



Loyola

HIGH SCHOOL

Secondary 4 Applied Science & Technology Cycle 2 (Year 2)

Course Outline

Teacher: Ms.Mongeon

E-mail: mongeona@loyola.ca

Office hours: after school daily

Requirements:

- Observatory – The Environment (student textbook)
- 2x 80 page Hilroys (one for each course, not shared with any other subject)
- Lined loose-leaf paper (at least 25 sheets), and graph paper (about 10 sheets).
- Ruler, pens, highlighters, scientific calculator (non-programmable) and pencils
- iPad (always charged)
- Lab coat and safety glasses

Course Information:

The Secondary 4 Science program is comprised of two distinct courses. The 6-credit Applied Science and Technology (AST) course builds upon the scientific, technological and environmental concepts studied in earlier science and technology courses, and students are also required to apply some of the principles studied in earlier Mathematics programs. The AST course culminates in the writing of the Ministry uniform exam in June. The 2-credit Science and the Environment (SE) course provides an introduction to chemistry in preparation for the Sec.5 chemistry course. For both courses, there are extensive hands-on activities to enhance the course content. The learning sequence and main topics covered in the courses are as follows:

Science & Environment (SE) Course (September to December)

Scientific Method and Techniques
Atoms and Organization of Matter
Molecules and Nomenclature
Physical Properties of Solutions
Chemical Reactions and Stoichiometry



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Applied Science & Technology (AST) Course (December to June)

Graphical Language
Manufacturing and Engineering Techniques
Properties of Materials
Electricity and Circuits
Magnetism and Electromagnetism
Mechanical Engineering
Forces and Motion
Energy and Efficiency
Environmental Sciences

Weighting of Courses and Terms

Course	Term 1	Term 2	Term 3
Science & Environment (SE)	40%	60%	Not evaluated

Course	Term 1	Term 2	Term 3
Applied Science & Technology (AST)	Not evaluated	25%	75%

Tests and Lab reports:

Any missed tests must be completed on a student's first day back at school. For missed labs due to illness or a predictable absence, Mr Dagher must be contacted within 24 hours of the lab date being announced/day of illness to arrange an alternate date. A 20% late penalty per day is policy if the above does not occur.

Final Evaluations:

Students write a final **Loyola exam** in December for the **SE** course which counts for 50% of Term 2 theory grade. As for the **AST** course, Students are required to write a **Loyola exam** and a **Ministry exam** in June. The Ministry exam counts for 50% of the full year theory mark. Results are mailed directly from MEES in July.



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Competencies: SE and AST Courses

<i>Section</i>	<i>Competency</i>	<i>Weighting</i>
Practical	Seeks answers and solutions to scientific or technological problems. Communicates in the languages used in science and technology	40%
Theory	Makes the most of his knowledge of science and technology. Communicates in the languages used in science and technology	60%

General:

Homework will be assigned in the form of completing lab activities or studying for tests/quizzes. There will also be homework completed and graded in class throughout the year. Independent review and practice of daily work is essential in order to understand and retain the information taught.

Secondary 4 is an important year as it can influence future subject choices, as well as choice of CEGEP. Students are expected to further develop their work habits, study routines and time management skills.

Promotion and Sec. 5 Science Options:

A minimum grade of 75% is required in both the AST and SE courses to qualify for the science options (Chemistry and Physics) in Sec. 5.

A passing grade in the AST course is required for the high school leaving certificate. As both the AST and SE courses are considered separate, a failure in either one is tabulated toward the Loyola diploma.