



Course Planning Information 2024-2025

Dear Students and Parents: The selections you make for your grade 11 & 12 courses will impact your graduation and future post-secondary plans. [Students are required to complete Science 10 and one Science 11/12 course for graduation.](#) More detailed information can be obtained from the online course calendar, our website, counselors, and career center **and you are always welcome to ask a science teacher for advice or recommendations.**

Science 10 Course Options: Science 10 is a prerequisite for Science 11 and 12 credit courses

Science 10

This course is composed of four units: Chemistry, Energy (Physics), Genetics (Biology), and Astronomy. Students will investigate how atoms are able to interact to form compounds and how chemical processes are part of our everyday life; how energy is transformed; DNA and how traits expressed; and how the universe was formed.

STEAM 10 Enriched (STEAM Program)

This program provides students with the opportunity to go deeper into the Science 10 curriculum through inquiry and cross curricular approaches. Enrolment is limited, and students will be selected for the program based upon their success in Science 9. We encourage students with a keen interest in science and good work habits to apply. **Students will also complete Foundations of Mathematics & Pre-calculus 10 Enriched, ADST 10 and CLE 10 as part of this cohort program.**

Science 11 Credit Courses: students are required to take a Gr. 11 or 12 science course for graduation

Science for Citizens 11 (Science and Technology)

Explore how science informs our decisions and impacts our daily lives. We will look at connections between science, technology and society while developing skills for analyzing these interactions. This is a multi-disciplinary course that covers topics in three major areas: personal science, workplace science and global science. **This course satisfies the graduation requirements for a Science 11 course, but it does not typically qualify as a science prerequisite for most university programs.**

Earth Science 11

This course is designed to introduce students to the diverse aspects of earth and space science. The main organizing units are Earth and its Environment, Geologic Science, Oceanographic Science, Astronomical Science, Atmospheric Science, and Earth History. The course has a significant hands-on component aimed at developing both knowledge and the various skills of science.

Life Sciences (Biology) 11 (can lead to Anatomy & Physiology 12)

This course introduces students to the diverse adaptations and ecological relationships in the biosphere. The course will cover: microbiology, mycology, plant biology, animal biology and ecology with themes of evolutionary change throughout the course. Students practice a variety of biological skills and scientific processes. Laboratory work, including microscopy, classification of organisms, and dissection is emphasized in this course. **It is recommended that students take Life Sciences 11 before attempting Anatomy & Physiology 12**

Chemistry 11 (can lead to Chemistry 12)

This course introduces students to how chemical quantities impact chemical processes. This course includes atoms and molecules, the mole, chemical reactions and stoichiometry, solution chemistry and organic chemistry. It is a lab-based program that relies on student's physical skills in chemistry and requires students to predict results, plan and conduct experiments so they can analyze data to formulate conclusions. **A strong background in mathematics is required for success in this course.** It is recommended that you have already completed Math 10-FMPC with a C+ or better.

Physics 11 (can lead to Physics 12)

Physics is a challenging branch of science that strives to describe the nature of the universe. Topics include motion, forces, energy, simple machines, electric circuits and mechanical waves (sound). There is a significant increase in complexity from the physics section of Science 10. **A strong understanding of mathematics (especially algebra and graphing) is essential for success in this course.** It is recommended that you have already completed Math 10-FMPC with a C+ or better.

These Gr. 12 courses also count as Gr. 11/12 SCIENCE CREDIT and can be taken in Grade 11 or 12!

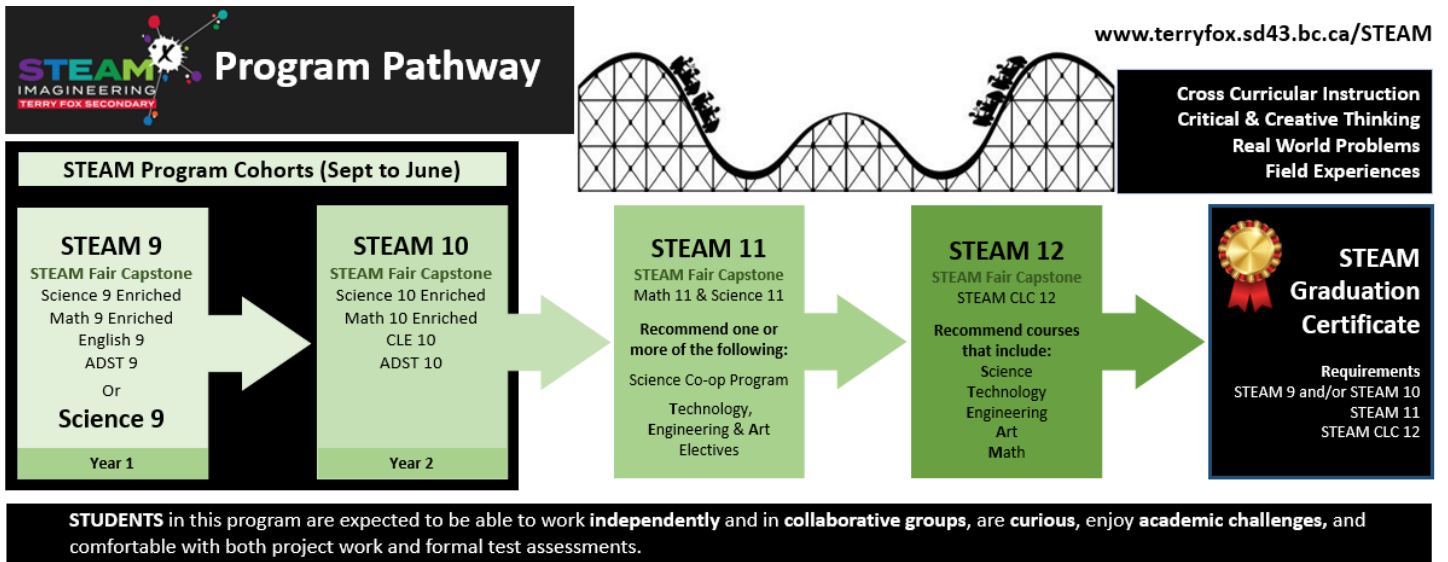
Astronomy 12: Astronomy is the scientific study of stars, galaxies, planets, moons, asteroids, comets, and other "celestial objects". This course provides a comprehensive introduction to modern astronomy including its historical development, practical sky observations, telescopes and detailed information on the planets and moons in our solar system. In addition, we will study the formation of exotic objects such as quasars, pulsars, black holes and neutron stars within the context of the life cycle of stars and the origin and evolution of our universe.

Environmental Science 12: provides students with the fundamental knowledge and skills relating to environmental science. Students will explore a range of topics, including diverse ecosystems, natural processes, human impacts and sustainability, as well as stewardship and habitat restoration. Students will work in our own greenhouse and gardens as well as at Blakeburn Lagoon. Students will also engage with First Peoples perspectives and other Traditional Ecological Knowledge. Students should have strong work habits, a keen interest in environmental stewardship and be comfortable working outdoors (rain or shine).

Geology 12: is the scientific study of planet earth. Students will learn about the earth's formation and history, tectonic processes such as earthquakes & volcanoes, rocks & minerals, paleontology, glaciers, mountain building, structural geology and the interpretation of geologic maps. The geology of Western Canada and employment opportunities in the field of geology will be emphasized in the course. Geology 12 is a course that incorporates chemistry, physics and biology into the curriculum. Students should be academically motivated and have a strong interest in learning about geoscience.

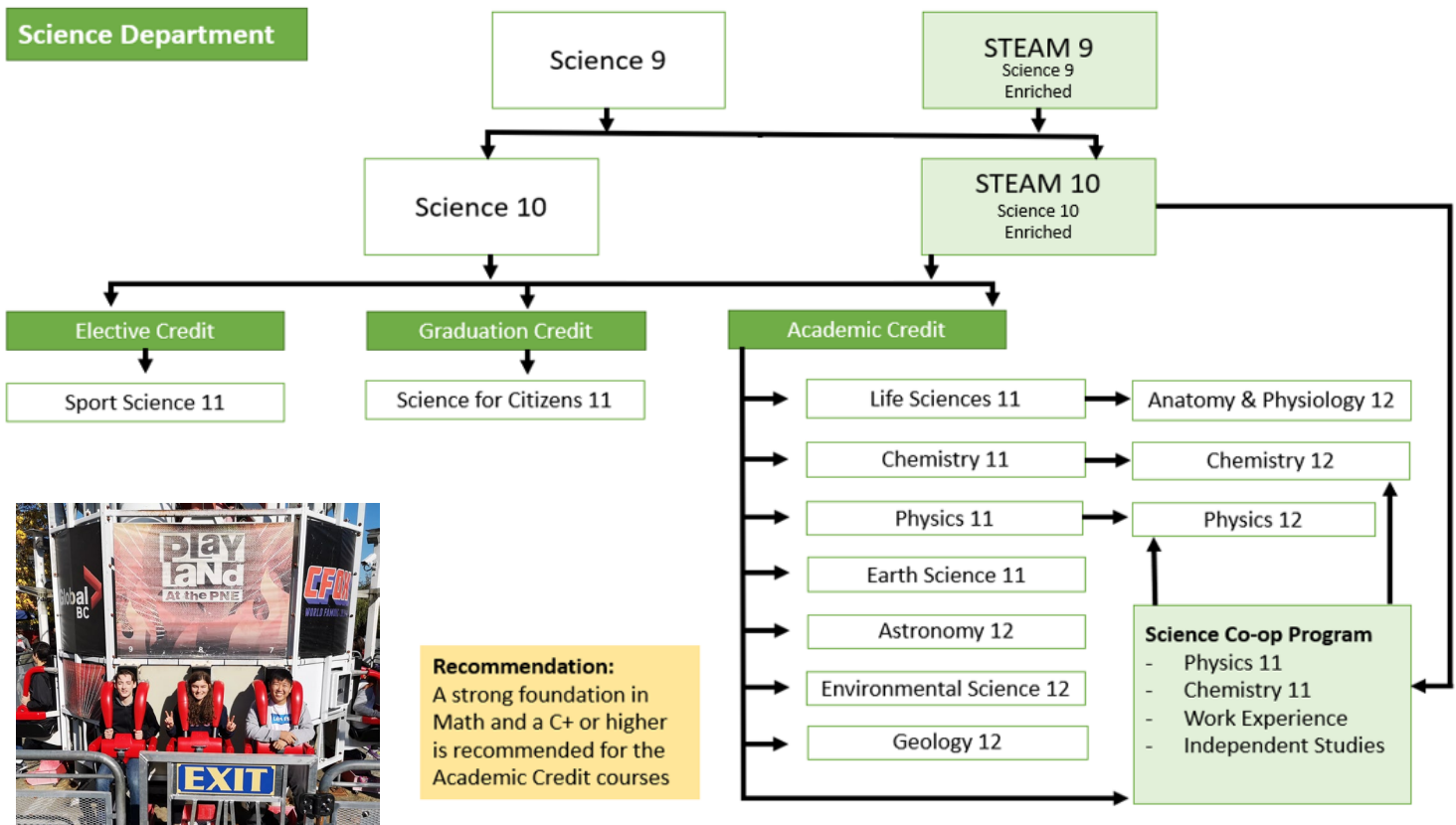
Elective: Sport Science 11 – is designed to expose students to aspects of anatomy, biochemistry and physics as concerned with sports and the human body. The topics that will be explored will expose students to post-secondary work in the faculties of Kinesiology at SFU and UBC. Other topics include physiology, biomechanics, principles of training, analysis of team and individual sports, nutrition, performance enhancing devices and sports injury management. **This course does not provide a Science 11/12 credit, but it does count as an elective towards graduation.**

Apply to the STEAM or CO-OP PROGRAM during course selection.



Science Co-op Program – This program is for students interested in getting hands-on experience while working in the field of science. Co-op will include Work Experience 12 and a combination of other Gr. 11 science courses (Physics 11 and Chemistry 11). Students complete 90 hours of voluntary work experience at a science related placement. Students are selected for the program based on recommendations from their teachers and their marks. See Mr. Grossi in Room 107 for more info!

To express your interest in this program go to www.terryfox.sd43.bc.ca/science and fill in the online application



Excellence in Science Award: Teachers will be awarding certificates to students who have demonstrated excellence in their courses at the end of each semester.

Students receiving these awards will also have the opportunity to nominate themselves for a TOP Science Student award. **TOP Science Student** awards will be issued at the end of the school year.

Criteria for award:

- active participant in science activities
- achieve an A+/Highly Proficient grade in the course
- consistently demonstrate excellent work habits



Science Department website
www.terryfox.sd43.bc.ca/science