Great science plays here.

York University | Science Engagement Programs
Digital Literacy Workshops

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Our Hands-On Approach

Our high-energy and interactive workshops use a hands-on, discovery-based approach to learning. Students work in teams through guided projects and experiments to gain an understanding of abstract STEM concepts. Our instructors also share related scientific research taking place at York University and discuss real-world applications of topics, making the learning relevant to the students' day-to-day lives.

Our Instructors

Our team consists of enthusiastic undergraduate science and engineering student instructors. They have an infectious passion for STEM, magnetic personalities, and a genuine desire to inspire youth. In addition to STEM subject matter expertise, our instructors have training in community building, diversity, and inclusion. Our team reflects the diversity of today's classrooms –meaning they make for great role models for your students!

A PROUD MEMBER OF ACTUA

Actua is a national organization of 35 university-based STEM outreach programs. Our pedagogical approach is shared by Actua members across Canada, and has been rigorously tested and evaluated. This approach is based on the supposition that the skills, knowledge, and attitudes of scientifically literate people are the same skills, knowledge, and attitudes of 21st century thinkers and leaders.

ABOUT THE FACULTY OF SCIENCE

York University is proud to have one of the leading Faculties of Science in Canada. The Faculty is an emerging research powerhouse and is home to 140 professors, many of whom are recognized internationally as leaders in their fields. The Faculty has particular research strengths in the areas of genetics, neuroscience, regenerative medicine, astrophysics, pharmaceutical chemistry, epidemiology and mathematical disease modeling, computational biology, high-energy and particle physics, and more.

What GTA Teachers Say About Our Workshops:

"The workshops were very engaging and educational for the students. Instructors were good at probing students to answer questions and take part in the lesson."

MRS GURRERI
GRADE 7 TEACHER – OUR LADY OF THE ROSARY

"The workshop was very informative and easy to understand. Hands-on! Kids love that!"

MRS GILL
GRADE 7 TEACHER – GREAT LAKES PS

Contact Us

explore@yorku.ca
416-736-2100 ext 44552

Great science plays here.

Unplugged

Ozobots
An introduction to robotics, line-following and colour-sensing, students will investigate optics and computer science through visual coding with Ozobot robots.

Curriculum Connections: Light and Sound, Forces Causing Movement, Geometry and Spatial Sense
Workshop Length: 1.5 hours
Suggested Grades: 3 to 8

A-Mazing Circuits
Help Wally the Whale find their way home! Students will work in teams to design a helmet with light signals built inside to assist their friend back home through dark, dangerous waters. Through this interactive activity, students will explore ideation to innovation and user-centred design.

Curriculum Connections: Electricity and Electrical Devices, Light and Sound, Form and Function, Forces Causing Movement
Workshop Length: 2 hours
Suggested Grades: 3 to 8

Perler Pixels
Why did early computer images look so pixelated? Students will learn about pixels and how computers use them to show images, and how computers have developed to enhance imagery. Using this knowledge, they will create their own pixel art!

Curriculum Connections: Properties of and Changes in Matter, Patterning and Algebra, Geometry and Spatial Sense
Workshop Length: 2 hours
Suggested Grades: 3 to 8

Binary Secret Code
Did you know that computers use only zero and one? Everything that you see or hear on the computer—words, pictures, movies and even sound is stored using just those two numbers! Learn how to send secret messages to your friends using exactly the same method as a computer.

Curriculum Connections: Patterning and Algebra, Form and Function
Workshop Length: 1.5 hours
Suggested Grades: 3 to 8

My Robotic Friend
Explore how computers work by modelling computer functions and learning about programming logic.

Curriculum Connections: Systems in Action, Patterning and Algebra, Geometry and Spatial Sense
Workshop Length: 1 hour
Suggested Grades: 3 to 8

To register, please visit our website: **scix.science.yorku.ca/CanCode**

Circuits 101 with Makey Makey

Water Piano*

Students will make connections between the chemical properties of water and apply circuit concepts to create a piano with water! An interdisciplinary activity, students will have fun making music while learning about digital concepts.

Curriculum Connections: Patterning and Algebra, Music, Electricity and Electrical Devices, Light and Sound, Form and Function
Workshop Length: 2-3 hours
Suggested Grades: 3 to 8

Circuit Harps*

Learn about simple circuits and how they are used within industry, as well as for entertainment. Students will use this knowledge to create a harp that plays music when connected to a computer.

Curriculum Connections: Measurement, Electricity and Electrical Devices, Light and Sound, Music, Making Connections
Workshop Length: 2-3 hours
Suggested Grades: 3 to 8

Musical Art*

Discover the joys of STEAM by creating an interactive art piece that plays music with the touch of a finger. Students will spend time designing how circuits will interact with their art piece and code musical results.

Curriculum Connections: Geometry and Spatial Sense, Music, Electricity and Electrical Devices, Light and Sound, Form and Function
Workshop Length: 3 hours
Suggested Grades: 5 to 8

Game Controller*

Create your own remote to play games like Mario and Flappy Bird! Through the use of Makey Makey, students will learn the concept of circuity.

Curriculum Connections: Geometry and Spatial Sense, Light and Sound, Electricity and Electrical Devices
Workshop Length: 2 hours
Suggested Grades: 3 to 8

* Indicates that this workshop requires computers

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Website Development

Website Manipulation*
It's hard to imagine a day where we don't visit more than a dozen websites. It takes a special skill to create an awesome website. That's why all the cool kids are coding and so should you! Join us and learn how to design your own website using drag and drop programs.

Curriculum Connections: Patterning and Algebra, Geometry and Spatial Sense, Computer Technology
Workshop Length: 3 hours
Suggested Grades: 3 to 8

Structure of a Website: HTML*
Learn how to create a website using HTML! Students will analyze syntax errors in a website code and design their own simple website.

Curriculum Connections: Patterning and Algebra, Geometry and Spatial Sense, Computer Technology
Workshop Length: 3 hours
Suggested Grades: 6 to 8

* Indicates that this workshop requires computers

To register, please visit our website: **scix.science.yorku.ca/CanCode**