



Loyola

HIGH SCHOOL

Science et technologie, Secondaire 3

Instructor: M. Moreau

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486-1101 ext. 621

Moodle Page: <https://tinyurl.com/sec3-365>

Guest password: loyola

Description:

This course is designed to provide students with an overall picture of the harmonious functioning of the human body and stresses the acquisition of attitudes aimed at respect for, and, maintenance of health. This course, including assessment and laboratory experiments, will be conducted entirely in French.

Students will be expected to participate in class discussions, conduct research and present findings and projects to their classmates. In addition, some laboratory experiments will be conducted, such as the dissection of a cow's eye, a worm, etc.

Requirements:

- Students must come prepared to every lesson with all of their materials and are expected to further develop their work, study habits and time management skills.
- Respectful behavior towards other students and the instructor is expected at all times. Students are expected to work cooperatively with their peers
- Students are expected to further develop good study habits. Review and practice of daily work is essential to understanding and retaining the information taught.

Materials:

- 3 Ring binder (1 or 1 1/2 inch) dedicated to science with 4 dividers
- Note book for notes and rough work
- Several pencils, eraser, highlighters, calculator
- Students should bring their textbook (*Synergie*) and iPad to every class.

Evaluation, Components & Competencies:

Term breakdown

Component	Science Competencies	Examples	Weighting
Practical	Seeks answers or solutions to scientific or technological problems Communicates in the languages used in science and technology	Labs, lab reports activities, lab exam, etc.	40%
Theory	Makes the most of his knowledge of science and technology Communicates in the languages used in science and technology	Tests (~30%), quizzes (~15%), homework (~5%), exams (50%), etc.	60%

Term 1	20%	Ends Nov. 1 st
Term 2	20%	Ends Feb. 7 th
Term 3	60% (June exam is worth 40% of this term)	Ends June 4 th

Absences and Late Work

Note that if a student misses a class for whatever reason, it is THEIR responsibility to make-up the missed work. If a student misses a lab they have 24 hours to contact Mr Dagher (daghere@loyola.ca) to arrange a time to conduct the lab. They must also notify the teacher at least 48 hours in advance if they have prior knowledge of an upcoming absence (for sports or any other activity).

All assignments must be completed on time and with care. Homework will be checked on the day it is due. Late assignments will result in a 10% reduction in its overall mark and after one day will not be marked and result in a 0.

Extra Help

Extra help sessions will be held every Tuesday morning at 7:45am in room 226. Additional help sessions will be announced before every major evaluation. Students may also email the instructor to arrange for additional help.

Science Fair

Each student in Secondary 3 Science is required to complete an experimental science project.

- Students may choose to work alone or in pairs
- Five groups from each class will present their projects and be judged at the annual Science Fair on Thursday, February 20th. It is possible that some groups will be selected to further represent Loyola at the Regional Science Fair.
- Please note that all students must make themselves available for the **afternoon and evening of Thursday, February 20th** in the event that they are selected to represent their class at the Science Fair.
- Further details can be found on the **Science Fair Moodle site**.

Topics: Science & Technology: Secondary 3 (Cycle Two Year One)

Term 1	Term 2	Term 3
Scientific Method <ul style="list-style-type: none"> Laboratory report writing Laboratory safety 	Science Fair <ul style="list-style-type: none"> Results, analysis and presentation 	Biotechnology <ul style="list-style-type: none"> Pasteurization Manufacture of vaccines Assisted reproduction Cell cultures Genetic transformation (GMO's)
Science Fair <ul style="list-style-type: none"> Research and experimentation 	Excretory System <ul style="list-style-type: none"> Urinary system (kidneys, bladder, urethra) Components of urine (water, salts, urea) Maintaining a balanced metabolism (kidneys, lungs, sweat glands) 	Science Techniques <ul style="list-style-type: none"> Introduction to dimensional analysis (solving problems in one line while crossing out units)
Nutrition & Digestive Systems <ul style="list-style-type: none"> Types of food (water, protein, carbohydrates, fats, vitamins, minerals) Energy value of different foods Digestive tract (mouth, esophagus, stomach, small intestine, large intestine, anus) Transformation of food (mech/chemical) Digestive glands (salivary glands, gastric glands, pancreas, liver, intestinal glands) 	Nervous & Musculoskeletal Systems <ul style="list-style-type: none"> Central nervous system (brain, spinal cord) Peripheral nervous system (nerves) Neuron (synapse, axon, dendrites) Neural inflow (voluntary act, reflex act) Sensory receptors (eye, ear, skin, tongue, nose) Musculoskeletal system (bones, joints, muscles) Function of bones, joints and muscles Types of muscles Types of joint movement 	Organization of Matter <ul style="list-style-type: none"> Pure substance (compound, element) Homogeneous and heterogeneous mixture
Circulatory & Respiratory Systems <ul style="list-style-type: none"> Respiratory system (nasal cavity, pharynx, trachea, bronchi, lungs) Functions of blood constituents (plasma, formed elements) Compatibility of blood types Circulatory system (types of blood vessels) Lymphatic system (lymph, antibodies) 	Waves <ul style="list-style-type: none"> Frequency, wavelength and amplitude Decibel scale Electromagnetic spectrum Deviation of light waves Focal point of a lens 	Properties of Matter <ul style="list-style-type: none"> Characteristic physical properties (melting point, boiling point, density, solubility) Characteristic chemical properties (reaction to indicators) Concentration Solute Solvent
Fluids <ul style="list-style-type: none"> Compressible and incompressible fluids Relationship between pressure and volume 	Review of reproductive systems	Changes in Matter <ul style="list-style-type: none"> Physical changes (dissolution, dilution, phase changes) Chemical changes (synthesis and decomposition, oxidation, precipitation) Forms of energy (chemical, thermal, mechanical) Particle model