



Archbishop MacDonald Catholic High School

Course	Biology 20
Year	2026-2027
Term	Semester 1
Teacher(s)	Como, Steven Steven.Como@ecsd.net Cheung, Andrea Andrea.Cheung@ecsd.net Grey, Caleb Caleb.Grey@ecsd.net
Resources	Inquiry into Biology ~ <i>McGraw-Hill Ryerson</i> Additional reading/notes/resources provided by the instructor in class and as posted on the Google Classroom
Program of Studies	https://education.alberta.ca/media/3069386/pos_bio_20_30.pdf
Overview	Unit A - Energy and Matter exchange in the Biosphere: The constant flow of energy and cycling of matter in the biosphere leads to a balanced or steady state. This balance is achieved through various biogeochemical cycles and the processes of photosynthesis and cellular respiration. Unit B – Ecosystems and Population Change: In this unit, students become familiar with a range of ecosystems by studying their distinctive biotic and abiotic characteristics. Students are introduced to the concept of populations as a basic component of ecosystem structure and complete the unit by examining population change through the process of natural selection. Unit C – Photosynthesis and Cellular Respiration: The life processes of photosynthesis and cellular respiration allow for the transfer of energy and matter. Students learn, in



general terms, how energy from sunlight is transferred into adenosine triphosphate (ATP) and reduced nicotinamide adenine dinucleotide phosphate (NADPH) and eventually into glucose, and how carbohydrates are oxidized to produce reduced nicotinamide adenine dinucleotide (NADH), reduced flavin adenine dinucleotide (FADH) and eventually ATP. A detailed knowledge of metabolic intermediates is not required.

Unit D - Human Systems: Maintenance of metabolic equilibrium in organisms involves a number of physical and biochemical processes. The human organism is used as a model system to examine how energy and matter are exchanged with the environment through the processes of gas exchange, digestion, excretion, circulation and the function of the motor system. A defence system contributes to equilibrium by eliminating pathogenic organisms.

IB Philosophy

MAC's courses use the IB philosophy to encourage the holistic development of all students. The Learner Profile and Approaches to Teaching and Learning are used at all levels so that students develop a better understanding of curriculum objectives. This course will focus on the Learner Profile for THINKERS because we use critical and creative thinking skills to act on complex problems. Our Approaches to Learning skill will be THINKING because we emphasize skills such as reflection and critical thinking.

Assessment

The final grade is based on category weightings as follows:

Unit A – 15%
Unit B – 18%
Unit C – 13%
Unit D – 34%
Final Exam – 20%

The code NHI may be used to represent coursework that has not been handed in. It is representative of a zero. In addition, the following may appear for a student in PowerSchool instead of, or in addition to, a numeric grade:



Disclaimer

A wide range of assessment information is used in the development of a student's final grade. At Archbishop Macdonald Catholic High School, individualized assessments provide specific information regarding student progress and overall performance in class. Student assessment may vary from student to student to adapt for differences in student needs, learning styles, preferences, and paces. It should also be noted that not all assignments are used to determine the final grade, and that scale factors may have been used to determine the weight of individual assignments.

Personal Mobile Device Standards

Mobile Devices and Social Media Use:

- Personal mobile devices are to be silenced or turned off and stored in the student's assigned locker during the day, which must be locked.
- No personal mobile devices are to be used during the day except for at lunch.
- No social media is to be accessed during the school day.
- The standards for Personal Mobile Devices includes cell phones, SMART watches, earbuds, and headphones
- Non-compliance with the standards will result in consequences of a suspension or loss of privileges such as participation in school trips, or activities, sports teams, and extracurricular activities.

Laboratory Safety Standard

Science at Archbishop MacDonald is a hands-on, skill-based discipline involving activities that may entail risk. Safety in the laboratory takes precedence over all instructional concerns. To ensure your safety and the safety of others, the following laboratory safety standard is always in effect:

1. Conduct must be professional. Counter-sitting, throwing, playing, pranking, and unsanctioned experiments are prohibited.
2. Footwear must completely cover the foot. Sandals, slides, and/or clogs are prohibited.
3. Food and/or drink are prohibited.

There is a zero-tolerance policy for violations of the safety standards; failure to comply with these standards will result in immediate exclusion from the lab activity. Additional safety measures that are activity dependent may also be required.

Expectations

Unexcused absences and/or lates are unacceptable and may have a negative effect on the grade. Missed coursework may be expected to be completed and may be scored as zero or NHI until submitted (see disclaimer).

Student Handbook

<https://archbishopmacdonald.ecsd.net/student-agenda>

Academic Integrity

<https://archbishopmacdonald.ecsd.net/archbishop-macdonald-course-outlines>

