WQSB Virtual Campus Teacher: Natalie Dahlstedt, ndahlstedt@learnquebec.ca, 1-888-622-2212

COMMISSION SCOLAIRE WESTERN QUÉBEC SCHOOL BOARD
VIRTUAL CAMPUS

Standards and Procedures for the 2025-2026 School Year

Environmental Science and Technology, Secondary 4

Evaluation and Weighting of Competencies:

Subject Competencies	Term 1 (20%)	Term 2 (20%)	Term 3 (60%)
Practical: Seeks answers or solutions to scientific or technological problems (40%)	Practical exercises/labs (100%)	Practical exercise/labs (100%)	Practical exercises/labs (100%)
Theory: Makes the most of his/her knowledge of science and technology (60%)	Unit tests /exams (40%) Assignments (60%)	Unit tests /exams (40%) Assignments (60%)	Unit tests /exams (30%) Assignments (40%) Final exam (30%)

General Information regarding evaluation:

In addition to submitted assignments, there will be ongoing formative assessments in the form of online assignments, class discussions, assignments that will be completed using various online platforms, and group assignments completed during class.

Textbook: Observatory – The Environment

- WQSB Virtual Campus teachers provide instruction and evaluation for this course.
- The Virtual Campus respects the timetable for report cards identified by each school.
- Online students will complete a final theory exam at the end of the school year where required by the local school.
- Students must complete their own work and complete evaluations independently. Supervision of tests is required at schools.
- In cases of cheating:
  - First time, students involved will be given zero on the assignment/test with the opportunity to re-do assignment for maximum of 60%. School/family will be informed.
  - Second time, students involved will be given zero and additional consequences.

Online Context: Self-Paced – 200 minutes in-school work including 30 minutes of live instruction

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PROGRESSION OF LEARNING (Compulsory Concepts) – Secondary IV EST

Living World – Term 1

– **Genetics**

- Genes (heredity, character traits, alleles)
- Genotype and phenotype
- Protein synthesis

Material World – Term 1 & 2

– **Organization**

- Simplified atomic model
- Nomenclature and notation
- polyatomic ions
- The mole
- Periodic classification (atomic number, atomic mass, periodicity of properties)
- Isotopes

– **Properties**

- Concentration of aqueous solutions (g/L, percentage, ppm, mol/L)
- Strength of electrolytes

– **Changes**

- Oxidation
- Salts
- Types of bonds (covalent, ionic)
- Stoichiometry

Earth and Space – Term 2

– **Characteristics of the Earth**

- Contamination (lithosphere, hydrosphere, atmosphere)
- Biogeochemical cycles (Phosphorous)

Material World – Term 3

– **Changes**

- Motion, forces and work
- Nuclear changes
- Energy (thermal, potential, kinetic)

– **Electricity and Magnetism**

- Kirchhoff's laws
- Electrical Fields
- Magnetic field of a solenoid

Technological World – Term 3

– **Ecology**

- Ecological footprint
- Ecotoxicology

– **Biotechnology**

- Processes (wastewater treatment, biodegradation)

– **Graphical language**

- Interpreting diagrams (orthogonal projection, axonometric projection)
- Dimensional tolerances

– **Electrical Engineering**

- Conduction, insulation and protection
- Switches

– **Manufacturing**

- Shaping using machines and tools
- Drilling, tapping and threading
- Measurement