STEMCAMPS22

Overview, Schedule, Camp Descriptions and FAQs

At NOVA SySTEMic, we have the most exciting and educational summer STEM camps in Northern Virginia! Led by STEM teachers and college students enrolled in STEM programs, our STEM Camp program introduces Science, Technology, Engineering, and Math to thousands of grade-school students.

Camps are focused on hands-on, project-based learning that provides students with excellent opportunities to begin exploring STEM fields and to chart a course for future STEM education and workforce opportunities.

Registration for summer camps will open February 1, 2022. If you have any questions that aren't covered in this document, please email systemic@nvcc.edu or call us at (703) 530-3505.

Highlights

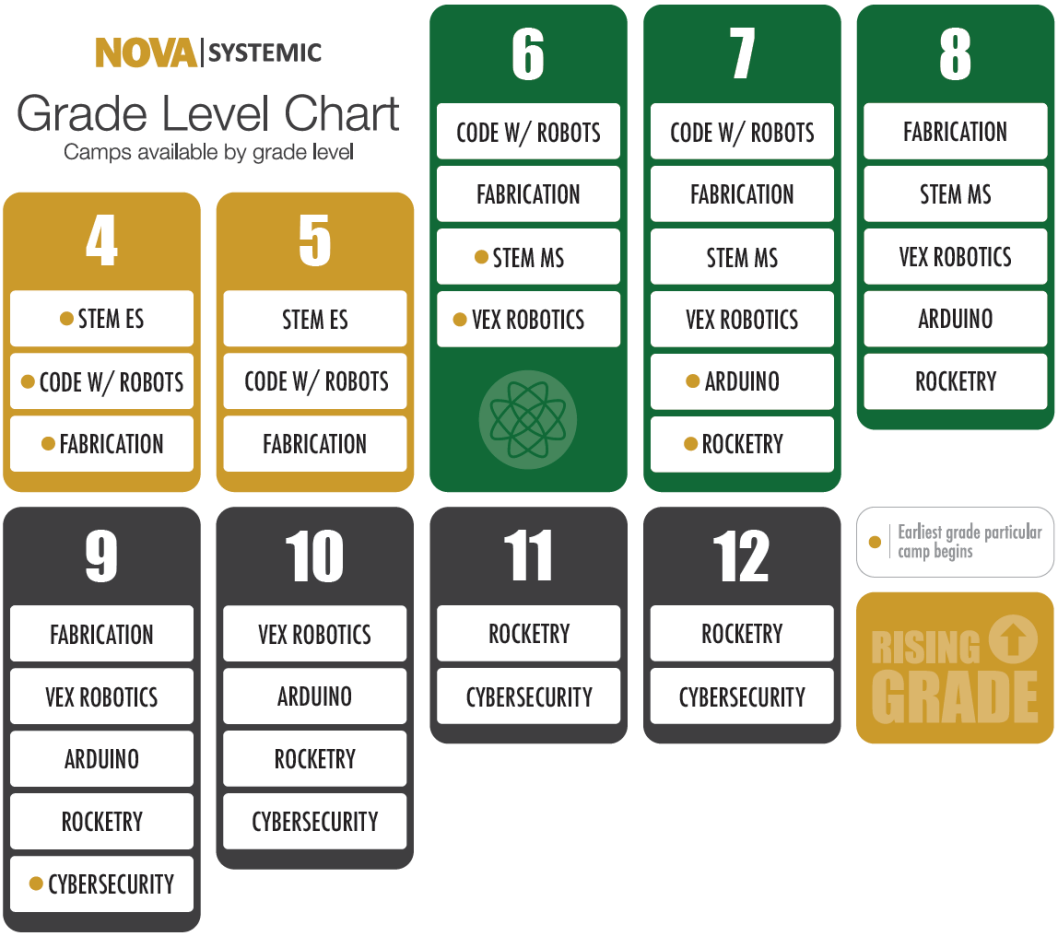
- One-week camps are only $315, virtual cybersecurity half day camps are only $98
- Camps are offered at many of our NOVA Campuses, and at some schools in Northern Virginia.
- Camps run from 9:00 a.m. - 4:00 p.m. Virtual half day cybersecurity camps from 9:30 a.m. - 11:00 a.m. or 1:30 p.m. - 3:00 p.m.
- We offer the following discounts:
  - Multi-Child (15%) for each additional child in same registration
  - Multi-Camp (10%) for each additional camp in same registration
  - NOVA/Micron/Verizon Employees ($25)

On our camp website we have links to the registration site for new or returning users.
Please visit http://www.nvcc.edu/systemic/camps.html

Frequently Asked Questions

Which camp should my child take?

The goal of our camps is to introduce students to a new area of STEM or to expand on a skill or interest they currently have. We advise parents to choose a camp the student is interested in learning about. The Grade Level Chart below will help you find a camp suitable for your child. Only a few camps have a prerequisite.



Where are your camps located?

We offer camps in Prince William County, Loudoun County, Fairfax County, Arlington/Alexandria/Falls Church.

How do I sign up or review my registration?

On our camp website we have links to the registration site for new or returning users. Please visit http://www.nvcc.edu/systemic/camps.html

What are your camp hours?

Camp hours are 9:00 a.m. to 4:00 p.m. Virtual half day cybersecurity camps from 9:30 a.m. - 11:00 a.m. or 1:30 p.m. - 3:00 p.m.

Who should I contact with questions?

Please contact a regional coordinator or the main office systemic@nvcc.edu

Do you have a waitlist?

Yes. Please add your child to the waitlist on the registration website if you would like to enroll in a camp that is full. Some camps have long waitlists with 60+ students and others have 1 or 2. We do our best to find every student an opportunity. No deposit is required to join the waitlist. Once an opening is available, a regional coordinator will call those who are first in line. Registration remains open throughout the summer.

Do you offer before and after care?

No, unfortunately not currently.

Are STEM camps a suitable environment for kids with special needs?

Yes and No. We utilize certified teachers who have experience making accommodations for students; however, many of our summer camps are fast paced, occur in a loud hands-on environment and require group work and high social interaction. You know your child best and some camps may work well and others may not. Please contact us at systemic@nvcc.edu to discuss. Please feel free to speak with the regional coordinator or camp director about STEM camp.

When is the parent showcase?

Parent showcases generally take place the last Friday of camp. Due to COVID we are not sure if this will take place this summer and will make an assessment and communicate this closer to camp start.

What if I need to change a camp registration, date or location?

Please contact your regional coordinator or email systemic@nvcc.edu. We will do our best to get your student in a camp that meets your schedule.

What is your student-to-staff ratio?

Depending on the camp, typically we achieve a ratio of 1 teacher per 10 students.

Are meals provided?

Students bring their own lunch and snacks every day. On the last day of camp, we provide lunch but due to COVID currently we are not sure if this will happen this summer and we will make an assessment and communicate this closer to camp start.

What if my child has an appointment during camp?

Please contact the regional coordinator and/or the camp director NOVA SySTEMic Staff

Can you make an age or experience exception?

We strongly discourage making exceptions. Students are grouped with peers in such a way to optimize their camp experience. Students without the necessary maturity or experience for a higher or more advanced camp tend to struggle to enjoy it.

Do you use Mac or Windows at STEM camp?

We use laptops with Microsoft Windows operating system for most camps, but some camps will use an Apple iPad.

How do you support students with food allergies/special dietary needs at camp?

During the registration process there is an option to designate a student as having allergies or special dietary needs. We will provide a special lunch on the last day of camp for that student.

How would my 6th grader work with a 12th grader? Would they be paired together?

We pair according to age group as much as possible.

Do you provide transportation to the camps?

No, unfortunately not. It is the responsibility of the parent/guardian to arrange for transportation to and from camp. We do provide transportation for all Rocketry field trips.

When are parents allowed to be in the classroom?

We understand parents may want to visit the classroom that their students will be at on the first day. While we encourage parents to drop-off and pick-up curbside, you are able to park and walk your child to class. Each camp will have a parent showcase where parents may visit the camp to see what students accomplished throughout the week. Please see the camp description to find specific showcase times. Parents are not permitted to be in the class during regular camp hours.

What is the policy on electronic devices?

Devices are approved by the instructor for emergency purposes or documentation use. Students may use their phones during lunch, planned breaks and before or after camps at their discretion. Students are responsible for their own devices.

Can my child miss the first day of camp?

We strongly discourage it, because that is when partners are formed, and the fundamentals of camp are set. Ultimately, we do allow students to miss a day if there is no alternative.

What are your COVID protocols?

We follow CDC and College protocols when it comes to social distancing and mask wearing in our camps. We will assess and communicate finial protocol and practices closer to camp starting in the summer.

What is your cancellation policy?

Camp registration fees are refundable until two weeks before first day of camp minus a 16% cancellation fee. Cancellation occurring within two weeks before first day of camp may be granted a partial refund. There are NO refunds for any cancellations in the 7 days before first day of camp. We do our best to place students in a new camp in case of illness or other family emergency.

Our registration system, Active, also offers optional cancellation insurance which can be purchased during check out. Cancellations for covered reasons will be honored through this cancellation insurance.

My child is not happy with his/her partner, can he/she change partners?

We encourage teams or groups to try and work it out with the instructor's assistance. Part of the benefit of hands-on project-based learning is developing collaboration and communication skills. Some students struggle in this area and it can be difficult, please contact your regional coordinator and/or camp director.

Can my child volunteer for camp as an instructor?

Absolutely! We are looking for volunteers that are 14 and older. Please contact your regional coordinator for more information.

What is the cost of your summer camp?

Most one-week camps are $315 per week. We also help a few other organizations run camps occasionally and those prices may vary.

What is your Tax ID #?

Our fiscal agent for camps is the Northern Virginia Community College. TAX ID # 54-1268263; mailing address associated is 3924 Pender Drive, Suite 170, Fairfax, VA 22030

Do you offer financial aid or scholarships?

We strive to make our camps affordable and accessible to as many students as possible in NOVA's service area. If you need assistance in getting your child enrolled in camp please contact us at systemic@nvcc.edu or the main office at: (703) 530-3505.

Do you have any discounts/coupons?

We offer several discounts described below. To receive the automatic discounts, all registrations must be included in a single transaction.

- Multi-Sibling, an automatic 15% discount is applied at check out for additional children
- Multi- Camp, an automatic 10% discount is applied at check out for additional camps
- $25 Discount for employees of Micron/Verizon/NOVA.

Please contact systemic@nvcc.edu if you need assistance with these.

Summer Camp Descriptions

STEM ES (rising 4th to 5th grade)

In this weeklong camp students will learn about design-based thinking and apply that to activities planned for the week. Students will use the VEX GO robotics system to apply the design-based learning. Students will be learning about the micro:bit microcontroller. Participants will have planned breaks each day for extensions and practice time.

Sample Activities:

- Learn about design thinking
- Build and program VEX GO kit as a heat shield like the James Webb telescope uses
- Making a thermometer using the micro:bit

Format: Primarily Individual with some group interactions

Coding with Robotics (rising 4th to 7th grade)

In this one-week camp participants will work with technology to engage in a variety of coding projects that include using the VEX IQ Robotics platform. Each day students will participate in challenges. Participants will have planned breaks each day for extensions and practice time.

Sample Activities:

- Build and program VEX IQ Robot
- Challenges: Maze, Sumobot & Catapult.
- Real World Application: MARS Rover

Format: Pairs

Fabrication (rising 4th to 9th grade)

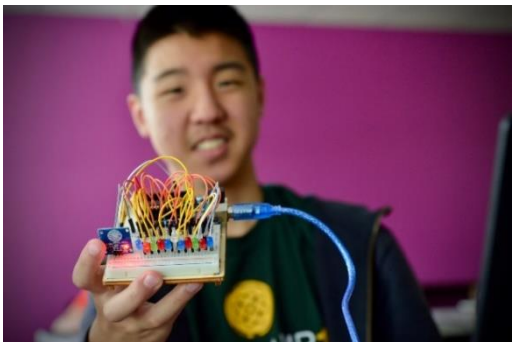
In this one-week camp participants will explore various ways to design and make items. This introduction to fabrication involves using design software, solving design problems, and learning about fabrication tools such as 3D printers, laser cutters, and CNC routers. These concepts will be applied in a hands-on format in the form of design challenges throughout the week.

Sample Activities:

- Design a product that converts a common household item into a toy or game.
- Design or revise a product that makes your school life easier.

Format: Individual

STEM MS (rising 6th to 8th grade)



In this weeklong camp students will learn how to code, create circuits and projects using an Arduino and Raspberry Pi. Participants will make simple circuits using Arduino or Raspberry Pi boards to create a Smart Home. In addition, students will be able to use their logical thinking skills to solve some problem-based activities.

Sample Activities:

- Build and code an alarm with LEDs and sound.
- Build a small computer with a Raspberry Pi.

Format: Individual

VEX Robotics (rising 6th to 10th grade)

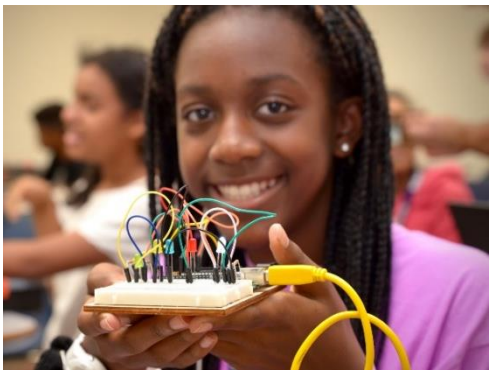
This one-week camp introduces students to the VEX Robotics Design System where students will build and program a VEX V5 robot to solve a challenge on a 12' x 12' field. The challenge includes solving a maze autonomously and integrates part of the game from the yearly VEX Robotics Competition. We pair older students together.

Sample Activities:

- Build and Code a VEX V5 robot.
- Solving a Maze: Integrate Sensor feedback into your code.
- Team Competition at end of the camp.

Format: Pairs, competing against other camp teams.

Arduino (rising 7th to 10th grade)



In this one-week camp students will work with electronics to create projects using software engineering and the Arduino microcontroller. Participants will learn how to integrate and control electronics such as LEDs, motors and sensors to complete projects and challenges. A variety of coding structure will be taught to control and refine the function of each project. No previous experience required.

Sample Activities:

- Build and program a custom display with a custom message.
- Wire and control LEDs to turn on and off in a pattern.
- Wire and control a motor/servo with a sensor.

Format: Students work in groups of 2-4 students, complete challenges and compete against other teams.

Rocketry (rising 7th to 12th grade)

This one-week camp introduces students to rocketry. During the camp students will build rockets to complete challenges and simulate flight. These activities teach the basics of rocketry, the science behind how they work, and rocketry safety. The students will have a field trip on the last day of camp to a launch site to safely launch their custom designed rockets.

Sample Activities:

- Build a 2-foot rocket to complete a flight altitude challenge.
- Use Rocket Simulation software to model flight.
- Field trip to launch site.

Format: Individual Challenges.

Cybersecurity (rising 9th to 12th grade)

High school students interested in exploring the Cybersecurity domains and furthering their knowledge of human security, computer hacking, digital safeguarding of applications, and secure communication will find much to learn through this track. Five camps will be offered, providing students the opportunity to select the topic(s) that meet their interests. Each camp will feature activities and labs to engage students, including labs offered by the Virginia Cyber Range.

Common for all cybersecurity camps are a requirement for PC or laptop computer (no tablets or iPads). Webcam is helpful but not required. Students will need to sign up for a Virginia Cyber Range account prior to camp. A Google, Microsoft, or Facebook account will be needed to authenticate the student account. Information on the sign-up process will be the week prior to the start of camp.

Format: Virtual participation with half-day morning or afternoon sessions are available. Full day in-person only available for the Capture the Flag camp.

Requirements: PC or laptop computer (no tablets or iPads) for virtual camps. Webcam helpful but not required.

*Please check here https://www.openstego.com and https://www.virginiacyberrange.org to verify your device is compatible with the software that will be used during camps.

**Students will be required to sign up for a free Virginia Cyber Range account prior to camp. A Google, Microsoft, or Facebook account will be needed to authenticate the student account. Information on the sign-up process will be sent the week before each camp begins.

Camps offered:

Introduction to Cybersecurity
This camp will introduce students to the foundations of cybersecurity, including but not limited to personal and home security, network security, cyber law, and encryption. Students will be introduced to virtual machines and the Linux command line. Online activities and labs will engage students throughout the week. Students with prior cyber and Linux experience will be better served through our Deeper Dive camps.

NOTE This camp WILL NOT provide the requisite knowledge and practice time with Linux that students need for the more advanced camp offerings. It is designed to pique student interest in cyber-related high school courses and extracurricular activities. Students with prior cyber camp or classroom experience will be better served through our other cyber camps.

A Deeper Dive: Hacking & Forensics
This camp will explore penetration testing and digital forensics to conduct examinations of computer systems. A variety of online labs and resources will provide students hands-on experience exploring these important cyber controls to ensure secure environments. Previous experience with cyber concepts and the Linux command line is required.

A Deeper Dive: Encryption & Cryptography
This camp will explore the world of cyber defense and cryptography using puzzles and labs to learn about cipher techniques and what makes for strong encryption. Previous experience with cyber concepts and the Linux command line is required.

A Deeper Dive: Network Security
This camp will explore the fundamentals of networks and network security. Online labs and activities will provide students hands-on experience in examining network traffic and using network security tools. Previous experience with cyber concepts and the Linux command line is required.

Dare to be Challenged: Capture the Flag
This camp will explore the world of Capture the Flag. Students will be challenged during the week with CTF competitions and assessments. Laptops will be provided for this camp. Experience using the Linux command line is required of all students. Familiarity with CTF is recommended though not required.