# **Ignite Their Future Summer Camp Descriptions**

## **UAS/Drones (4th-5th grades)**

Take to the skies in our unmanned aerial systems camp! In this camp, you will start by learning how to master the controls on our computer simulators and finish by navigating your drone through an obstacle course challenge!

### Lego Robotics (4th-5th grades)

Join the Award Winning 4-H LiveWire Robotics Team for some summer fun! You will get to design, build, and program LEGO EV3 robots while improving teamwork skills and cooperation!

#### **Rocket Science (4th-5th grades)**

Learn to think like an engineer in order to design, simulate, build and launch a rocket! Students will learn about forces and how to make a rocket go straight up. We will use computers to see the path of the rocket and will learn mechanical design and assembly to create and put together the frame, fins, and other parts. The final test will be to launch the rockets and check their design.

## **Scratch Programming (4th-5th grades)**

Are you a gamer? Do you like cartoons? Join us and learn how to program with Scratch's block-based visual programming language! In this camp, you can create your own interactive stories, games, and animations.

#### Build a RPi (6th-8th grades)

Love computers? Want to learn how to code or improve your coding skills? Join us to build a raspberry pi computer and learn about cyber security and computer hacking!

#### Scratch Programming with Sensors and RPi (6th-8th grades)

Are you into gaming? Do you love computer programming? Join us to build a RPi computer and learn how to program with Scratch's block-based visual programming language! In this camp, you can create an innovative project by incorporating sensors and scratch programming with a RPi computer.

## **Build an Electronic Circuit (6th-8th grades)**

Do you wonder how electronic circuits work? Want to build one? Come learn the basics of electronics-then solder and build a variety of electronic circuits!

#### Build and Code VEX Robots (6th-8th grades)

Join the exceptional HayWire Robotics Team to learn about all about VEX robots! In this camp, you will get to build a bot, program it, play with it, and challenge others!

#### Build a Rocket (6th-8th grades)

Love building models? Do you like seeing how fast and how far you can make something go? Learn about rocket design and propulsion. Then build your own rocket and shoot it into the heavens!

# **Build Industrial Machines (6th-8th grades)**

Do you love building things? Do you like to see what sort of machines you can build with your Legos? You will love building industrial machines with our Engino engineering kits! In this camp, you can choose from hundreds of models and build anything from a helicopter to a crane. You will also get to design your own fantastic structural creation and put it to the test.

### **UAS/Drones (6th-8th grades)**

Come soar with us! In this camp, you will gain valuable drone flight skills in addition to learning about the variety of ways unmanned aerial systems are being used in one of today's fastest growing industries. You will spend time using our flight simulator, drones, and information gathering technology. This camp also includes an obstacle course challenge!

### Python for Beginning Programmers-Computer Science (6th-8th grades)

Regardless of your career path, computer programming is one of the most valuable skills in today's world. Python is quickly becoming the most popular programming language both for its ease of use and powerful capabilities. Join us as we venture into the exciting, new world of computer programming where you will learn the basics of Python and build your first computer program!

## **Industrial Machines-Go Karts (9th-12th grades)**

Are you an automotive enthusiast? Do you love speed or car shows? In this camp, you will have the opportunity to learn about automotive technology by working together in teams of twos to build a Go Kart and put it to the test!

#### **Electronic Controls Circuit (9th-12th grades)**

Are you a techie? Do you love electronics? Join us in our Robotics Laboratory where you will have access to the same test equipment that college students work with, including function generators, oscilloscopes, and power supplies! Learn all about servo driven circuits, sensors, solid state relays, 555 timers, and much more. In this camp, you will get to build your very own servo controlled circuit out of electronic components to take home!

#### RPi Computers 2.0 (9th-12th graders)

Raspberry Pi computers may be tiny, but they sure are impressive! Come and learn about integrated circuit GPIOs and command-line interface, then create an innovative project by building a RPi computer with sensors.

#### Build and Code VEX Robots with Sensors (9th-12th grades)

Join the exceptional HayWire Robotics Team to learn about all about VEX robots and sensors! You will build, program, and challenge others while expanding your programming knowledge and incorporation sensors!