

Camp Name	Description and Student Outcome	Camp Requirements
<p>* Minecraft Grades: 2- 5</p>	<p>Minecraft is one of the most popular and heavily modified games in the world. The game itself is based in Java and students in our Minecraft Modification class are introduced to the language as well as many other technologies. When a student finishes our class, they will have the resources that they need to explore their ambitions, plans to modify their own server and be able to work on their own towards that goal.</p>	<p>Students must have a computer with Windows Operating System.</p> <p>Minecraft Java Edition Account - Students must buy on their own. Rex will not pay for the account. Cost \$26.95. Link to Buy</p>
<p>*Microsoft Game Development (Kodu) Grades: 2- 5</p>	<p>This course uses the simple, icon-based, educational programming language developed by the Kodu Game Lab to teach core components of computational design such as conditions and actions. Seeing the commands, they have selected come to life as a playable game on their computer screen builds students' confidence and interest in computer programming. This class promotes problem solving skills, reasoning, and deduction, it builds the students' confidence. Windows laptop is required to take this course. Kodu will not run in Mac OS.</p>	<p>Students must have a computer with a Windows Operating System. Kodu will not run on a Mac OS or Apple or Chromebook.</p>
<p>MIT Game Programming (Scratch) Grades: 2- 5</p>	<p>Developed in 2003 by the MIT Media Lab, the Scratch computer language used in this class is specifically designed for kids ages 7 to 16. In this class students will create animations and games using the Scratch computer language developed by MIT specifically to teach computer programming to kids. Our MIT Game Development class allows students to learn all the major computer programming terms and concepts through block programming. The students make animations and games to learn terminology like variables, string processing, loops, and more.</p>	<p>Students must have a Chromebook or a computer with a Mac (Apple) or Windows Operating System.</p>

Game Programming using Flow Lab Grades: 2- 5	In this course students will create 2D games using online coding resources used by professional game designers. Along with learning how to create your own game, students will also learn professional concepts and vocabulary used by programmers and game developers.	Students must have a Chromebook or a computer with a Mac (Apple) or Windows Operating System.
AI for the Youngest Grades: 2- 5	Artificial intelligence (AI) is a research field which studies how to realize intelligent human behaviors on a computer. Students will learn about training a computer using data sets and predication when new data is supplied to the machine.	Students must have a Chromebook or a computer with a Mac (Apple) or Windows Operating System.
Keyboarding Grades: 2- 5	Rex's version of learning keyboarding. This has many activities that involve learning math, English, and social studies.	Students must have a Chromebook or a computer with a Mac (Apple) or Windows Operating System.
Become a Youtuber Grades 2 -5	This course provides many ways for students to reconstruct audios and videos. This course focuses on transitions, editing the video, cropping the video and sound effects, graphics and compositing elements, multiple characters etc. This course will help students to learn the overall concept of editing using a tool called Filmore.	Students must have a Chromebook or a computer with a Mac (Apple) or Windows Operating System.
*Minecraft Grades 5 - 8	Minecraft is one of the most popular and heavily modified games in the world. The game itself is based in Java and students in our Minecraft Modification class are introduced to the language as well as many other technologies. When a student finishes our class, they will have the resources that they need to explore their ambitions plans to modify their own server and be able to work on their own towards that goal.	Students must have a computer with Windows Operating System. Minecraft Java Edition Account - Students must buy on their own. Rex will not pay for the account. Cost \$26.95.
Game Programming using Flow Lab	In this course students will create 2D games using online coding resources used by professional game designers. Along with	Students must have a Chromebook or a computer

<p>Grades 5 - 8</p>	<p>learning how to create your own game, students will also learn professional concepts and vocabulary used by programmers and game developers.</p>	<p>with a Mac (Apple) or Windows Operating System.</p>
<p>Mobile App Development Grades 5 - 8</p>	<p>Our world is becoming increasingly saturated with cell phones and tablets, and with each cell phone comes hundreds of apps. Go beyond just using apps and join us in creating them! You will use block-based coding software to create your own working app for Android devices.</p>	<p>Students must have a Chromebook or a computer with a Mac (Apple) or Windows Operating System. Reliable Internet Access. Students must have a Google account. Students must have access to a phone or tablet running Android software.</p>
<p>*Animations using Alice. Grades 5 - 8</p>	<p>In this class students will create animations and games using Alice programming language. Noted for its ease and simplicity, Alice was designed at Carnegie Mellon for use in introductory programming classes in high school and college. As they create animated scenes and games using our guided lessons, students learn basic programming theory, computational thinking, debugging techniques and other fundamental programming skills.</p>	<p>Students must have a computer with a Mac (Apple) or Windows Operating System.</p>
<p>Cybersecurity Fundamentals Grades 5 - 8</p>	<p>In this camp, Cybersecurity students will learn the current best practices for keeping their personal information safe, discover how to gather information safely and ethically, explore the history of hacking and cracking computer systems. By studying the historical context of hacking students will gain insight into the who, how, and why of hackers, students will be provided with the tools to keep their online information safe not only now but in the future.</p>	<p>Students must have a computer with a Mac (Apple) or Windows Operating System.</p>

<p>IT Fundamentals Grades 5 - 8</p>	<p>Learn the basics of computing techniques and terminologies.</p>	<p>Students must have a computer with a Mac (Apple) or Windows Operating System.</p>
<p>AI for Middle Schoolers Grades 5 - 8</p>	<p>Artificial intelligence (AI) is a research field which studies how to realize intelligent human behaviors on a computer. Students will learn about training a computer using data sets and predication when new data is supplied to the machine. Students will develop projects using python and scratch programming.</p>	<p>Students must have a Chromebook or a computer with a Mac (Apple) or Windows Operating System.</p>
<p>Web Design Grades 5 - 8</p>	<p>Have you ever wondered how web pages are built? Come join our web design camp and learn HTML! Hypertext Markup Language, commonly referred to as HTML, is the standard language used to create web pages. In this camp, students will learn HTML commands and syntax as they make and show off their very own webpages.</p>	<p>Students must have a Chromebook or a computer with a Mac (Apple) or Windows Operating System.</p>
<p>Digital Arts Grades 5 - 8</p>	<p>In this class students will create and modify digital art. Using online tools used by professional game developers, students will create and modify their own characters, objects, backgrounds, and components for future or current games or digital art compilations. Through different projects, and tasks set by the teacher, students will hone their digital art skills by editing already created graphics as well as creating their own unique components.</p>	<p>Students must have a Chromebook or a computer with a Mac (Apple) or Windows Operating System.</p>
<p>*Animations using Alice. Grades 9 - 12</p>	<p>In this class students will create animations and games using Alice programming language. Noted for its ease and simplicity, Alice was designed at Carnegie Mellon for use in introductory programming classes in high school and college. As they create animated scenes and games using our guided lessons, students learn basic programming theory, computational</p>	<p>Students must have a computer with a Mac (Apple) or Windows Operating System.</p>

	thinking, debugging techniques and other fundamental programming skills.	
IT Fundamentals	IT Fundamentals teaches the basics of getting around a computer and the Internet. Students will first learn about the hardware components of a computer and how they work. This means they can identify the parts of a computer such as the CPU, RAM, etc., and can explain their purpose. Students will then explore the nature of software from operating systems, file types, sound files, and video Files. The course contains activities such as creating and securing PDFs, installing open-source content, updating device drivers, and configuring firewalls. The course concludes with some fundamentals about operating system security. This course is the precursor to the Fundamentals of Networking curriculum.	<p>This is browser based. Works on any PC, Apple computer,laptop, Chromebook, or tablet.</p> <ul style="list-style-type: none"> • Requires internet during use
Fundamentals in Networking	The Network curriculum is precisely aligned to CompTIA’s Network+ curriculum. The primary goal of this curriculum is getting students certification ready. This course is the immediate follow – up course to IT Fundamentals. The course will start with a general overview of how a network works by analyzing the different network layers and protocols in each layer. There will be an emphasis on both security and	<p>This is browser based. Works on any PC, Apple computer, laptop, Chromebook, or tablet.</p> <ul style="list-style-type: none"> • Requires internet during use

	<p>implementation. We will learn about the various network topologies and the physical devices (cables, routers, switches) that make up these networks. Additionally, wireless networks and cloud computing are also analyzed. Finally, there will be some hands – on projects involving network installations.</p>	
<p>Introduction to Python Grades 9 - 12</p>	<p>Python is one of the most versatile programming languages there is. No wonder it was named the official language of Google services! Python can be used to build websites such as Drobox and YouTube, and applications like Instagram and Spotify. Start your journey into Python programming today!</p>	<p>Students must have a Chromebook or a computer with a Mac (Apple) or Windows Operating System.</p>
<p>Digital Arts Grades 9 - 12</p>	<p>In this class students will create and modify digital art. Using online tools used by professional game developers, students will create and modify their own characters, objects, backgrounds, and components for future or current games or digital art compilations. Through different projects, and tasks set by the teacher, students will hone their digital art skills by editing already created graphics as well as creating their own unique components.</p>	<p>Students must have a Chromebook or a computer with a Mac (Apple) or Windows Operating System.</p>
<p>Introduction to Java Grades 9 - 12</p>	<p>Java is one of the top programming languages used internationally. Programs written in Java can execute on any platform, any machine, and any operating system. Java is the backbone of video games like Undertale and Minecraft, and the driving force behind NASA’s deep space, Mars, and Moon missions. Begin your journey into Java programming here!</p>	<p>Students must have a Chromebook or a computer with a Mac (Apple) or Windows Operating System.</p>
<p>AI for High Schoolers Grades 9 - 12</p>	<p>Artificial Intelligence (AI) is used to teach computers how to think like a human. In this camp, students will discover how computer’s think compared to humans. Students will learn how to train a computer to react to its virtual environment using</p>	<p>Students must have a Chromebook or a computer with a Mac (Apple) or Windows Operating System.</p>

	data from its own virtual senses. Students will develop projects using Python programming.	
Introduction to Web Design Grades 9 - 12	Have you ever wondered how web pages are built? Come join our web design camp and learn HTML! Hypertext Markup Language, commonly referred to as HTML, is the standard language used to create web pages. In this camp, students will learn HTML commands and syntax as they make and show-off their very own webpages.	Students must have a Chromebook or a computer with a Mac (Apple) or Windows Operating System.
Cybersecurity Fundamentals Grades 9 - 12	In this camp, Cybersecurity students will learn the current best practices for keeping their personal information safe, discover how to gather information safely and ethically, explore the history of hacking and cracking computer systems. By studying the historical context of hacking students will gain insight into the who, how, and why of hackers, students will be provided with the tools to keep their online information safe not only now but in the future.	Students must have a computer with a Mac (Apple) or Windows Operating System. Reliable Internet Access. Access to a Web Camera & Microphone. This can be made completely browser based by paying an extra \$30 per student for VMs to an external vendor. This is recommended for the best learning experience for students.
*AP CS A Prep Grades 9 - 12	This course focuses on getting students to pass the AP Java college exam. In addition, this class lays the foundation for learning advanced programming algorithm techniques and data structure, which are fundamental to becoming a strong software developer.	Students must have a computer with a Mac (Apple) or Windows Operating System.
AP CS Principles Prep Grades 9 - 12	Computer science involves problem-solving, hardware, and algorithms that help people utilize computers and incorporate multiple perspectives to address real-world problems in contemporary life. As the application of computer science is integrated into more aspects of our lives, it is important to understand the impact of computer science and how to maintain	Students must have a computer with a Mac (Apple) or Windows Operating System.

	<p>privacy, safety, and security not only when using computers but also while being the innovators of new computing applications. The course strives to engage all students, including those who have traditionally been underrepresented in computer science—such as female students, students of color, students with disabilities, and rural students—by allowing them to discover the power of computer science through rewarding yet challenging concepts.</p>	
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Note: * computer is required to run these camps. These camps will not run-on Chromebook.

For Minecraft Students need to buy their own windows Minecraft account .