



ALTERNATIVE EDUCATION

Contact Information	Teacher Name: Site Phone Number: Teacher Email:
Prerequisite	A mark of at least 50% in any of the following courses: Science 20, Chemistry 20, Physics 20, Biology 20.
Required Materials & Resources	• Four modules and four assignment books • Textbook: Science 30 – published by Alberta Education • Textbook CD or the www.learnalberta.ca website. (User ID LA12 Password 2953) • Scientific calculator • Science 30 data booklet

Course Overview

Science consists of four units of study, as outlined below. These units emphasize the nature of science, science and technology and science in societal and environmental contexts.

Unit	Topics of Study	Weighting
A. Living Systems Respond to Their Environment	• structure and function of the circulatory system • composition of human blood tissue and the role of blood • immune response and defense mechanisms to pathogens • cardiovascular health • chromosomal behaviour - principles of Mendelian genetics • deoxyribonucleic acid DNA and protein synthesis • mutations and gene therapy	25%
B. Chemistry and the Environment	acids and bases • pH and hydronium ion concentration • stoichiometry and titration of strong monoprotic acids and strong monoprotic bases • buffers and buffering capacity • sources and environmental impact of SO_x, NO_x, acid deposition and photochemical smog • sources, uses and environmental effects of organic compounds • biomagnification and persistence of pollutants	25%
C. Electromagnetic Energy	• devices based on electric and magnetic fields (electric motors, generators and transformers) • the electromagnetic spectrum, its properties and its effects on living tissue • basic properties of field theory for the comparison of gravitational, electric and magnetic fields • principles of field theory and applications in technology • technologies used to study the structure and history of the universe • circuitry	25%
D. Energy and the Environment	• global energy consumption and its impact on the biosphere • sources of renewable energy • balancing energy use with sustainable development • conversion of solar energy, fossil fuels and wind and water	25%

		power into thermal and electrical energy • fission and fusion, nuclear change • heats of formation and Hess's law • nuclear, wind, hydro, biomass, tidal, solar, fuel cell and geothermal alternative energy technologies
Assessment	The student's grade will be calculated based on the following:	
	Coursework	20%
	Unit Evaluations – quizzes, exams, labs, projects	80%
	*Final Grade: 70% School awarded mark + 30% provincial diploma exam mark. Parents and students are encouraged to keep up to date on PowerSchool and contact their teacher if there are any issues.	
Important Note Regarding Assessment	A wide range of assessment information is used in the development of a student's final grade. In Edmonton Catholic Schools, individualized assessments provide specific information regarding student progress and overall performance in class. Assessment may vary from student to student, differentiating for various student needs. It should also be noted that not all assignments are used to determine the final grade, and that scale factors may have been used to determine the weight of individual assignments.	