Grade 9 Science

COURSE CODE	SNC1W	**GRADE**	9
TEACHER(S)	Ellenbogen, Kedzia, Wan	**CREDIT VALUE**	1.0
DEPARTMENT	Science	**PREREQUISITE**	None

COURSE DESCRIPTION:	This course enables students to develop their understanding of basic concepts in biology, chemistry, earth and space science, and physics, and to relate science to technology, society, and the environment. Throughout the course, students will develop their skills in the processes of scientific investigation. Students will acquire an understanding of scientific theories and conduct investigations related to sustainable ecosystems; atomic and molecular structures and the properties of elements and compounds; the study of the universe and its properties and components; and the principles of electricity. Additional information can be found at: http://www.edu.gov.on.ca/eng/curriculum/secondary/subjects.html

COMMUNICATION

Please direct all questions or concerns regarding student progress or program of study to the course teacher. Please call the main office to leave a message at 416-395-3240.

CONCRETE LEARNING RESOURCES	DIGITAL LEARNING RESOURCES
Textbook: ON Science 9 (Replacement Cost $90.00)	My School Day App - An App that allows you to stay up-to-date with in-class tasks.
	BrightSpace or Google Classroom

GEORGE S. HENRY ACADEMY'S COURSE WORK POLICY

For each evaluation, the teacher will inform students of the **due date** and the **ultimate deadline**. The ultimate deadline is the last opportunity for students to submit an assignment for evaluation. Teachers may also use a variety of other methods for dealing with late and missed assignments at their discretion.

Strategies to assist students in meeting deadlines include:

- Peer tutoring
- Using the school app
- Using a personal agenda
- Seeking extra help from teachers
- Requesting for assistance with time management and organizational skills

- Getting help from parents/guardians
- Getting help from a caring adult in the school

ASSESSMENT AND EVALUATION OF STUDENT ACHIEVEMENT

Each course follows an achievement chart which enables teachers to make judgements about student work that are based on clear performance standards and on a body of evidence collected over time. Additional information can be found on the Ministry of Education website noted within the course description.

ACHIEVEMENT CHART CATEGORIES

Knowledge and Understanding (K & U): Subject-specific content acquired in each course (knowledge), and the comprehension of its meaning and significance (understanding)

Thinking (T): The use of critical and creative thinking skills and/or processes

Communication (C): The conveying of meaning through various forms

Application (A): The use of knowledge and skills to make connections within and between various contexts

COURSE WORK (70% of your overall grade)

Categories	%	Possible Assessments of Learning
K & U	**30%**	• knowledge of content (e.g., facts, terminology, definitions, safe use of equipment and materials) • understanding of content (e.g., concepts, ideas, theories, principles, procedures, processes)
T & I	**20%**	• use of initiating and planning skills and strategies (e.g., formulating questions, identifying the problem, developing hypotheses, selecting strategies and resources, developing plans) • use of processing skills and strategies (e.g., performing and recording, gathering evidence and data, observing, manipulating materials and using equipment safely, solving equations, proving) • use of critical/creative thinking processes, skills, and strategies (e.g., analysing, interpreting, problem solving, evaluating, forming and justifying conclusions on the basis of evidence)
C	**20%**	• expression and organization of ideas and information (e.g., clear expression, logical organization) in oral, visual, and/or written forms (e.g., diagrams, models) • communication for different audiences (e.g., peers, adults) and purposes (e.g., to inform, to persuade) in oral, visual, and/or written forms • use of conventions, vocabulary, and terminology of the discipline in oral, visual, and written forms (e.g., symbols, formulae, scientific notation, ISUs)
A	**30%**	• application of knowledge and skills (e.g., concepts and processes, safe use of equipment, scientific investigation skills) in familiar contexts • transfer of knowledge and skills (e.g., concepts and processes, safe use of equipment, scientific investigation skills) to unfamiliar contexts • making connections between science, technology, society, and the environment (e.g., assessing the impact of science on technology, people and other living things, and the environment)

		• proposing courses of practical action to deal with problems relating to science, technology, society, and the environment

FINAL EVALUATION (30% of your overall grade)		
Type	**Description**	**%**
Culminating Task	TBA such as Science Fair Project Submission	15%
Exam	Formal written examination during exam week	15%

UNITS OF STUDY/COURSE ROAD MAP (subject to change)

Units based on Ministry Course Profiles.

Throughout this course, students will:

Unit A. **STEM Skills, Careers & Connections**

A1. STEM Investigation Skills apply scientific processes and an engineering design process in their investigations to develop a conceptual understanding of the science they are learning, and apply coding skills to model scientific concepts and relationships
A2. Applications, Careers, and Connections analyse how scientific concepts and processes can be applied in practical ways to address real-world issues and in various careers, and describe contributions to science from people with diverse lived experiences

Unit B. **Biology: Sustainable Ecosystems & Climate Change**

B1. Relating Science to Our Changing World assess impacts of climate change on ecosystem sustainability and on various communities, and describe ways to mitigate these impacts
B2. Investigating and Understanding Concepts demonstrate an understanding of the dynamic and interconnected nature of ecosystems, including how matter cycles and energy flows through ecosystems

Unit C. **Chemistry: The Nature of Matter**

C1. Relating Science to Our Changing World assess social, environmental, and economic impacts of the use of elements, compounds, and associated technologies
C2. Investigating and Understanding Concepts demonstrate an understanding of the nature of matter, including the structure of the atom, physical and chemical properties of common elements and compounds, and the organization of elements in the periodic table

Unit D. **Physics: Principles and Applications of ELectricity**

D1. Relating Science to Our Changing World assess social, environmental, and economic impacts of electrical energy production and consumption, and describe ways to achieve sustainable practices
D2. Investigating and Understanding Concepts demonstrate an understanding of the nature of electric charges, including properties of static and current electricity
Unit E. **Earth & Space Science: Space Exploration**

E1. Relating Science to Our Changing World evaluate social, environmental, and economic impacts of space exploration and of technological innovations derived from space exploration
E2. Investigating and Understanding Concepts demonstrate an understanding of the components, characteristics, and associated phenomena of the solar system and the universe, and the importance of the Sun to processes on Earth

Lab & Inquiry Activities

In this course you will complete several labs and inquiries, including computer simulations, such as:

- ✔ Predator-prey modelling
- ✔ Quadrat or other ecosystem sampling or monitoring
- ✔ Investigate physical and chemical change
- ✔ Investigate the properties of matter, such as density and reactivity
- ✔ Investigate the properties of static electricity
- ✔ Investigate the properties of current electricity such as by building and designing circuits
- ✔ Create models of astronomical phenomena

GEORGE S. HENRY ACADEMY'S LATE & MISSED EVALUATION POLICY

It is the responsibility of the student to make arrangements with their teacher for any missed course material and/or assignments. Extenuating circumstances will be considered on a case-by-case basis.

GEORGE S. HENRY ACADEMY'S ACADEMIC DISHONESTY POLICY

Cheating and plagiarism will not be condoned. For more information, refer to the Academic Honesty Policy found in the Student Handbook. The Student Handbook can be found in the George S. Henry Academy app.

SPECIALIST HIGH SKILLS MAJOR (SHSM) REQUIREMENTS

GRADE 11 AND 12 CREDITS	ENVIRONMENT	HEALTH & WELLNESS	HOSPITALITY &TOURISM
Major Credits	4	4	4
English *(including a CLA*)*	2	1	1
Mathematics *(including a CLA)*	1	1	1
Science or Social Sciences and Humanities *(including a CLA) (May be substituted with 1 coop credit)*	-	1	-

Business Studies or Science *(including a CLA) (May be substituted with 1 coop credit)*			1
Cooperative Education	2	2	2
TOTAL	**9**	**9**	**9**

*Contextualized Learning Activity