



## APPLICATION FORM

All applications must include the following information. Separate applications must be submitted for each eligible program. **Deadline: June 1, 2018.** Please include this application form with electronic entry. If you do not receive an email confirming receipt of your entry within 3 days of submission, please contact [Gage Harter](#).


### PROGRAM INFORMATION

County: County of Henrico  
Program Title: The Hour of Code  
Program Category: Information Technology

### CONTACT INFORMATION

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### SIGNATURE OF COUNTY ADMINISTRATOR OR DEPUTY/ASSISTANT COUNTY ADMINISTRATOR

Name: Douglas Middleton  
Title: Deputy County Manager for Public Safety  
Signature: 

## **1. Program Overview**

The annual Hour of Code is a collaborative, interactive outreach event hosted by the students in the Web Development/Programming course at the Advanced Career Education (ACE) Center at Hermitage High School and students in the Center for Information Technology (CIT) at Deep Run High School. The goal of the Hour of Code is to introduce seventh- and eighth-grade students to computer science through a brief educational presentation, followed by tactile interaction with computer science tools such as Spheros, robots, Legos, and coding. Each year the ACE Center students meet with CIT students, via web conference or on-site, to plan logistics, volunteer for specific roles, and discuss the expectations of their event. A select group of students from middle schools in Henrico County and the city of Richmond, along with area private school students and home-schooled students, are invited to RSVP for a specific time slot to attend the Hour of Code at the Eastern Henrico Recreation Center. The Hour of Code is held each year during National Computer Science Education Week and is an interactive spinoff from the nationwide, online Hour of Code.

## **2. Problem/Challenge/Situation Faced by Locality**

The annual Hour of Code was created to empower students – especially underrepresented groups such as girls, African-Americans, and Hispanics – with knowledge of computer science and access to computer science options. The program aims to make students confident and comfortable enough to further explore, build, and create in computer science courses and possible careers. The goal is to expose as many students as possible to coding, creating, and thinking outside the box in order to take advantage of the vast possibilities of computer science. The program aims to help build the computer science workforce, foster leadership skills in student-facilitators, share in the pride of educating and empowering students to grow in the area

of computer science, and encourage adults (teacher-chaperones, parents, etc.) to give computer science a try.

### **3. How Program Fulfilled Awards Criteria**

The Hour of Code is an innovative program that takes on the challenge of increasing awareness of computer science tools and options, particularly among underrepresented groups. Several Henrico County Public Schools programs collaborate to create the event. Henrico County students take on leadership roles to produce the event, and work as a team to accomplish its goals. While event organizers make improvements each year, the Hour of Code continues to keep its student audience at the heart of its planning. The event exposes students to opportunities they may not otherwise have had, including a deeper exploration of computer science as a possible career.

### **4. How Program Was Carried Out**

Planning for the first Hour of Code began in August 2014 and continued throughout November 2014; the event was held in December at a vacant store at a local mall. Foot traffic was slow and only four schools attended. At the end of the event, faculty members felt the Hour of Code was successful in its originality but had not met its goal of reaching an array of students from varying backgrounds and schools. Planning for the 2015 edition began in August 2015, and the Hour of Code was held during Computer Science Week in December. The teacher-facilitators met to discuss needed changes from the previous year's event, set a calendar for additional meetings with students, and to divide tasks among themselves. Throughout the following months, a local venue was secured and students met in person and via web-conference to brainstorm and assign roles such as project manager and team leaders. Students also determined which computer science equipment to feature, based on a survey of available equipment and the comfort-level of

students assigned to group rotations. Students designed the layout of the room, created a rotation schedule for the event and requested needed materials from their teachers. This planning model has been used since the 2015 Hour of Code.

Each September, a “save the date” email is sent out to invited schools. The email includes a flyer, brief explanation of the event, and the number of students per school who can attend for each time period (the event can accommodate 25 students per school, per time frame). In mid-October the email is followed up with signup links for the invitees (Perfect Potluck for homeschool parents; SignUpGenius for middle schools) and a photo release form that must be returned for students who opt out of photos and videos. RSVPs, via the signup link, must be completed by early November. With a count of attendance and student and chaperone names, certificates of participation and goodie bags are prepared in advance.

On the day of the event students and teachers arrive at 8 a.m. to prepare for the day: they display posters, set up the education room, print additional certificates, and lay out the equipment that will be used. The first group of students, who arrive at 9 a.m., are home-schooled students – their parents RSVP’d for the event through an online signup sheet that was emailed several weeks before the event. Reserving this time slot for homeschooled students meets the needs of Henrico Transportation Department’s field-trip time constraints. Remaining visiting groups are rotated in every 25 minutes. The last group leaves at 2:30 p.m., which allows times for cleanup, debriefing, and student-facilitators’ return to schools for their dismissal.

Visiting students are met by a student-greeter and ushered to the “classroom” for a brief video about computer science tools and concepts, a short explanation of what to expect in the activity room, and a question-and-answer period. The greeter/team-leader ushers his or her group to the

activity room and is responsible for keeping track of time at each station. Students participate in the online Hour of Code, where they have an opportunity to write code and upload it to a national database; operate Spheros with an iPad; build with Legos; use LittleBits to create and “sample” their work; and program a robot. At the end of their assigned time slot, teacher-chaperones receive exit packs for their students. These include Hour of Code certificates of completion and a goodie bag filled with a brief explanation of the items featured at each station; candy; and a computer-science-related gift that varies each year and is donated by Deep Run High School’s CIT business partners.

At the conclusion of the event, student-facilitators share in the cleanup responsibilities, discuss the successes of the day and make suggestions for improvements for the following year when another group of student-facilitators will plan for and host the Hour of Code.

## **5. Financing and Staffing**

The costs incurred to produce the Hour of Code are minimal. Promotional posters that are displayed throughout the recreation center are donated by business partners. Color-coded buttons for the attendees cost about \$75 and are printed by students in the Graphic Communications course at the ACE Center at Hermitage. Computer science tools, such as Spheros and LittleBits, are borrowed from the CIT and ACE Center classrooms, and there is no cost to Henrico County Public Schools to use the county-owned Eastern Henrico Recreation Center. Transportation costs to and from the venue are deducted from each school’s field-trip budget.

## **6. Program Results**

Since the 2014 inception of the Hour of Code, there has been an increase in the number of applicants to the Web Development/Programming course at the ACE Center at Hermitage and the Center for Information Technology Specialty Center at Deep Run High School. Similarly, secondary computer science courses in the business education program have also seen increased enrollment. Henrico's coordinator for STEAM (science, technology, engineering, arts and math) has also formed more partnerships with related community groups and businesses. Finally, four additional computer science and coding courses have been developed or updated to meet the needs of interested students, and to aid in meeting the needs of the fast-growing computer science industry.

## **7. Brief Summary**

The annual Hour of Code is a collaborative, interactive outreach event hosted by the students in the Web Development/Programming course at the Advanced Career Education Center at Hermitage High School and students in the Center for Information Technology at Deep Run High School. The event was created to empower students – especially underrepresented groups such as girls, African-Americans, and Hispanics – with knowledge of computer science and access to computer science options. The program aims to make students confident and comfortable enough to further explore, build, and create in computer science courses and possible careers.

The event features a brief educational presentation, followed by tactile interaction with computer science tools. Each year students enrolled at the two program centers meet – on-site or via web conference – to plan, volunteer for specific roles and discuss their expectations for the event. Select groups of students from middle schools in Henrico County and the city of Richmond, along with area private school students and home-schooled students, are invited to RSVP for a specific time slot to attend the Hour of Code at the Eastern Henrico Recreation Center. The Hour of Code

is held each year during National Computer Science Education Week and is an interactive spinoff from the nationwide, online Hour of Code.

Since the 2014 inception of the Hour of Code, there has been an increase in the number of applicants to the Web Development/Programming course at the two program centers. Computer science courses in Henrico Schools' business education program have also seen increased enrollment, and the school division has formed more related community partnerships. Finally, four additional computer science and coding courses have been developed or updated to meet the needs of interested students, and of the fast-growing computer science industry.

## The Hour of Code

2015 video: <http://tvhcps.wpengine.com/2015/12/08/hour-of-code-event/>

2016 video: <https://www.facebook.com/henricocde/videos/1851729528389577/>



### THE HCPS HOUR OF CODE

**PRESENTED BY STUDENTS AT  
THE ACE CENTER AT HERMITAGE  
& DEEP RUN CIT**

#### **WHEN**

**Tuesday, December 5, 2017**

#### **WHERE**

**Eastern Henrico Rec. Center**

1440 North Laburnum Avenue

A registration link will be sent to invited  
schools in October

**HCPS HOUR CODE VIDEOS - [2015](#) AND [2016](#)**

**SELECT MIDDLE  
SCHOOLS INVITED -  
7TH & 8TH GRADES**

**COMPUTER  
SCIENCE  
EDUCATION**

**LEARN TO CODE**

**A STUDENT-RUN  
EVENT**

**CODING  
ROBOTS  
SPHEROS  
& MORE!**





