

# Senior 3 Current Topics in the Sciences

The landscape of science is dynamic and in constant change, and the challenge of science educators is to build enduring foundations that will assist students in understanding how science connects to their lives.

Manitoba Education, Citizenship and Youth has designed a new elective curriculum for students: Senior 3 Current Topics in the Sciences. The instructional design proceeds from a recognition that science, as it is conducted today, involves an interdisciplinary approach. This approach is to be reflected in the curriculum, in teaching, and in learning.

This curriculum seeks to address current issues, topics, themes, points of view, and innovations through an integration of the relevant science disciplines in a way that is natural, engaging, and accessible for students.

One unique feature of Senior 3 Current Topics in the Sciences is that teachers and students take the lead in selecting topics or current issues that are addressed in the classroom.

Senior 3 Current Topics in the Sciences is now available for implementation in all Manitoba schools. Further information relating to the new curriculum may be found online at [www.edu.gov.mb.ca/ks4/cur/science/](http://www.edu.gov.mb.ca/ks4/cur/science/).



## General Learning Outcome A: Nature of Science and Technology

Differentiate between science and technology, recognizing their strengths and limitations in furthering our understanding of the world, and appreciate the relationship between culture and technology.

**SLO A1:** Distinguish critically between science and technology in terms of their respective contexts, goals, methods, products, and values.

**SLO A2:** Recognize both the power and limitations of science as a way of answering questions about the world and explaining natural phenomena.

**SLO A3:** Identify and appreciate the manner in which history and culture shape a society's philosophy of science and its creation or use of technology.

**SLO A4:** Recognize that science and technology interact and evolve, often advancing one another.

**SLO A5:** Describe and explain disciplinary and interdisciplinary processes used to enable us to investigate and understand natural phenomena and develop technological solutions.



## General Learning Outcome C: Scientific and Technological Skills and Attitudes

Demonstrate appropriate inquiry, problem-solving, and decision-making skills and attitudes for exploring scientific and/or technological issues and problems.

**SLO C1:** Demonstrate appropriate scientific inquiry skills, attitudes, and practices when seeking answers to questions.

**SLO C2:** Demonstrate appropriate technological problem-solving skills and attitudes when seeking solutions to challenges and problems related to human needs.

**SLO C3:** Demonstrate appropriate critical thinking and decision-making skills and attitudes when choosing a course of action based on scientific and technological information.

**SLO C4:** Employ effective communication skills and use a variety of resources to gather and share scientific and technological ideas and data.

**SLO C5:** Work cooperatively with others and value their ideas and contributions.



## General Learning Outcome B: Science, Technology, Society, and the Environment

Explore problems and issues that demonstrate interdependence among science, technology, society, and the environment.

**SLO B1:** Describe scientific and technological developments, past and present, and appreciate their impact on individuals, societies, and the environment, both locally and globally.

**SLO B2:** Recognize that scientific and technological endeavours have been, and continue to be, influenced by human needs and by societal and historical contexts.

**SLO B3:** Identify the factors that affect health and explain the relationships of personal habits, lifestyle choices, and human health, both individual and social.

**SLO B4:** Demonstrate a knowledge of, and personal consideration for, a range of possible science- and technology-related interests, hobbies, and careers.

**SLO B5:** Identify and demonstrate actions that promote a sustainable environment, society, and economy, both locally and globally.



## General Learning Outcome D: Essential Concepts

Explore, understand, and use scientific knowledge in a variety of contexts.

**SLO D1:** Use the concepts of similarity and diversity for organizing our experiences with the world.

**SLO D2:** Recognize that the universe comprises systems and that complex interactions occur within and among these systems at many scales and intervals of time.

**SLO D3:** Understand the processes and conditions in which change, constancy, and equilibrium occur.

**SLO D4:** Understand how energy is the driving force in the interaction of materials, processes of life, and the functioning of systems.

Stem-Cell Research

Human Endeavour in Space

Geological Controversies

Origins of Life

Medical Technologies

Biotechnology

Evolution of Human Species

Life in the Universe?

Science and Music

Energy Today and Tomorrow

Forensic Sciences

Sport Sciences

Global Warming: Fact or Fiction?