SHENANDOAH VALLEY **STEM** MENTORING AND VOLUNTEERING OPPORTUNITIES

As of August 2018, as gathered by the Shenandoah Valley Technology Council
www.svtc-va.org | 540.568.7882 | info@svtc-va.org

Name of the project/effort/meeting/location	Describe your project/activity/site or idea. Who and how many are served?	Do you have a need or interest in having volunteers/mentors support you?	Whom to contact
Staunton Makerspace http://www.stauntonmakerspace.com/	A Makerspace is a community run space where people can gather to create, collaborate and learn. The Staunton Makerspace has grown to support collaboration across boundaries of science and art, technology and craft, to invent new technology, create new businesses, and design original works of art. Since our fire in February 2017, we've recovered or replaced all of our equipment, much thanks to the support of individuals and organizations including the SVTC, but largely from the effort of our own backs. We have a fully functioning cabinet making shop, multiple lathes, a 3'x4' three axis CNC router, a 2' x 4' 100 watt laser cutter, and several 3D printers, among many other tools. But a maker space isn't really it's tools, so much as it is the wealth of experienced artists and craftsman that form our membership - a tight nit community of support that allows everyone to gain new skills. Earlier in 2018 we converted to a Virginia non-stock corporation and are applying for non-profit status. With the help of the Community Foundation of the Blue Ridge, we have accepted a donation that has allowed us to purchase 20 South Jefferson Street in Staunton Virginia. We are a growing force that is determined to make a difference in our community, and build the confidence and capability of the people we touch. We have around 40 paying members of our space who are gaining skills in woodworking, laser cutting, 3d printing, and general electronics. We've had a slow year recovering from the fire, but our members are actively working with the boys and girls club to teach programming classes and build remote control plans.	As an emerging Non-Profit, we can now accept tax-deductible donations through the Community Foundation of the Blue Ridge. As a 100% volunteer run organization, donations go directly to improving our facility, and what we have to offer to the community. We are in the midst of making some very hard decisions about what we can support, but at a minimum we hope to add pottery studio and basic metal working area as we transfer to our new building. We cannot presently afford an HVAC system for 2/3rds of our space, relying on some old gas space heaters in the garage to keep us warm over the winter. Habitat for Humanity is jumping in to help our members build a dividing wall so we can establish a clean tech area for electronics and textile work. If you would like to join us in hammering studs and standing up walls we'd love the help. If you have equipment, the expertise to teach classes, or really anything at all to offer, we'd find a way to use your help and make the most of your time.	support@stauntonmakerspace.com
Harrisonburg City Public Schools STEM Day at the Harrisonburg Valley Mall https://sites.google.com/a/harrisonburg.k12.va.us/hcps-stem-day/	HCPS STEM day is a community wide event to celebrate Science, Technology, Engineering and Math and to showcase our STEM students as presenters. Every other year we house about 65 exhibits and have about 140 volunteers, about 145 student presenters, 100 other community exhibitors and about 2000 attendees. Visitors to STEM day can choose from scheduled events or walk around and participate in hands on activities for all ages. The next STEM day will be occurring on February 23, 2019. The event goes from 10-3.	STEM day takes months of planning and many hours of time from volunteers and myself. First, I could use help with obtaining and coordinating the volunteers for the event. This is one of the bigger pieces of the coordination. Someone who has connections with volunteer organizations or is very good at organizing resources would be beneficial. The time period for this starts in Nov. and continues periodically until STEM day. Second, I could use volunteers for the day (Feb. 23, 2019). Volunteers could come for 3-hour shifts from 8am-3pm the day of the event and 12-6 the night before. Anyone, wanting to volunteer to be on the planning committee is also welcome.	Amy Sabarre, HCPS STEM, asabarre@harrisonburg.k12.va.us, 540.434.9916

Augusta County Public Schools Annual Middle School STEM Expo at Augusta Expo, Fishersville VA Event Date: TBA (Feb 2019) Event https://www.augusta.k12.va.us/Page/27205	The ACPS Middle School STEM Expo is an opportunity for all ACPS middle school students to compete in one of 6 STEM categories. The six categories that students can choose from are: Environmental/Agricultural Innovation, Invention, Reverse Engineering, Robotics & Computer Science, Rube Goldberg, and Scientific Inquiry. The STEM Expo takes the place of the traditional science fair, showcasing and celebrating STEM projects from across the division. It is a way to encourage our students' scientific thinking outside of the classroom. The STEM Expo is strictly voluntary and is not a required assignment. We have grown each year to the point we will likely have over 300 participants, grades 6-8, this current school year.	Every year we invite community stakeholders to serve as judges for each of the six categories. Judges use provided rubrics to score and tabulate the winners. As well, we invite community stakeholders to participate by sponsoring prizes and snacks or showcasing demonstrations.	Angela Deitz, Instructional Supervisor Coordinator of STEM Expo deitz.al@augusta.k12.va.us
Harrisonburg High School Robotics Team Website: TBA	We currently host FIRST Tech Challenge Team (FTC) 6383, Zeus' Bolts. We formed the team in 2012 and have competed in regional and district competitions 5 of the last 6 years. Our team size is between 10-15 students and work to complete their tasks in subteams made up of programming, design/build, electrical, and marketing/PR. The build season begins in September and runs through November. Competition season begins in December and runs through February. More information about the program can be found at: www.FIRSTinspires.org/ftc	We are always in need of mentors for our programs. Programming mentors are always welcome!! Practicing mechanical engineers, as well as those who are interested in helping students achieve their goals in this STEM activity are needed as well.	Geoff Estes, Lead Mentor, HHS gestes@harrisonburg.k12.va.us Seth Shantz, Mentor, HHS sshantz@harrisonburg.k12.va.us HHS: 540.433.2651
Shenandoah Valley Governor's School FIRST Robotics Club (FRC) http://svgsstudentnews.wordpress.com/	FIRST Robotics Competition (FRC) is an international competition in which high school students design and build a robot to perform a certain task. The Shenandoah Valley Governor's School team consists of 11th – 12th graders from seven high schools across Staunton, Waynesboro, and Augusta County. Students learn to use the engineering design process to solve a real-world problem with no singular solution. More information regarding FIRST can be found at the following link: http://www.usfirst.org/roboticsprograms/frc Information about Shenandoah Valley Governor's School can be found here: http://svgsstudentnews.wordpress.com/	We always welcome additional mentors from the community. Volunteers/mentors with experience in mechanical engineering, tech support, computer programming, electronics, metalworking, and/or fundraising who are willing to work cohesively with students to complete the project are most appreciated. The international competition "reveal" date is in January. Work on the robot must be concluded by mid -February. We generally meet two – three evenings per week for a couple of hours at a time. We will work with students to determine the best nights to meet this year. Monday nights are usually ideal, and other nights vary from year to year. Volunteers are certainly not expected at every meeting, but any support is greatly appreciated. The competition dates are in March. We attend two competitions in the FIRST Chesapeake District.	Chris Martin, martin@svgs.k12.va.us

CyberDay https://www.jmu.edu/cob/cis/about/cybercity.shtml http://www.jmu.edu/news/cob/2014/06/03-students-from-page-county-participate-in-cyber-day.shtml	CyberDay is a one-day program that serves as an exciting computer technology field trip for middle school students. Between 40 and 50 students are transported to JMU on a school bus. The CyberDay program contains 2 or 3 one-hour computer learning activities such as mobile app development or network security. In addition, the students participate in discussions with advisors on admissions, student success, and career options. Our goal is to influence more young people to pursue IT careers.	We are always welcoming to individuals that can deliver 60 minutes of exciting hands-on computer skills to middle school students. Volunteers are welcome, and we try to utilize them in the best way for the students. We try to offer four CyberDay Events per year. Dates vary based on computer lab availability and school schedule. All middle school teachers and principals are invited to contact us.	Tom Dillon, JMU, College of Business, dillontw@jmu.edu, 540.568.3015
Regional FIRST Lego League Competition **(FLL)** Event date: November 3, 2018 https://va-dcfll.org/event/regional-tournament-james-madison-university-isat/ General FLL info for Virginia: http://www.va-dcfll.org	Regional competition for FIRST Lego League (FLL) is held on JMU's campus each fall. The 2018 date is 11/03/2018 at the JMU ISAT Building. With twenty plus teams of 10 participants each plus coaches and parents, it's an active day, but it's lots of fun. The tournament is sponsored by the JMU College of Integrated Science and Engineering and others, incl. the SVTC.	We could use volunteers to support registration, logistics. judging, and score keeping (done on a computer, very easy).	Emily Winter, Regional Tournament Director, winterea@jmu.edu
State FIRST Lego League Competition **(FLL)** Event date: TBA General FLL info for Virginia: http://www.va-dcfll.org/	Statewide FIRST Lego League (FLL) is held on JMU's campus each winter. The 2018 date will in December at JMU's Memorial Hall on S. High Street on Sat., and Harrisonburg High School on Garber's Church Rd. on Sunday. This statewide tournament is a multi-day competition that brings hundreds of participants, coaches and parents to the Shenandoah Valley. This event is a huge undertaking but it's high energy and lots of fun.	We could use volunteers to support logistics (greeters, runners, site management, etc.), judging, and score keeping. Volunteers can be used for short blocks of time, whole-day or whole weekend. This is a great opportunity to give a positive impression of Harrisonburg, the Valley & JMU on our out-of-town guests.	Sign up to volunteer: http://www.va-dcfll.org/volunteer/ Or contact VA/DC FLL state director: Nick Swayne, swaynedd@jmu.edu