APPLICATION FORM

All applications must include the following information. Separate applications must be submitted for each eligible program. **Deadline: June 2, 2017.** Please include this application form with electronic entry.

PROGRAM INFORMATION

County: County of Henrico

Program Title: Coding for Success: Web Development and Programming Collaboration

Program Category: Information Technology

CONTACT INFORMATION

Name: Holly Zinn

Title: Management Specialist

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SIGNATURE OF COUNTY ADMINISTRATOR OR CHIEF ADMINISTRATIVE OFFICER

Name: John Vithoulkas

Title: County Manager

Signature:

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1. **Program Overview**

Web Development and Programming at the Advanced Career Education (ACE) Center at Hermitage High School in Henrico County is a two-year program that focuses on the infusion of critical thinking, problem solving, logic, and collaboration within computer science. The curriculum requires an intensive hands-on approach to learning through guided and practical problems to build and hone inquiry skills. As computer science is the fabric of technological advancements today, it is imperative to teach students not only technical skills but also collaboration skills. Students are given a wide range of opportunities to work with other students from various backgrounds and to work remotely and with others using different curricula. Student collaboration ensures a classroom-learning environment equitable to the unique talents and strengths of each student.

Website development for CodeRVA, a new computer-science themed high school, offered a project-based learning opportunity in 2016, for students enrolled in Hermitage's Web Development and Programming. Students built a website as a communication tool to advertise and inform people about the innovative school. CodeRVA was established to meet the growing demand from Virginia businesses for people skilled and knowledgeable in computer science.

Subsequently, this project required students to work collaboratively in teams using the Scrum Agile project management method to build the initial prototypes of the websites. These teams' websites were then presented to the CodeRVA Admissions and Student Support Committee, which chose between the two prototypes. Based on committee feedback, one website prototype was selected and is being used for the school. Students who developed this site used the Bootstrap framework for design and responsive features and their curriculum knowledge to modify the layout, to organize the code, and to frame the information architecture.

2. Problem/Challenge/Situation Faced by Locality

The need that prompted the collaboration between the Web Development class and CodeRVA arose from a desire to provide authentic learning experiences for students while providing opportunities for the students to develop their skills through application. Through this partnership, students were able to learn the steps necessary to develop relationships with potential clients. Students were also exposed to the website development process from the planning stage through its implementation.

3. How Program Fulfilled Awards Criteria

This program is an innovative way to benefit students as well as local businesses, nonprofits, and government agencies. The collaborative partnership between the Web Development and Programming class and CodeRVA has provided an excellent opportunity for students to understand that their learning had value and meaning. This partnership has validated their classroom experiences and provided them with opportunities to put their learning into action. In addition to the experience, it helped students build their portfolio with authentic projects. Through this, the students became engaged learners and developed skills for building professional relationships that can carry over into their careers.

4. How Program Was Carried Out

The Web Development and Programming program at the ACE Center at Hermitage focuses on students learning critical thinking, problem solving, logic, design and collaboration through application of acquired information. The program provides students with the skills to work with others from diverse backgrounds; gives them essential knowledge and computer science skills for postsecondary and freelance opportunities; and strives to develop them as productive citizens.

The first year of the program focuses upon web design, HTML3, CSS3, and JavaScript. Students learn to build websites that are accessible and meet industry standards. Certifications include Certified Internet Webmaster site development. The second year focuses on the high-level programming language of C# and using MS visual studios to build console applications and windows forms. Students become certified in the MS Technology Associate software development using C#. Upon completing the program, students develop websites for outside entities including businesses. For this purpose, partnerships have been developed with private businesses, nonprofits, and government agencies so the students have authentic experiences that will enable them to transition into their futures after high school.

Objectives:

The objectives of Web Development and Programming are to:

- Enhance project management skills

- Design and create advanced graphic design projects

- Examine internet technologies

- Design and create advanced websites

- Comply with laws and professional ethics

- Relate classroom applications to business and industry

- Prepare for industry certification

- Develop marketable employment skills

The website was developed during the 2015-16 school year, although the timeframe is continuous as the website is maintained by the students in the class. The school division supports the partnership and allotting time for the teacher to be able to meet with CodeRVA staff members to ensure that the website project met the required standards and needs.

The clientele served are students in the Richmond region and those who are underserved, of low-income or marginalized. The intent of CodeRVA is to provide all students in the region the opportunity for equal access to education.

5. Financing and Staffing

For a county to replicate the ACE Center's involvement in this program, each student would need access to a computer and the software used to develop websites. A teaching position for a web development and programming teacher would be necessary. The operating costs are minimal because students are providing the skilled labor to develop and manage the website.

6. Program Results

The website itself developed by the students is the best example of the program meeting its objectives. The site can be found at http://coderva.org/. In visiting the website, you will see that the aforementioned objectives were met through its development.

7. Brief Summary

Web Development and Programming at the Advanced Career Education (ACE) Center at Hermitage in Henrico County is a two-year program that focuses on the infusion of critical thinking, problem solving, logic and collaboration within computer science. As computer science is the fabric of the technological advancements today, it is imperative to teach students not only technical skills but also collaboration skills. Website development for CodeRVA, a new computer-science themed high school, offered a project-based learning opportunity in 2016, for students enrolled in the Web Development and Programming program. Students built a website as a communication tool to advertise and inform people about the innovative school. CodeRVA was

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The need that prompted the collaboration between the web development class and CodeRVA arose from a desire to provide authentic learning experiences for students while providing opportunities for them to develop their skills through application. Through this partnership, students were able to learn the steps necessary to develop relationships with potential clients. Students were also exposed to the process from the planning stage through its implementation.

CodeRVA

CodeRVA Regional High School

CodeRVA is an innovative regional public high school in central Virginia focused on preparing students for college and careers in computer science.

Blended Instruction

CodeRVA is focused on utilizing 21st century instructional techniques to create a more individualized approach to learning. Online/Virtual learning, will be enriched by small group instruction and frequent collaborative Project-

Internships

During the last two years of high school, each student will receive relevant, real-life work experience in the field of computer science and coding. Students will be encouraged to exercise options to graduate high

Career Pathways

CodeRVA differs from "traditional" high schools by providing each student with a career coach. Career coaches will assist in developing an individualized college and/or career pathway. Mentors from CodeRVA partners will