they can provide a higher quality and more effective program when collaborating and culminating their efforts.

Project Description

The first four days of the camp will each solely focus on one aspect of STEM--either Science, Technology, Engineering, or Mathematics. Each of these days will be planned and directed by one of the three students proposing this idea. The fourth aspect to STEM will have to be planned and directed by all three, due to a lack of numbers. The student that is going to plan each day is decided by personal interest in STEM. This individual responsibility within the overarching event allows for leadership skills to be mastered among peers and among campers. The fifth and final day of the camp will be the culmination/combination day, where all activities

[REDACTED]

[REDACTED]

will require skills in all aspects of STEM. This will also serve as our “fun day” that many camps have--this day traditionally entails water games and outside fun (if the weather permits).

Ideally Summer STEM for Stafford would take place indoors, at either a school or library--enabling easy locating from parents which would provide campers transportation twice daily-- but also have the option for an outdoor space incase of any activity needing more space than what is provided inside. As for further considerations, Stafford County Policy dictates for a certain number of children present at functions, there must be a certain number of legal adults present. Such policies create a need for adult mentors to be present during all camp days, but also a registered nurse in case of medical emergencies or students with medication (we fully intend to make any medical conditions known by a star on camper name-tags as to be discrete and hopefully prevent preventable accidents).

Where financial support is concerned, currently the proposers are looking into a detailed fixed number to match to their plans. Hopefully, this number will not exceed \$3,000 which is to be generated through fundraising and grant applications (let's keep our fingers crossed). Money also brings up another concern, since the three students do not make a formal organization, all funds need to be placed into an account under an organization name as one student can not hold onto all the money. Since the camp is intended to be non-for profit, all funds not used will be donated. Also, it is the proposers intentions and hopes, that most materials will be donated by local business organizations.

Since this is a “start-up year” for the camp if you will, the number of campers is intended to be left small. This enables more time for each camper to learn with the hands-on activities planned. Due to the small number of campers, a fairly simple application process is being considered depending on displayed interest in the local community. Furthermore, the three directing students wish to present this camp at the conclusion of their time will APP~~EX~~ through a PowerPoint Presentation, creating the need for photographs therefore making a need for photo-releases and waivers to be signed by the Parent or Legal Guardian of each camper.

Individual Project Assignments

As detailed above, each of the three Colonial Forge Students will be responsible for planning and directing for fully planning, coordinating, and directing the activities of one day of camp--corresponding to their specific interest within the realm of STEM. These students are not expected to have each activity thoroughly planned out at this stage in research and design; however should have a grasp on what message they would like to convey to campers. The Individual Assignments are as follows:

Science: ~~Taylor Deskins~~

Technology: ~~Jessica Salinas~~

Engineering: ~~Alex Wood~~

Mathematics: Collaborative Effort of All Three APPEX Students

Tentative Timeline

The following outlines a series of deadlines and projected timeline the students have set:

End of January: Completed and Finalize Proposal

End of February into March: Reserve and Finalize Location

End of March: Advertise for Camp

April: Applicants Finalized and Enrolled

May: Activity Ideas Finalized and Completed

May: Adult Volunteers Assigned to Designated Areas of Expertise

June/July: Hold STEM Camp

Evaluation of Project

The success or failure of this project will be decided depending on a number of factors. Firstly, the outcome of campers and displayed interest in the camp. Secondly, a brief survey will be given at the beginning and conclusion of the event--camper responses at both times will then be compared to one another to see whether or not a genuine interest has been generated.

All results, findings, and interesting recounts from the event will be presented in a full PowerPoint Presentation at the conclusion of the Service-Learning aspect to the student's time with APPEX.

[REDACTED]

[REDACTED]

[REDACTED]

Individual Assignment Elaborated

Assignment

I, [REDACTED], have elected to lead the Technology portion of Summer STEM for Stafford, projected to be held during Stafford County Public School System's 2015 Summer Break.

Rationale

Technology was chosen as the area of interest due to its influence on the other principles of STEM. Additionally, I believe myself to have an adequate knowledge on the topic and experiences with technical practical applications. Throughout middle school and since the beginning of high school I have worked with a robotics team that requires a blend of all STEM principles and relies heavily on Technology. In the modern age of technology, it is more important than ever that active members of society are able to effectively use "everyday" technology. As I continue with my educational career, I am finding myself drawn to both STEM education and Biomedical Engineering paths. Biomedical Engineering in particular, is becoming an increasingly technology dependent profession, as much 21st century technology can perform tasks with pristine precision and efficiency. It is for these reasons-- personal interest and current importance in society--that I feel motivated to be responsible for the "Technology Day" of Summer STEM in Stafford.

Goals

The goal for the Technology day of Summer STEM in Stafford is to provide the basis for the skills needed to not only effectively but efficiently utilize technology that can be applied to all areas of STEM. This is to be approached by promoting an interest in technology used in "real-world" situations.

Outlined Activities

As of now, activities for the technology section of the camp are planned to either be simulation based or guest-speaker based. A seminar style is going to be avoided when all possible, however, due to the amount of funding for technology that campers will be able to get their hands-on, it may be required for some instances. I would love to get some career profiles to donate their time and demonstrate their tools--I am currently compiling a list to contact. In addition, it would be optimal to have one hands-on activity either directly working with technology, enacting a simulation of technology development, or working and introducing the basics of Human Technology Systems Integration.

