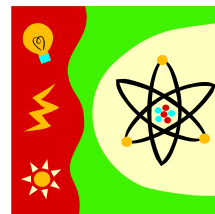




Cardinal Leger Secondary School

Science Department



Course Name: Biology, Grade 12

Course Code: SBI4U1

Level: University Preparation

Textbook: Nelson, Biology 12

Ministry Guidelines: Science, 2008

Replacement Cost: \$100.00

Number:

Course Overview:

This course provides students with the opportunity for in-depth study of the concepts and processes that occur in biological systems. Students will study theory and conduct investigations in the areas of biochemistry, metabolic processes, molecular genetics, homeostasis, and population dynamics. Emphasis will be placed on the achievement of detailed knowledge and the refinement of skills needed for further study in various branches of the life sciences and related fields.

Prerequisite: Biology, Grade 11, University Preparation

Curriculum Strands and Overall Expectations:

Scientific Investigation Skills and Career Exploration

- demonstrate scientific investigation skills (related to both inquiry and research) in the four areas of skills (initiating and planning, performing and recording, analysing and interpreting, and communicating)
- identify and describe careers related to the fields of science under study, and describe the contributions of scientists, including Canadians, to those fields.

Biochemistry

- analyse technological applications of enzymes in some industrial processes, and evaluate technological advances in the field of cellular biology;
- investigate the chemical structures, functions, and chemical properties of biological molecules involved in some common cellular processes and biochemical reactions;
- demonstrate an understanding of the structures and functions of biological molecules, and the biochemical reactions required to maintain normal cellular function.

Metabolic Processes

- analyse the role of metabolic processes in the functioning of biotic and abiotic systems, and evaluate the importance of an understanding of these processes and related technologies to personal choices made in everyday life;
- investigate the products of metabolic processes such as cellular respiration and photosynthesis;
- demonstrate an understanding of the chemical changes and energy conversions that occur in metabolic processes.

Molecular Genetics

- analyse some of the social, ethical, and legal issues associated with genetic research and biotechnology;
- investigate, through laboratory activities, the structures of cell components and their roles in processes that occur within the cell;
- demonstrate an understanding of concepts related to molecular genetics, and how genetic modification is applied in industry and agriculture.

Homeostasis

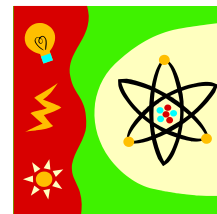
- evaluate the impact on the human body of selected chemical substances and of environmental factors related to human activity;
- investigate the feedback mechanisms that maintain homeostasis in living organisms;
- demonstrate an understanding of the anatomy and physiology of human body systems, and explain the mechanisms that enable the body to maintain homeostasis.

Population Dynamics

- analyse the relationships between population growth, personal consumption, technological development, and our ecological footprint, and assess the effectiveness of some Canadian initiatives intended to assist expanding populations;
- investigate the characteristics of population growth, and use models to calculate the growth of populations within an ecosystem;
- demonstrate an understanding of concepts related to population growth, and explain the factors that affect the growth of various populations of species.



Cardinal Leger Secondary School Science Department



Evaluation:

Term Work	70%
Knowledge and Understanding	25%
Thinking	35%
Communication	15%
Application	25%
Final Assessment	30%
Formal Examination	30%
Culminating Task	0%
Course Total	100%

Learning Skills and Work Habits

E= Excellent G=Good S=Satisfactory N= Needs Improvement

Responsibility	<ul style="list-style-type: none"> Fulfills responsibility and commitments Takes responsibility for and manages own behavior
Organization	<ul style="list-style-type: none"> Devises and follows a plan and process for completing tasks Establishes priorities and manages time
Independent Work	<ul style="list-style-type: none"> Independently monitors, assesses, and revises plans to complete tasks and meet goals Uses class time to complete tasks
Collaboration	<ul style="list-style-type: none"> Accepts various roles and an equitable share of work in a group Builds healthy peer-to-peer relationships
Initiative	<ul style="list-style-type: none"> Looks for and acts on new ideas and opportunities Approaches new tasks with a positive attitude
Self-Regulation	<ul style="list-style-type: none"> Sets own goals and monitors progress towards achieving them Seeks clarification or assistance when needed

Missed/Late/Incomplete Assignments

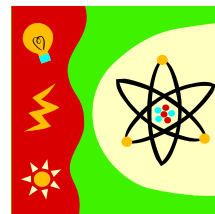
It is the student's responsibility to address missed, late, or incomplete assignments. Students are expected to complete assignments and to adhere to assignment deadlines as follows:

Due Date	10% Penalty Zone	Closure Date
A due date is set by the teacher.	1 school day late --- 3% 2 school days late --- 6% 3 school days late - 10% Maximum penalty of 10%	Once the closure date has passed, work is considered incomplete and a mark of zero applies.

Parent Signature: _____ Student Signature: _____



Cardinal Leger Secondary School Science Department



Tests and Quizzes

You will be given at least one (1) week advanced notice for all written tests. YOU ARE responsible to notify your teacher of any planned absences e.g. medical appointment, school field trip. Non-planned absences must be supported by a medical note (not walk-in clinic). Make up tests will be permitted ONLY with legitimate absences and will be written upon the FIRST DAY of returning. Unexplained absences on test days will result in a mark of 0% and parent and/or office notification.

All quizzes will be given at the beginning of class. If you arrive late, you will not be allowed extra time to write the quiz and a possible mark of ZERO may be given.

Labs and Assignments

If you miss a lab, a mark of zero may be assigned for two components: (1) Performing and Recording; and (2) Communicating. You must obtain the descriptive observations only from your teacher and complete the remainder two components (1) Initiating and Planning; and (2) Analyzing and Interpreting. The completed lab report will be due as assigned on the lab day (usually two school days after the lab).

All assignments will be collected within the first 5 minutes of class on the due date. School late policy will be enforced. **No assignment will be accepted 3 school days after the due date.**

Classroom Procedure

- Attendance - Regular attendance is important to successfully complete the course. School policy will be enforced. You are responsible for notes, assignments which you may have missed. Make sure you have a reliable 'studdy buddy' that you may share classroom notes to catch up on absent days. Collected handouts will be given to you the following day by your teacher.
- Punctuality - School policy on late arrivals will be enforced.
- Uniform - School policy with regards to uniform will be enforced. Please leave jackets in your locker.
- Leaving the Classroom - One student at one time may be permitted to leave during seat work ONLY and with discretionary time. Failure to follow these guidelines will result in a LOSS of washroom privileges. No student will be allowed to leave if he/she is late class that day.
- Vandalism - You are responsible for any damage done to your seating area, textbook or lab equipment.
- Classroom Behaviour - Always have courtesy and RESPECT for all members of the classroom.

Notebook Organization

Please organize your notebook conducive to your style of learning. Be SUCCESSFUL!

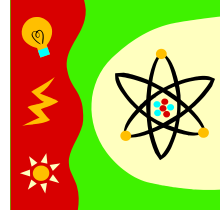
Tutorials

If you are having difficulty with a particular topic, I will be available before and after school begins; however, you must see me so that we can arrange an appointment that will be suitable for both of us.





Cardinal Leger Secondary School Science Department



Attendance (pages _____ in the Student Agenda)

1. Absences

When you are absent:

- bring a note from home signed by your parent/guardian
- sign in at the attendance office before 8:15 a.m.
- show your admit slip to each of your teachers

NOTE: your absence is considered a **SKIP** until you provide the attendance secretary with a note

2. Lates

Students are considered late for class if they are not in the classroom, prepared to work, when the bell rings.

- 1st Teacher warning
- 2nd Teacher assigns a consequence
- 3rd Teacher contacts parent or guardian and assigns a consequence
- 4th VP referral and consequence
- 5th VP contact with parent/guardian and student sent home
- 6th Two day suspension and VP conference with parent or guardian

3. Skips

Absences are considered skips if students are away without permission, or, in the case of students is 18 years of age, a reason that is not considered valid by their teacher or Vice-principal.

- 1st Teacher contacts parent/guardian and assigns consequence
- 2nd Student is referred to a VP; parent/guardian is contacted and a consequence is assigned
- 3rd Parent/guardian is contacted and student is sent home for one day
- 4th Parent/guardian is contacted and student is suspended for 3 days

Uniform Policy (pages _____ in the Student Agenda)

When you are out of uniform go to the main office and explain your situation. You may be asked to go home and get changed and/or serve a detention or spend the day in the office.

Academic Dishonesty

“Cheating is an act of academic dishonesty and comes in many forms such as, but not limited to communication in any form, copying from others, and using unauthorized sources, notes, aids or electronic equipment.”

Plagiarism, an example of cheating, is the act of claiming another’s words, ideas, work as one’s own such as, but not limited to, copying another student’s work, copying and pasting text from electronic resources without citing and identifying it as a quotation, falsifying a citation, quoting a source without citation, paraphrasing without citing the source During project development, you may use code that has been published on a web site, copying and pasting graphics without citing the source, etc. Appropriate consequence will be assigned.

Personal Electronic Devices (pages _____ in the Student Agenda)

PEDs (personal electronic devices) such as pagers, cell phones, mp3s, pdas, digital cameras, etc. are not permitted in school. If you bring your PED to class it will be confiscated and handed in to the office. You will be able to pick it up from your vice-principal.

Cardinal Leger Web Site

Visit the Cardinal Leger school web site for more information on the our school policies, procedures, programs, upcoming events and links to resources and the Dufferin-Peel Catholic District School Board main page.

<http://www.dpcdsb.org/LEGER/Academics/>

Parent Signature: _____ Student Signature: _____