



SUMMER 2019 HANDS-ON STEM PROGRAMS

juniortech.org | 774.994.2097 | info@juniortech.org

REGISTRATION

Register online, using PayPal or credit card, via www.juniortech.org
Call 774-994-2097 for space availability if paying by check.



Jr.Tech's mission is to engage 4th–12th grade students in Science, Technology, Engineering, and Math (STEM) education. We broaden students' awareness of career paths in STEM, increase skills, and encourage a lifelong interest.

Jr.Tech, Inc. is a 501(c)(3) nonprofit corporation.

POLICIES

Classes may be cancelled due to low enrollment. Workshop enrollment is non-refundable unless a four-week electronic notice is provided before the date of the workshop. A \$40 processing fee is applied to cancellations. A code of conduct and waiver must be completed at registration. Our organization does not discriminate on the basis of race, color, sex, disability, religion, national origin, or sexual orientation.

Thank you to our 2019 Summer Program sponsors:



Ernest Michael Helides and Evelyn Ponticos Helides Education Fund of the Cape Cod Foundation



Thanks to our facility host partner: **Village Library** OSTERVILLE



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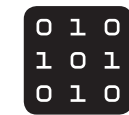
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Science Wonder Lab, Part One!



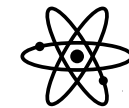
Science Wonder Lab, Part Two!



Beginner Coders!



Getting Started with Web Development!



Introduction to Basic Computer Algorithms!



Building a PC!



3D Computer Game Programming!

Science Wonder Lab Part One!

Monday, July 8
9:00 am – 3:00 pm

Fee: \$65

Max size: 12 students

Experience a fun summer day full of hands-on science activities and engaging projects!

Students will make hoop gliders, marble mazes, explore the scientific properties of cranberries as well as learning through other fascinating STEM activities.

Six hours of fun! *Pack a snack, drink, and lunch.*

Grades: Entering 4–6

Where: Osterville Village Library, 43 Wianno Ave, Osterville, MA

Science Wonder Lab Part Two!

Monday, August 12
9:00 am – 3:00 pm

Fee: \$65

Max size: 12 students

Join us in August for another full day of exciting new activities and science projects!

Students will make a rainbow density tower, have a balloon car race, engage in a catapult challenge, and explore additional fun STEM activities.

Six hours of fun! *Pack a snack, drink, and lunch.*

Grades: Entering 4–6

Where: Osterville Village Library, 43 Wianno Ave, Osterville, MA

Beginner Coders!

Three-day program
Tuesday through Thursday
August 13 – August 15
9:00 am – 3:00 pm, *except*
Tuesday 9:30 am–3:30 pm

Fee: \$155

Max size: 12 students

Start early building skills in coding, sequencing, debugging, loops, conditionals, and functions!

Students will learn basic computer science coding skills plus develop soft skills including problem solving, creativity, persistence, communication skills, and collaboration.

18 hours of instruction. *Pack a snack, drink, and lunch each day.*

Grades: Entering 4–6

Where: Osterville Village Library, 43 Wianno Ave, Osterville, MA

Getting Started with Web Development!

Two-week program
Monday through Friday
July 8–12 and July 15–19
9:00 am – 3:00 pm *except*
Tuesdays, 9:30–3:30
Fee: \$440 (\$7/hr for two-week camp!)

Max size: 12 students

In this two-week workshop, students will learn how to design, style and program their own websites from scratch.

First, students will learn how to markup a webpage with content using HTML5, then make their websites stylish and dynamic using CSS. Finally, students will add user interaction to their sites using JavaScript. To end the workshop, students may choose to host their websites online for all to view!

60 hours of instruction. *Pack a snack, drink, and lunch each day.*

Grades: Entering 8–12

Where: Osterville Village Library, 43 Wianno Ave, Osterville, MA

Introduction to Basic Computer Algorithms!

Four-day program
Monday through Thursday
July 22 – 25
9:00 am – 3:00 pm
Fee: \$210
Max size: 12 students

Have you ever wondered why computers are so fast and efficient, or how programs operate under the hood?

In this workshop, students will learn various formal techniques that coders use to make their programs more efficient. Over the four days students will learn to: use abstract data structures, search and sort data in lists and analyze which sorting methods are more or less efficient than others. All programs will be written in Python.

24 hours of instruction. *Pack a snack, drink, and lunch each day.*

Grades: Entering 8–12

Where: Osterville Village Library, 43 Wianno Ave, Osterville, MA

Note: Basic understanding of Python or Python level 1 required.

Building a PC!

Friday, July 26

9:00 am – 1:00 pm

Fee: \$52

Max size: 10 students

Get under the hood of a PC and understand how it all goes together!

In this workshop, students will learn everything that goes into building a PC – where the parts go, how to organize the cables properly, and how to install an operating system onto a new computer. After completing this workshop, students will understand how the hardware, software, and electronics combine to make a working computer!

4 hours of instruction. *Pack a drink and a hearty snack as we won't break for lunch.*

Grades: Entering 8–10

Where: Osterville Village Library, 43 Wianno Ave, Osterville, MA

3D Computer Game Programming!

Two-week program
Monday through Friday
July 29–August 2 and
August 5–August 9
9:00am – 3:00pm, *except*
Tuesdays 9:30–3:30

Fee: \$440 (\$7/hr for a two week camp!)

Max size: 12 students

Over the course of two weeks, students will learn how to develop both 2D and 3D games using the Unity engine.

Not only will students learn to code games using C#, they will also use Unity's intuitive user interface to adjust just about anything in their games from lighting to game physics, to character animations. After getting comfortable with C# and building various mini-projects, students will conclude the two weeks by developing a final project of their very own.

60 hours of instruction. *Pack a snack, drink, and lunch each day.*

Grades: Entering 8–12

Where: Osterville Village Library, 43 Wianno Ave, Osterville, MA



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