

## Youth Initiatives

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Tech Collective is dedicated to technology awareness, inspiration, education, and engagement for all Rhode Island students. We partner and collaborate with many Rhode Island, regional, and national organizations to provide bioscience, information technology, and STEM opportunities to students, and oftentimes their educators as well. Below is just some of what we are connecting Rhode Island students, educators, and industry professionals too.

Contact us today to get involved or learn more. Contact:

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[Youth News & Programs](#): Computer Science for Rhode Island With Computer Science in all K-12 schools by the end of 2017, the next generation of Rhode Islanders will have the fundamental skills they need to thrive in a high-tech economy. President Obama announced the Computer Science for All initiative at the beginning of the year in his State of the Union address. By providing \$4 billion in funding for states, and \$100 million directly for districts in his forthcoming budget to increase access to K-12 CS by training teachers, expanding access to high-quality instructional materials, and building effective regional partnerships. The funding will allow more states and districts to offer hands-on CS courses across all of their public high schools, get students involved early by creating high-quality CS learning opportunities in elementary and middle schools, expand overall access to rigorous science, technology, engineering and math (STEM) coursework. CS4RI's partnerships include Brown University, Bootstrap, Code.org, Microsoft TEALS, Project Lead the Way, RI College, RIDE, RI Office of Innovation, RI STEM Center, and the University of Rhode Island. President Obama's initiative is calling on even more Governors, Mayors, education leaders, CEOs, philanthropists, creative media, technology professionals and others to get involved. P-Tech, an IT and cybersecurity program from IBM, offers a high school experience that includes an associate degree, work experience, and first-in-line job opportunities. P-Tech Rhode Island has partnered with the Commerce Corporation, CCRI, RIDe, SENEDIA, and the Tech Collective to prepare as many young people for the in-demand, high-tech jobs that our economy is demanding right now, and the jobs that will be available in the future. The CS4RI has already paid dividends throughout Rhode Island. Here are some examples. Chariho High School students have shown an incredible aptitude towards Computer Science, thanks to the CS4RI initiative. One senior, Lydia L., won recognition from the National Aspirational Women in Computing and Technology. Another senior won a silver medal in Technical Computer applications at the National Skills USA competition. The same senior also won a gold medal in the statewide Skills USA competition. Two seniors earned silver medals in Web Design at the statewide skills competition. Fourteen juniors earned 3 undergraduate credits in Web Design from Central Maine Community College, while sixteen sophomores also completed 3 credits in PC Hardware, OS and Networks from the same school. We are proud that these students are preparing themselves for tech careers, and hope to see more students take advantage of the opportunity to help drive Rhode Island's economy forward. Chariho High School IT Program The Computer Technology & Game Design program is a rigorous three-year, college prep, program of study. This area of (STEAM) Science, Technology, Engineering, Arts and Mathematics based workmanship is designed to provide students with an understanding of the concepts, principles, and techniques involved in the workings of a modern day computer system and its peripherals. Students completing the three-year program of studies are eligible to earn four transferable undergraduate credits from the University of Rhode Island in Cyber Security & Computer Forensics, and three articulated credits upon enrollment at New England Institute of Technology. In the first year of study students are assigned individual and team projects in which they create, edit, save, print, and present files in a variety of mediums including game design for the PC. Highlights during year 1, include the &ldquo;Principles of Information Technology, and Game Design Programming with crossover segments in Digital Media, Graphics, and HTML. In the second year of study, students move away from the fundamental units of instruction and become more proficient at intermediate and advanced problem solving using the computer as both the tool and the object of digital production. Highlights during year 2 include &ldquo;Cyber Security & Digital Forensics&rdquo; resulting in eligibility to receive four undergraduate credits from the University of Rhode Island. Students further engage projects in Web Design with Adobe Dreamweaver, and Game Design Programming with crossover segments in Digital Media and Graphics. In the third year of study students actively engage in the dynamic reshaping of technologies as they begin to seriously examine post-secondary & career related occupations within the Information Technology field. Highlighted during year 3 of the program is an opportunity to study and test for the IC3 industry certification/credential. Students successfully completing the three-year Computer Technology & Game Design program may carry over their undergraduate credits to the college or university of their choice.

The Coventry Career and Tech Center at Coventry High School are training students in CISCO and Windows operating systems, with the focus shifting to CISCO systems in the next couple of years. The 3-year program covers multiple bases, such as Windows, Cisco, Java, and Oracle. Year 1 of the program will consist of the first course in the Cisco

CCNA curriculum: Introduction to Networks, a full year course. Students will also take the first course of the Oracle Certified Associate, Java 8 Programmer: Alice 3, a semester course.

- Year 2 of the program switches the focus to Windows 7 certification (MSCA): Windows 7 Configuration (70-680). Students will also take the second course in Oracle: Greenfoot, a semester course.

- In the third and final year of the program, students will learn how to Administer Windows Server 2012 (70-410), a full year course. Students will also complete the AP Computer Science A course in Java to complete the Java Certification.

This program will give students in-depth knowledge of these programs giving them valuable skills that allow them to contribute to the Rhode Island workforce immediately.

## Warwick Area Career and Tech Center

During the program, students are studying industry-based curriculum to prepare for the CCENT (Cisco Certified Entry Networking Technician) Certification or CCNA (Cisco Certified Networking Associate) Certification upon completion of their coursework.

During their Senior year, students participate in an Internship program where they learn in the industry workplace during class scheduled time. They apply for the Internship, participate in a job interview, complete a resume and cover letter while learning soft skills. Industry guest speakers give classroom presentations as well as field trips to see Industry professionals in the workplace and real-world networks, such as AAA of Southern New England, TF Green Airport, Electric Boat, Schneider Electric, and Atrion. Guest speakers and field trips to college campuses also help guide students in their post-secondary decisions, such as New England Institute of Technology, CCRI - Warwick, and Johnson and Wales. More about the program: The CCNA Routing and Switching curriculum is a gateway to entry-level networking jobs and IT careers. The curriculum consists of 4, 70-hour courses: Introduction to Networks, Routing and Switching Essentials, Scaling Networks, and Connecting Networks. The first 2 courses prepare you for the Cisco CCENT certification exam or to study CCNA Security. All 4 courses are recommended before taking the Cisco CCNA Routing and Switching certification exam.

- Develop a working knowledge of routing, switching, network applications, protocols, and services.
- Study with an instructor in the classroom and access expert content online anytime.
- Practice what you learn on both real equipment and Cisco Packet Tracer, a network configuration simulation tool.
- Get immediate feedback on your work through built-in quizzes and tests.
- Prepare for the workplace with collaborative projects and presentations.
- Connect with the global Cisco Networking Academy community

## Academy for Career Exploration

The Academy for Career Exploration (ACE) provides a full college prep curriculum with a focus on technology, design, and IT fundamentals. The program helps students identify interests, skills, and opportunities for smart college preparation and career readiness. ACE envisions a rapidly evolving global work environment in the 21st Century. This environment will require constant learning to keep current with technology and the demands of college and the workplace. Schools must evolve to meet this ever changing need. The Academy for Career Exploration is a small, safe school with a "family" environment. Up to 225 Providence students enroll in the ninth through twelfth grades each year.

Governor Raimondo will visit the Academy for Career Exploration this coming Tuesday, August 2nd, at 10:00 AM. She will meet the 18 Providence Public School District students who have been participating in the Bootstrap Coding Camp at ACE for the past 4 weeks.

The Bootstrap Coding Camp is part of the Governor's CS4RI initiative. We have been providing this program in collaboration with Brown University and under the guidance of Joe Devine, ACE Program Advisory Council member, and friend of ACE. This camp has been included in Mayor Elorza's Summer Learning Initiative.

## GirlsGetMath@ICERM: Summer Math Camp for High School Girls

Description This five-day non-residential mathematics program is open to high school girls from the greater Providence, RI area who will have just completed either grade 9 or grade 10 by July 2014.

GirlsGetMath@ICERM will encourage 25 young women to explore, and invite them to excel in, the mathematical

sciences. Accomplished professional women, enthusiastic about serving as career models as well as scientific mentors, will lead the program. Potential topics include: cryptography, the mathematics of voting, image processing, prime numbers and factoring, and fractals. The goals of the program are: to show high school women that the study of mathematics can be exciting, beautiful, and useful to build confidence in students' mathematical knowledge through engaging and expert mathematical instruction to introduce high school students to a variety of career opportunities in which sophisticated mathematical ability plays a key role to emphasize the strategic role mathematics plays for success in STEM careers to provide the participants with a support group and expert mentors who are successful undergraduate, graduate students and professionals from the STEM workforce to have a positive influence on the way students view their mathematical interest and ability. **Instructors**

The faculty organizers will be joined by undergraduate and graduate women in Mathematics and Computer Science from Brown University who will serve as teaching fellows in the program. **Event schedule TBA**

The program will take place at ICERM on the Brown University campus in historic Providence, RI. **Youth Speakers Bureau** If you are an industry professional who wants to share your passion and experience with Rhode Island students, we have the opportunity for you! We are calling for professionals to become part of our Speakers Bureau and spending approximately 45 minutes as needed to discuss career awareness and opportunities with students in their classrooms. This is a high-impact initiative with low obligation, sign up today! [Learn More](#)

Scholarships Congratulations to our 2014 scholarship award winners!

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Lighthouse Computer Services / Tech Collective Scholarship

\$1,000 scholarship to a student studying IT/CIS/MIS and with an affiliation to one of the five US Military branches.

Congratulations to 2014 scholarship recipient, Hayden Kendall! 2014 graduate of Chariho High School. Hayden will be pursuing a major in Computer Science with Cyber Security and Computer Forensics at the University of Rhode Island. Hayden's grandfather served in the US Army and was honorably discharged.

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Doug Schwinn / Tech Collective Scholarship

\$2,500 to a female or minority student interested in pursuing a major in the STEM fields.

Congratulations to 2014 scholarship recipient, Antoinette Bongiorno! 2014 graduate of Smithfield High School. Antoinette will be pursuing a major in Mathematics at the University of Rhode Island. Antoinette is also a 2014 recipient of the NCWIT Award for Aspirations in Computing.

2014 Scholarship Recipients

2012 Scholarship Recipients

2011 Scholarship Recipients

2010 Scholarship Recipients

2009 Scholarship Recipient \_\_\_\_\_

**Events and Programs** GRRL Tech Tech Collective's GRRL Tech is an interactive technology expo offering female high school students an up-close and engaging look into dynamic and rewarding technology opportunities. Through industry mentoring and hands-on workshops, GRRL Tech aims to encourage STEM learning, break down gender myths and offer career insight into STEM industries. In its more than 10 years of programming, GRRL Tech now welcomes an average of 500+ students annually and has reached over 3,000 high school girls and 500 educators. Funded in part by the Governor's Workforce Board and the Rhode Island Job Development Fund. **2013 GRRL Tech**

**STEM in the MIDDLE**

STEM in the Middle aims to raise girls' awareness and participation in the science, technology, engineering, and mathematics (STEM) fields at the middle school level through a day of hands-on interactive workshops designed and delivered by female industry professionals and faculty. They are then able to ask questions and gain real-world insight during a lunch session. 90 students and eight educators attended the program's inaugural event. Funded in part by the Governor's Workforce Board and the Rhode Island Job Development Fund. **2013 STEM in the Middle**

**Junior Achievement of Rhode Island**

The legacy of Junior Achievement is that all Rhode Island youth be given access to opportunity and success. Junior Achievement is a network of dedicated business and community volunteers sharing their success and real-life skills through JA's hands-on, experiential programs that teach the key concepts of work readiness, entrepreneurship and financial literacy. [Learn More](#)

**National Center for Women & Information Technology**

NCWIT is a non-profit coalition of over 200 prominent corporations, academic institutions, government agencies, and nonprofits working to improve U.S. innovation, competitiveness, and workforce sustainability by increasing women's participation in IT. NCWIT's work spans K-12 and higher education through industry and academic careers. Tech Collective is the RI NCWIT Co-Affiliate along with Roger Williams University. [Learn More](#)

**The Rhode Island STEM Center**

The RI STEM Center, located at Rhode Island College, is committed to initiating and facilitating state-of-the-art

professional development, research, and collaborative partnerships among PreK-college educators, teacher candidates, students, and other community stake-holders to advance STEM education. [Learn More](#)

#### Southern New England Girls Collaborative Project

The Southern New England Collaborative is a part of a nationwide consortium working to interest and inform girls of careers in the high-wage, high-tech and high-demand fields of science, technology, engineering and mathematics (STEM). In bringing together Rhode Island and Massachusetts-based girl-focused programs and organizations, the Collaboration aims to expand upon the knowledge, resources, capacities, and reach needed to increase STEM participation and opportunities. [Learn More.](#)

#### Rhode Island Cyber Foundations Competition

Established in 2011 and lead by US Congressman Jim Langevin and partnering with Tech Collective, the Rhode Island Science and Technology Council (STAC), and New England Institute of Technology, the goal of the Cyber Foundations Competition is to identify and develop potential talent for the cyber security workforce of the future. Rhode Island is one of three states nationwide to participate in the completion. [Learn More](#)

#### US FIRST Robotics

##### FIRST LEGO League (FLL) & FIRST Tech Challenge (FTC)

For students between the ages of 9-14 (FLL) and high school students (FTC) US FIRST robotics program provides students with the opportunity to design, build, and operate robots in statewide and national competition. The programs engage students to explore technology pathways, develop social skills, build community and core values, and foster a stage for future teamwork and success. [Learn More](#)

SkillsUSA Rhode Island SkillsUSA is a partnership of students, teachers, and industry representatives working together to ensure America has a skilled workforce. SkillsUSA helps each student to excel. SkillsUSA is a national organization serving teachers and high school and college students who are preparing for careers in technical, skilled, and service occupations, including health occupations, and for further education. SkillsUSA was formerly known as VICA (the Vocational Industrial Clubs of America. 2013 Student Biotech Competition [The Sophia Academy](#)

Sophia Academy is a non-denominational, private, non-profit gender-specific middle school for girls, grades 5-8, from low-income families in Providence. Their goal is to make academics relevant and alive through the accomplishments of women throughout history. Connections are made for the girls, not only through language arts and social studies, but through all four core subject areas &ndash; language arts, math, science, and social studies. Tech Collective works with the Sophia Academy to provide industry speakers, mentors, and hands-on STEM workshops for students. [Learn More](#)

#### Rhode Island EPSCoR

Rhode Island's Experimental Program to Stimulate Competitive Research (EPSCoR) conducts groundbreaking research and develops academic talent in the science and technology fields to increase competitiveness in research and development, build a more capable workforce and fuel economic growth in the Ocean State. [Learn More](#)

#### University of Rhode Island SMILE Program

The SMILE Program is an after school academic enrichment program for students in fourth through twelfth grades. The SMILE Program aims to increase the numbers of underrepresented and other educationally underserved students who graduate high school well prepared to enter higher education and pursue careers in science, math, engineering, and technology (STEM). [Learn More](#)

#### Academies of Information Technology

Partnering with the National Academy Foundation, the Rhode Island Academies of IT is a four-year program engaging high school students in the high tech and high demand technology areas. To meet the growing demand for core IT workers in Rhode Island and across the country, the academy model integrates math and language arts curriculums as well as technical lessons and career awareness and exploration activities. IT industry professionals are often engaged by Tech Collective to speak in classrooms or provide company tours, giving the students a better understanding and feel of the industry they are interested in entering.

#### Rhode Island Biotech Academies

Initially established by the Rhode Island Department of Education, Tech Collective works with the Biotech Academies across six Rhode Island high school and career and technical centers to engage and educate high school students in the diverse bioscience fields. The three-year program provides STEM education and industry awareness to prepare students for a career in the Bioscience industry. Tech Collective works with the Academies to provide industry speakers, company tours, teacher externships, and other educational opportunities.

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#### Additional Resources

- [Youthworks 411](#) - 11 Rhode Island youth workforce development system centers statewide offering expert assistance in researching careers, seeking out work experience and planning for the future.

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[Engineer Your Life](#) - A guide to engineering careers for high school girls. This interactive site highlights engineering careers, showcases professional women real-life engineering careers, offer guidance on how to find your dream job and attain it.

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Information on Careers & Education - EmployRI website provides job and education and training opportunities, as well as Labor Market Information (LMI)

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College and Career Planning - Whether you're exploring careers or colleges or have found the career you want to pursue but don't know where to start, WaytogoRI.org is the place for Rhode Island students to go.

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