What is a CanCode Workshop?

Two enthusiastic Science Venture Staff join your classroom for a 1.5-2 hour FREE workshop. Our workshops are designed to meet the Applied Design, Skills and Technologies BC Curriculum. Equipped with the latest technology, our hands-on workshops are a great complement to your classroom learning. Due to generous support and funding from Actua and the national Cancode Grant, Science Venture is able to offer these workshops at no cost to you, your school and your students.

Available dates: Our CanCode Workshops will be available to book between October 11th, 2023 and March 29th, 2024.

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Workshop Menu

Deep Sea Exploration | Grades 6-8 | Same as 2022
Key Terms: Spheros, Robotics, Sensors, Infrared Technology
Humans can’t do everything, but they can expand their abilities through engineering and technology! Students create light-responsive programs to explore how engineers solve deep-sea problems.

EcoCode | Grades 6-8 | Same as 2022
Key Terms: Micro:bits, Robotics, Food Security, Sustainability
With increasing population how can we guarantee a large enough food supply, and localize growth to minimize travel? By combining computer science with biology, students learn how technological advancements increase global food security! This workshop requires Internet access (WIFI) and students are encouraged to use their own laptops if they have them.

*NEW* Mars Rover Recovery | Grades 6-8
Key Terms: Spheros, Broadcasting, Rovers, Collision, Self-Recovery
Mars rovers are too far away for us to help, but what if other rovers could respond to their calls for help? Students will program their rovers to broadcast help calls to nearby robots to come and recharge their exploring rovers when they run low on battery.

*NEW* Unplugged Computer Science | Grades 6-10
Key Terms: Decision Trees, Monty Hall Problem, Statistics
Baldur’s Gate comes to your classroom in this workshop where students will experience a choose-your-own-adventure story. Explore the different outcomes to learn how computers and game designers alike store information in decision trees for practical use. Then challenge your students to learn and understand the Monty Hall Problem by using decision trees!

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Science Venture is a network member of Actua. Actua provides training, resources and support to its national network of members located at universities and colleges across Canada in the delivery of science, technology, engineering and mathematics (STEM) education outreach programming. Each year, these members engage over 350,000 youth in 500 communities nationwide. Please visit Actua at www.actua.ca.

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actúa
Canada

With funding from | Avec un financement du

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scienceventure.ca
svworkshops@uvic.ca
250-721-8983
**NEW** Micro:bits Morse Code | Grades 7-10
*Key Terms: Morse Code, Encoded Messaging, Telecommunications*

Dive into the captivating world of telecommunication using Micro:Bits. In this workshop students will unlock the power of communication through coding and radio waves - combining technology, creativity and history into one exciting session. This workshop requires Internet (WiFi) access and students are encouraged to use their own laptops if they have them.

**NEW** Build a Theremin | Grades 9-11
*Key Terms: Music, Sensors, Micro:bits*

Music and Technology come together in this workshop to create an instrument from your hand movements! Students create a light responsive musical instrument and come together to form a class orchestra with no prior music knowledge required! This workshop requires Internet (WiFi) access and students are encouraged to use their own laptops if they have them. *Complimentary earplugs will be available for teachers.*

**NEW** Zombie Apocalypse Simulation | Grades 7-10
*Key Terms: Research, Block Coding, Scratch, Simulations, Testing & Iterations, Epidemiology*

Learn how researchers conduct studies through simulations by creating a mock zombie apocalypse in scratch! Students will be encouraged to think critically on how to improve the realism of simulations by iterating through various starting conditions. Finally they will be able to test it out and play as a human character after determining the best course of action to survive the zombie apocalypse. This workshop requires Internet (WiFi) access and students are encouraged to use their own laptops if they have them.

**NEW** Aquaculture | Grades 10-12
*Key Terms: Sustainability, Farming, Ecology, Smart Technology, Arduinos, Sensors*

Join our Aquaculture workshop, where students will explore the world of sustainable fish farming and craft our own sensor systems for water monitoring to showcase sustainability through technology. Gain hands-on experience in coding and how it contributes to the future of eco-friendly food production. Don't miss the chance to make a splash in the world of environmental science! This workshop requires Internet (WiFi) access and students are encouraged to use their own laptops if they have them.

**NEW** Arduino Motors | Grades 8-10
*Key Terms: Arduinos, Motors, Pulse Width Modulation (PWM), Coding*

Ever wondered how RC cars work or even small submarines? This workshop explores how to use Arduinos and Pulse Width Modulation (PWM) - a key component of electrical systems. In this workshop, students will wire and code an Arduino with adjustable speed.

**NEW** Image Processing & Cancer Detection | Grades 9-11
*Key Terms: Magnetic Resonance Imaging (MRI), Image Processing, Scratch, Pattern Recognition, Colour Theory, Artificial Intelligence*

Medical technology has improved exponentially in the last few decades, making early diagnosis easier than it ever has been. In this workshop students will be able to understand how coding can be used to help detect cancer in MRI scans, and how machine learning is being used to improve how early patients can be diagnosed. This workshop requires Internet (WiFi) access and students are encouraged to use their own laptops if they have them.

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**How to book CanCode Workshops for your school:**

Send a completed CanCode Workshops Booking Form to Science Venture (svworkshops@uvic.ca). Be sure to include the following information:
- Preferred Dates
- Workshop(s) Requested
- Teacher Name(s), Room Numbers, Class Grade Range, School Bell Schedule

**Dates:** CanCode Workshops will be available from October 11th, 2023 to March 29th, 2024.
**Cost:** All CanCode Workshops are **FREE**.

Scan the QR code to go directly to our workshop booking page:

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Image Attributions:
- Mars Rover: http://photojournal.jpl.nasa.gov/catalog/PIA04413
- Dungeons & Dragons: https://dnd.wizards.com/what-is-dnd/basic-rules