Programs & Events for the General Public

Science Outreach

At SFU’s Faculty of Science
Our passion is science education
Star gazing at SFU received an astronomical boost with the recent opening of the Trottier Observatory and Science Courtyard. Situated near the heart of SFU’s Burnaby campus, the observatory houses a sophisticated 0.7-meter-diameter telescope under a six-meter dome. The observatory provides a home to the popular Starry Nights @ SFU public outreach program, the SFU Astronomy Club and SFU astronomy classes, and to amateur astronomers from the Vancouver Centre of the Royal Astronomical Society of Canada. BC public high schools are invited to submit proposals for remote use of the facility. **We also offer daytime tours for school groups as well as daytime astronomy workshops for elementary and high school students. Contact sfuscienceoutreach@sfu.ca to book your class.**

The science courtyard features star-shaped benches, huge illuminated seasonal star charts, and “star-lit” Milky Way pathways. The “backbone” of the courtyard is a long concrete plinth that represents the science of spectroscopy, which is the backbone of all astronomical knowledge - the plinth is lit with colours that represent the spectra of light generated by six important elements (hydrogen, helium, carbon, aluminum, silicon, and sulphur).

The large grassy area adjacent to the courtyard allows astronomers ample space to set up their own portable telescopes. The “green screens” surrounding the observatory are creatively filled with plants whose colours are chosen to match the colours of the nine “planets” - with Pluto counted as an honourary member of the family.

SFU is grateful to the Trottier Family Foundation for providing the funding for the Observatory and Science Courtyard, as well as the Trottier Studio for Innovative Science Education where SFU’s daytime outreach programs are held. Together, these facilities allow SFU to continue to provide free science education to the general public, school children and youth.
At SFU we’re passionate about science! That’s why we’re happy to share our cool labs and our amazing scientists with thousands of students, children, youth and members of the public every year.

Here are just some of our FREE in-class or out-of-school programs.

**SCIENCE IN ACTION**

Delve into the world of Chemistry, DNA Extraction, Exploring Energy, Forces and Motion, Human Anatomy, Math and Logic, Solar System Spurt and Vertebrate Bones. Whether you’re in K-12, or a science teacher yourself, we have a Science in Action workshop just for your class!

**SCIENCE RENDEZVOUS**

Take part in this Canada-wide science festival every spring. We offer interactive science activities, talks and games for the curious young scientist. Everyone is invited to be a part of this fun family event!

**SCIENCE SPOOKTACULAR**

Share wicked science activities, phantom physics and cryptic chemistry at this annual family event. Wear your spookiest costume and be a part of the magical wonders of physics, chemistry, biology, astronomy, and more!

**STARRY NIGHTS**

Evening star parties celebrating celestial events and daytime telescope and astronomy workshops are offered through this popular program. Join the Scope Club and learn how to qualify for a free telescope.
Wanna Bet? Best Strategies for Games of Chance

Students play games of chance against “the house,” and learn to combine probabilities and payoffs to compute long-run winning potentials of a game.

The last half hour of the workshop will be spent discussing career options for statisticians and actuaries, license exams and professional associations.

This 1.5 hour workshop is suitable for students from Grades 10 to 12.

Let’s Talk Science connects educators and youth with outstanding volunteers to deliver a wide variety of meaningful science, technology, engineering and mathematics (STEM) learning experiences in both school and community settings. SFU Let’s Talk Science also offers workshops at the Burnaby campus.

Girls Exploring Physics

Join this half-day workshop just for girls in Grades 9 and 10! Students experiment with hands-on activities and will be treated to lunch and an opportunity to meet with female physics faculty and students to hear about career opportunities.

Math Outreach

Mathcatcher supports math education for elementary and high school students through the SFU Academic Summer Camp for Aboriginal students, on-campus workshops for Aboriginal students in math and science and school visits to urban and rural schools around BC. Local schools visit campus for this workshop while rural schools are visited by our “road team”.

VERHEYEN LAB TOUR AND DISCUSSION
Molecular Biology and Biochemistry research aims to understand how molecules work and learn their roles in cells and organisms. In this lab tour, high school students will see how a tiny fly can be used to study the basis of cancers, and how we can learn valuable information through genetics, biochemistry and cell biology.

EARTH SCIENCES
Grades 8 through 10 Science classes and students in Earth Sciences 11 and Geology 12, are invited to our Earth Sciences lab for a workshop that can vary in time from 1 to 2 hours. Activities include: mineral classification & identification, rock-forming processes & the rock cycle, igneous rock classification & identification, Earth’s crust & plate tectonics, and fossils through the ages.

Please note that these programs are designed for classes and groups only.
**HUMAN ANATOMY**
A visit to the anatomy lab gives students a chance to visualize the various parts of the human body. Students will be given an opportunity to assemble a torso model, the various parts of the digestive tract as per its location, and will be able to view human organs of the thoracic and abdominal cavities and various parts of the human brain.

**CHEMISTRY**
The chemistry workshops include activities that are designed to address current BC Prescribed Learning Outcomes for chemistry including matter, its properties, physical and chemical changes, pure substances and mixtures (homogeneous and heterogeneous), separation processes, acids and bases, chemical reactions (including titrations), endothermic and exothermic reactions, etc.

There is an emphasis on green chemistry in the laboratory (water is the only solvent we use for student experiments) and we do not expose the students to any potentially toxic materials.

**LIFE UNDER THE MICROSCOPE**
This workshop exposes students to the interaction of live cells and microscopic organisms with their environment. Using microscopes, students take part in activities focused at a cellular level, which aim to answer questions such as: what’s in the food we eat? Where are the brilliant colours in plants made and stored and how do plant cells contribute to make our planet a beautiful and livable place?
Nobel Prize Lectures
Each year we celebrate the newly awarded Nobel Prize winners in chemistry, physics and medicine/physiology. SFU faculty members explain the impact of these prizes to the community and highlight the connection between fundamental and applied research.

SFU Café Scientifique
Informal discussions connecting cutting-edge researchers with the general public on a variety of provocative topics. More info: sfu.ca/science/programs---events-for-the-general-public/cafe_scientifique1.html

General Public

For Science Educators

- Professional Development workshops for Teachers
- SPEED: Science ProD for Elementary Educators
- Development of Instructional Resource Package Modules for BC Elementary School Teachers
- Math Camp for Teachers
- Changing the Culture Conference

We can also help you update your teaching content and customize experiments to match your curriculum.
From a Teacher

“I want to thank you for allowing us to participate in the Science Day up at SFU. I have been teaching now for 9 years and have not been on a fieldtrip where all of my students were engaged and actively learning from the beginning of the day to the end. Our fieldtrip up to SFU has been the exception. All of you did a fantastic job. The entire day was well coordinated, the hands-on experiments were educational and on a level that students could fully understand the material being taught. The kids continued to talk about the science demonstrations for days afterwards. Our parent volunteers are still talking about how great the trip was. Thank you for the day and I can’t wait to come up again next year.” St. Helen’s teacher, David R.

From Homeschoolers

“I brought up a group of kids for the laser workshop and we had such a great time. All the hands on things for them to experiment with and the great leaders at each table were so good. The kids really enjoyed making a maze and reflecting the laser light with all the mirrors. Also the coloured jello test was fun and wearing the fancy glasses so we could figure out what light source the light comes from. But more than that, it was so special for the kids to be in such an environment, on a university campus. It brought up good conversations about what they want to do later in their life. Thank you so much for offering these classes!” Martina E.

From A Principal

“I thought last year’s event was terrific, and my feeling about this year’s presentations is that you surpassed the excellent standards you’d already set in previous workshops. There was a lot of variety in the presentations. The people presenting were clearly passionate about what they were presenting. Most importantly, the students were engaged and interested. I asked one of our students if he learned as much at SFU at the workshop as he would have learned at school that day. He said he learned more in his day at SFU than he would have if he’d been at school that day. And, he said this with a big smile on his face.”

– Dave, Principal

From Elementary Students

“My name is Roberto. I am 7 years old and I went to SFU for a field trip two weeks ago. I really enjoyed it and me and my friends had lots of fun. We got to make ice cream which was really fun too. We looked through a telescope and that was lots of fun too. I love SFU. Thank you for the pizza lunch. It was fun. THANKS FOR EVERYTHING!!

That was a great experience, my favourite part was when we made the little rockets and shot them outside. Thanks also for the pizza and letting us make ice cream with liquid nitrogen. I wouldn’t want to see this program end because this is a great program to learn SCIENCE!!!!!!!!!!!!!!”

For a Complete List of Workshops and Programs

http://i.sfu.ca/QXyulk
email us at sfusciencesouthreach@sfu.ca
or call 778-782-6967

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ALL WORKSHOPS FOR CHILDREN & YOUTH ARE FREE