



**GRADE 10**

## **Applied Science**

### **SD72 Campbell River**

Designed for students who enjoy all things to do with math and science which focus on robotics, astronomy and probability. Robotics - build and programs robots using VEX robotics design system to compete in robot games with classmates. Astronomy - expand knowledge of the stars, planets, galaxies and the formation of the solar system. Probability - Introduced to ideas and how they are involved with games and used to analyze optimal strategies of various board games, card games.

---

**Credits: 4**

**Approval Date: Jun 2018**

---

**Hours: 120**

**Trax Code: YMATH**

---

## GOALS AND RATIONALE

To educate and inspire students in the areas of Mathematics and Science in a way that are not dealt with in other courses. It draws on STEM topics that have direct hands on applications and that connect to students' current and future lives in unexpected ways. It connects academic ideas to behaviours that students may not realize are connected. This course gives extra time to allow for students to explore topics in robotics, astronomy and probability in a deeply connected way.

---

## BIG IDEAS

Math and science can be applied in unexpected ways in everyday life. Programing, unmoving parts, and moving parts are all essential in robotics. Understanding the movement of celestial bodies and the principles of rocket engineering are essential for space exploration. The probability perspective and the law of large numbers can inform daily decisions. Team work and empathy are essential for success in working with other people.

---

## ADDITIONAL INFORMATION

Students are expected to: Successfully work in teams to problem solve; demonstrate social skills and empathy while building robots or competing in games and tournaments; problem solve robotic design difficulties through creative use of limited resources; research and justify scientifically accepted astronomical beliefs; build and launch model rockets; justify strategies in games using probability and odds; engage in a virtual stock market to grow (or loose) capital