

UOIT Summer Camps 2019 – Overview

The Faculty of Education at UOIT is offering a variety of unique summer camp programs in July and August. New tech camps have been added this year. A low camper to counsellor ratio ensures maximum involvement. Three weeks are available as “**Girls Only**” which allows them to share their interests in science, technology and the environment with like-minded girls.

NEW - TECH CAMPS - We are working with UOIT Faculty of Business and Information Technology (FBIT) and will hold two advanced sessions in their Game Development and Virtual Reality lab! In addition, new tech camps for younger campers have been developed.

NEW - CYBER GIRLS AMBASSADOR PROGRAM – In conjunction with the UOIT FBIT program, young women will become “Cyber Girls Ambassadors” through this one-of-a kind mentorship program teaching girls the fundamentals of cybersecurity and digital citizenship.

FAMILY CAMPS – Family camp days – 5 days of camp programs to provide families with ideas for infusing STEAM into their activities.

NEW - EDUCATOR SESSIONS – Building on the success of the Teacher workshops in 2018, 4 modified sessions have been developed for educators. These include: Tech4Teachers, Turtle Island for Educators, Creating a Makerspace 1.0 and Creating a Makerspace 2.0.

COUNSELLOR IN TRAINING – This year we are expanding this program for teens who are interested in becoming “junior counsellors” at the UOIT summer camps. CITs will receive training on the different camp programs and then have the opportunity to volunteer for several weeks in the camp. These hours can count towards high school volunteer hours. CITs must have finished Grade 9.

Camp programs make use of laptops, digital cameras, science and engineering equipment and iPad technology. Campers share the equipment. Each camp has a different focus and theme. All camp sessions include outside games and activities. An Indigenous perspective has been infused into the STEAM camps with campers learning cultural aspects through Knowledge Keepers.

Counsellors are current Faculty of Education students and graduates of UOIT’s Faculty of Education program who are members of the Ontario College of Teachers.

Camps are offered on the main campus of the University at 2000 Simcoe Street N. Oshawa from 9 am – 4 pm.

Supervised before and after care is available for an additional fee. Times are from 8 am to 9 am and 4 pm to 5 pm. An 'Optional Meal Plan' is also available at an additional fee.

Additional information about dates and registration can be found at our website: <http://uoit.ca/summercamps>

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LEGO® Robotics Camps 2019

LEGO® Explorers – ages 6-8, co-ed (campers must have completed grade one) – July 2-5 and August 6-9 – 4 day weeks

This camp is for the younger LEGO® fan who is just getting into robotics. Campers will learn basic building techniques, create from their own imagination and program their robots using LEGO® WeDo. Campers will play a variety of indoor and outdoor games. Each week will have a different theme. This session is co-educational.

LEGO® Designers – Introduction to Robotics – ages 9-12, co-ed – July 8-12, July 15-19, July 22-26, July 29-August 2

If you enjoy solving challenges and using your hands to find out how things work, you will love the Introduction to LEGO® Robotics Camp. When you are not challenging your mind with robotics, you can challenge your body with daily outdoor activities. No prior experience necessary. Each week will have a different theme. This session is co-educational. Smaller groups will be formed on the first day of camp based on age. This session is co-educational.

Girls Connect – ages 9-14 - July 15-19

Girls will learn alongside female mentors who will spark their interest in STEAM. The camp gives girls an opportunity to build self-confidence and develop their skills in science, technology, engineering and math through hands-on learning. Activities will be geared to the interests of girls and will include creating and programming their own robotic designs. Smaller groups will be formed on the first day of camp based on age and experience to provide more advanced activities for girls with previous experience. Each day includes cooperative outdoor activities.

LEGO® Innovators – Advanced Robotics – ages 10-14, co-ed – July 8-12, July 22-26

You have mastered the basics of LEGO® Robotics and now you want a real challenge! The LEGO® Innovators camp will encourage campers to expand their building and programming skills while becoming young entrepreneurs! Additional sensors and data collection will provide opportunities for more in-depth programming. Previous experience with LEGO® robotics is recommended. Each week will have a different theme. Each day includes cooperative outdoor activities. This session is co-educational.

STEAM Camps

Exploration Galore – ages 9-14, co-ed – July 2-5 (4 days)

Get ready with your lab coat, safety goggles and imagination! The week is filled with hands-on engineering challenges, technology explorations, science experiments and outdoor adventures. Learn about different aspects of engineering, biology, chemistry, and physics while building new skills. Each day has a different theme. Smaller groups will be formed on the first day of camp based on age. Each day includes cooperative outdoor activities. This session is co-educational.

STEAM GIRLS - Girls Session – ages 9-14 – July 8-13

Be inspired to explore the worlds of Science, Technology, Engineering, Art and Math! Using materials such as wood, paint, fabric, or circuitry, design and build your projects of your imagination! Join us for this amazing program just for girls!

Young Inventors Unite - ages 6 -11, co-ed (campers must have completed grade one) – July 15-19

Come and be young inventors as you explore and experiment with cool materials such as squishy circuits, learn to use simple tools, construct a switch to understand how a simple circuit works, play with conductive materials and create objects on a 3D printer. Take home a project that you designed, created and built from scratch! Each day includes cooperative outdoor activities. This session is co-educational.

Design It, Create It, Build it! – ages 11 -15, co-ed – July 22-26

Find out what all the buzz is about Makerspace activities as you tinker, create, build, and explore with a variety of materials. Each day will provide opportunities to learn new skills such as wiring, soldering, working with simple electronics and circuits, woodworking and 3D printing. Campers will take home a project of their design. Each day includes cooperative outdoor activities. This session is co-educational.

Full STEAM Ahead – ages 9-14, co-ed – July 29 - August 2

Art, nature and technology go hand in hand. This session will provide opportunities to discover elements of STEAM using the iPad, digital cameras and cool interactive technologies to explore different environments. Campers will experiment with a variety of media including nature art, iPad drawing and photography applications, iPad movies, 3D printing, wearable technologies and interactive toys. Daily indoor and outdoor activities will be included. This session is co-educational.

Explore Your Curiosity – ages 6-9, co-ed (campers must have completed grade one) – August 6-9 (4 days)

This camp allows children to participate in all kinds of science, technology and engineering adventures. Program activities include nature adventures, daily outdoor activities, science experiments and engineering challenges. Each day will have new activities. This session is co-educational.

Turtle Island – ages 9-13, co-ed - August 12-16

This camp is designed to uncover and explore the relationship between Indigenous people and the land. Campers will participate in a week long journey exploring the traditional knowledge of Indigenous people to better understand their responsibility as stewards of the environment. Connections between STEAM and Indigenous Knowledge will be explored through hands-on activities. Campers will engage in outdoor games and activities. This session is co-educational.

Coding Camps

Code Away! ages 6 -11, co-ed (campers must have completed grade one) - July 8-12, August 12-16

Jump into the world of coding! Learn the elements of coding and programming while exploring (drag-and-drop) coding environments such as Scratch and robotic devices such Sphero, Ollie, Dash and Dot. As you progress through the week, design, build, and create your projects to advance your coding skills! Each day includes cooperative outdoor activities. This session is co-educational

Coding and Game Design 1.0 - ages 9-12, co-ed - July 15-19

Get ready to explore the world of coding and game design and create your own unique project! Campers will learn about computer programming concepts and techniques while learning to code robotic devices, interactive computer programs, and games. Delve into multiple coding environments and watch your visions come to life! Groups will be divided by age on the first morning. Each day includes cooperative outdoor activities. This session is co-educational

***NEW* - Coding and Game Design 2.0 – ages 11-13, co-ed – July 29 – August 2**

Prepare to bring your designs to the next generation! Discover more coding and game development environments and venture into the world of app design software. Use your logic, skills, and expertise and turn your dreams into a reality! Experience in basic coding environments is necessary. Each day includes cooperative outdoor activities. This session is co-educational..

***NEW* - Cyber Girls Ambassador Program – ages 11-14, girls – August 6 – 9**

This camp aims to empower girls by teaching them about how they can make the cyber world a better place. With the mentorship of women in the IT industry, learn about digital citizenship, cyber security and positive online behaviour. As part of the Ambassador Program, girls will explore coding environments and refine their critical thinking skills. Become a Cyber Girl Ambassador and spread the word! Each day includes cooperative outdoor activities.

Minecraft Camps

Adventures in Minecraft – ages 8-10, co-ed – July 2-5 (4 day week)

Minecraft is a versatile tool to develop new skills and to design and build campers’ creations. It is also an amazing way to make new friends. Minecraft Camps allow for individual and group learning. Learn the basics of the game, controls, recipes, and how to build circuits/devices in Minecraft. Each day includes cooperative outdoor activities. This session is co-educational.

Ultimate Minecraft – ages 10-15, co-ed – July 22-26

Build together in Minecraft and learn new skills including character skins, custom maps and installing modifications. Along with learning new skills, campers will also learn to build more technical and creative circuits. Each day includes cooperative outdoor activities. This session is co-educational.

Tech Camps

***NEW* High Tech Expedition - ages 12-15, co-ed - July 29 - August 2**

Explore what the world of technology has to offer through various tools and programs. Campers will engage in tasks and challenges that encourage them to broaden their programming and technological skills. Each day includes cooperative outdoor activities. This session is co-educational.

***NEW* High Tech Voyage - ages 9 -13, co-ed - August 12 - 16**

Venture through the world of cutting-edge high tech products while deepening your skillset! Younger campers will be challenged to solve real-world issues through exciting projects using various technologies and robotics. Uncover your programming skills and use what you learn while exploring the world of tech! Each day includes cooperative outdoor activities. This session is co-educational.

Youth Programs

Counsellor in Training –ages 14 – 17 (must have finished grade 9), co-ed – July 2-5(4 days) SPACE IS LIMITED

Learn the skills required to become a “junior camp counsellor”. You will receive training in the different camp activities. After the successful completion of this training session, you will have the opportunity to volunteer at the 2019 UOIT summer camps. These hours can be used for your high school volunteer time.

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NEW* Level Up! - @ FBIT Gaming and Virtual Reality Laboratory – ages 13-15, co-ed- August 12-16

Take your coding skills to the next level at the state of the art UOIT Faculty of Business and Information Technology (FBIT) Gaming and Virtual Reality Laboratory. Learn about the future of game development while exploring the endless possibilities of gaming! Experience in coding environments is required.

***NEW* The Future of Gaming @ FBIT Gaming and Virtual Reality Laboratory - ages 14-17, co-ed- August 19-23**

Wondering how you can take your coding and programming skills with you into the future? Considering a career in the gaming world? Gain valuable hands-on experience in the state of the art UOIT Faculty of Business and Information Technology (FBIT) Gaming and Virtual Reality Laboratory. Learn about designing, developing, producing, and testing games and other interactive media. Experience in coding environments is required.

Educator Sessions

Workshops provide teachers with the background they need to integrate these topics into their classrooms. Through hands-on, open-ended inquiry projects, participants will learn engineering concepts, and the connection between STEAM disciplines. Associated pedagogy/educational theory will be covered. The workshops are open to any Kindergarten to Grade 12 teacher, informal education providers, and volunteers or industry members interested in learning about Coding, Minecraft, STEAM and/or LEGO® engineering.

Participants will:

- Learn about the design process.
- Explore the educational pedagogy and theory of using hands-on STEAM projects.
- Investigate how to integrate other curriculum areas (math, science and literacy) through engineering-based projects.
- Discuss and develop classroom management strategies.

Participants will leave with:

- A collection of integrated classroom activities and lesson ideas.
- Access to a website for sharing ideas.
- Comfort level with Coding, Minecraft, STEAM and/or LEGO® Robotics in the classroom.

Equipment:

- Laptops, all LEGO® kits and STEAM materials will be available during the workshop. Teachers may choose to bring their own computer and LEGO® kits if they prefer, so they can take away models at the end of the session.

Dates (all sessions run from 9 a.m. to 4 p.m. and are held on the main campus of UOIT, 2000 Simcoe Street North, August 12-23)

Tech4Teachers – NEW - Monday, August 12 to Wednesday, August 14

Participants will develop critical thinking and problem-solving skills using a variety of tech tools including LEGO® MINDSTORMS Education EV3, Minecraft, a variety of robotic devices and resources. The focus is on developing activities for 21st century skills through inquiry-based and active learning. Participants can explore a variety of programs or focus in more depth on two or three environments to suit their classroom situation. Curriculum connections will be made with the various tools, programs and robotic devices.

Turtle Island for Educators - NEW - Thursday, August 15 to Friday, August 16

Learn alongside Traditional Knowledge Keepers and Elders. Appreciate the importance of culturally responsive teaching. This session will include a variety of land-based activities shared by members of the community.

Creating a Makerspace 1.0 expanded for 2019 - Monday, August 19 to Wednesday, August 21

Wondering what “Makerspace” is all about? This session will include how to create a Maker environment in your class, school or commons. Curriculum connections will be addressed in all topics.

- 3D printing
- Basic circuitry activities – paper and sewn circuits, squishy circuits
- Technological problem solving – design and build, basic tool use
- MakeyMakey and Scratch
- Robotics devices, coding applications
- Introduction to Green Screen technology
- Other topics as interested

Explore a variety of coding environments that operate on different platforms including iPads/android, web-based and computers. Participants will be introduced to a variety of coding programs that will include (but not limited to):

- ScratchJr, Scratch
- Tynker
- Hopscotch
- Kodable
- Lightbot
- Tickle
- Bloxels

Several programmable robotic devices will be available for exploration:

- Sphero, Ollie, BB8, SPRK
- Dash and Dot
- Ozobot
- OSMO
- WeDo 2.0
- Makebot

Creating a Makerspace 2.0 expanded for 2019 - Thursday, August 23 to Friday, August 24

Now that you have some experience with different Makerspace technologies, branch out with these additional activities and resources:

- Augmented reality/Virtual reality
- Wearable technologies such as Arduino Flora, Gemma, Lilypad
- Robotics devices and coding applications - advanced
- Projects of your choosing

Curriculum connections will be addressed in all topics.

Family Camps

A [recent research report from Let's Talk Science](#) indicates parents are not discussing the importance of science, technology, engineering and math (STEM) for their children's futures. Parents need access to high-quality programs and resources to help encourage these conversations. They are often unfamiliar with activities and strategies that can stimulate this interest in their children.

Join us for these summer programs where you can learn alongside your children and leave with a variety of practical activities and resources that can be done at home. Daily activities will be geared to the ages of the campers. You can register for one or more sessions. Online resources will be available after the camp programs end. All camp programs make use of laptops, digital cameras, science and engineering equipment and iPad technology. You will work as a family group to complete the activities. Camps are offered at the university's north Oshawa location - 2000 Simcoe Street North, Oshawa, Ontario - from 9 a.m. to 4 p.m.

Monday, August 19 – Take the Family Outside

- Learn new outdoor activities to engage your family in the natural world and bring back the joy of 'messing around' outside
- Play games that will spark an interest in science and the environment, Explore the environment with iPad and other simple technologies
- Discover the fun of orienteering and geocaching

Tuesday, August 20 – Makerspace/STEAM

- Find out what all the buzz is about Makerspace activities as you tinker, create, build and explore with a variety of materials
- Work with circuits, simple tools, 3D printers and more
- Take home a project your family designed, created and built from scratch

Wednesday, August 21 - Minecraft

- Discover tricks to enhance Minecraft for families

Thursday, August 22– Basic Coding and Game Design

- Learn basic coding skills
- Design a simple computer video game as a family
- Find out where to go to extend the learning

Friday, August 23 - Robotics

- Explore robotics kits and resources
- Depending on the age of the camper, these will be available for exploration:
 - LEGO® WeDo, LEGO® EV3

Registration will be open shortly!

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