

School Academic and Skill Development



BIOL 050
Introduction to Biology 1
Fall 2021

3 Credits

Course Outline

INSTRUCTOR	Denise Gordon	OFFICE HOURS	By appointment, please email
OFFICE	No office on campus	CLASSROOM	Lecture A2204, Lab A2805
E-MAIL	dgordon@yukonu.ca	CLASS TIME	Lecture T/F 2:30-3:50 Labs: See schedule posted on Moodle
TELEPHONE		CRN	10182
Applied Arts office: Ayam digut Campus A2501, liberalarts@yukonu.ca, 867-668-8770			

COURSE DESCRIPTION

Introduction to Biology 1 covers the principles of many aspects of biology similar to those described by the ABE Articulation, Advanced Level, of British Columbia. This course deals with the scientific method, the chemical and physical background for biology, plant tissues, microscopy, plant nutrition, movement and transport, basic genetics, animal behavior, evolution, ecology, photosynthesis, cell division, and the classification of living organisms and viruses. Biology 050 is articulated with B.C. and Alberta Advanced Biology courses and is a prerequisite for Biology 060 (which could lead to a university biology program) as well as for the Renewable Resources program at Yukon University.

COURSE REQUIREMENTS

Prerequisite(s): Sixty-five percent (65%) in high school science (grade 10), or Yukon University Science 030 including units in Human Biology and Introductory Chemistry, or permission of the instructor. Students may be asked to demonstrate writing skills. Students must be at an English 050 (English 11) writing level.

EQUIVALENCY OR TRANSFERABILITY

Biol 050 is equivalent to Yukon and B.C. High School Biology 11 and is transferable to academic institutions throughout B.C. and Alberta. See Learning Outcome 1 for specific transferability.

Students are reminded that it is always the receiving institution that determines whether a course is acceptable as an applicable, equivalent course or if it may be transferred to their program for credit. Find further information at: <https://www.yukonu.ca/admissions/transfer-credit>

LEARNING OUTCOMES

Upon successful completion of the course, students will be able to:

1. Meet the competencies as stated for ABE Advanced Level Biology as stated in the current edition of the B.C. Provincial Government's publication *Adult Basic Education: A guide to Upgrading in British Columbia's Public Post-Secondary Institutions – An Articulation Handbook* at <http://www.bctransferguide.ca/search/abe> .
2. Explain the basic concepts of biology covering similar material to that of Yukon Biology 11, as described in the course description above.
3. Enter science programs, especially those related to biological sciences such as a health program or Renewable Resources Management, or further biology courses.
4. Demonstrate an appreciation of biology within the course context as well as in a larger perspective, such as the relation of biology to chemistry and physics, First Nations attitudes towards life, and the role of biology in socio-economics.

YUKON FIRST NATIONS CORE COMPETENCY

Yukon University recognizes that a greater understanding and awareness of Yukon First Nations history, culture and journey towards self-determination will help to build positive relationships among all Yukon citizens. As a result, to graduate from ANY Yukon University program, you will be required to achieve core competency in knowledge of Yukon First Nations. For details, please see www.yukonu.ca/yfnccr.

COURSE FORMAT

Delivery format

This course is delivered on campus, in person. Students are expected to attend class and may be required to complete assignments and/or activities online or individually.

There are approximately thirty scheduled sessions generally consisting of: review / topic introduction, viewing videos and/or online content, lecture, and/or discussion. The laboratories consist of seven three-hour sessions. Student input on potential activities will be encouraged at the beginning of this course. Traditional medicines (plants), traditional foods and nutrition (implications of changes), and why plants grow in one area and not another are some of the possible topics to explore.

WORKLOAD

Lectures

There are two, 1.5 hour lectures a week. Students should expect up to equal reading hours to prepare for each lecture

Laboratory

There are 7, three-hour laboratory sessions throughout this course. Students should expect up to equal hours to for pre- and post-laboratory assignments and reports.

Assignments

There are 8 assignments. Students should expect to spend at least two hours on each assignment.

EVALUATION

Laboratory

Students must attend the laboratory sessions in order to submit a report. Students arriving late to a laboratory session may be refused entry.

Assignments

Typed assignments will be handed in, with one or two chapters from the textbook covered in each assignment. The textbook is the primary resource of this course.

Seminar

Students will be required to research and present a topic relevant to Biology 050. The presentation should be no longer than 10 minutes.

Exams

There are two examinations covering the contents.

Assignments	20 %
Midterm Exam	25 %
Labs	20 %
Seminar	10 %
Final Exam	25 %
Total	100%

TEXTBOOKS & LEARNING MATERIALS

Concepts of Biology 1st Canadian Edition, Charles Molnar and Jane Gair, OpenStax College

Yukon University Laboratory Manual and Laboratory Kit

COURSE WITHDRAWAL INFORMATION

Students may officially withdraw from a course or program without academic penalty up until two-thirds of the course contact hours have been completed. Specific withdrawal dates vary, and students should become familiar with the withdrawal dates of their program. See withdrawal information at

www.yukonu.ca/admissions/money-matters

Refer to the YukonU website for important dates: www.yukonu.ca/admissions/important-dates

Refunds may be available. See the Refund policy and procedures at www.yukonu.ca/admissions/money-matters

ACADEMIC INTEGRITY

Students are expected to contribute toward a positive and supportive environment and are required to conduct themselves in a responsible manner. Academic misconduct includes all forms of academic dishonesty such as cheating, plagiarism, fabrication, fraud, deceit, using the work of others without their permission, aiding other students in committing academic offences, misrepresenting academic assignments prepared by others as one's own, or any other forms of academic dishonesty including falsification of any information on any Yukon University document.

Please refer to Academic Regulations & Procedures (updated bi-annually) for further details about academic standing, and student rights and responsibilities: www.yukonu.ca/policies/academic-regulations

ACADEMIC ACCOMMODATION

Reasonable accommodations are available for students requiring an academic accommodation to fully participate in this class. These accommodations are available for students with a documented disability, chronic condition or any other grounds specified in section 8.0 of the Yukon University Academic Regulations (available on the Yukon University website at www.yukonu.ca/policies/academic-regulations)

It is the student's responsibility to seek these accommodations by contacting the Learning Assistance Centre (LAC): LearningAssistanceCentre@yukonu.ca.

TOPIC OUTLINE

A. Cell Biology

- Identify the levels of biological organization
- Describe organic macromolecules and their monomers: proteins, carbohydrates, lipids, and nucleic acids
- Describe cell theory
- Describe and compare major structures and their functions in prokaryotic and eukaryotic cells
- Outline the processes of photosynthesis and cellular respiration and explain their roles in living systems
- Explain cell division in terms of sexual and asexual reproduction

B. Evolution

- Cite evidence for evolutionary theory
- Explain the mechanisms of evolution
- Discuss the origin of life

C. Diversity of Life

- Demonstrate an understanding of classification
- Identify major taxonomic groups
- Identify structures and distinguishing characteristics and describe life processes for the following groups: viruses, bacteria, protists, fungi, nonvascular and vascular plants, invertebrate and vertebrate animals

D. Ecology

- Describe energy flow and nutrient cycles within ecosystems
- Characterize ecosystems and the interactions therein
- Describe ecological changes over time
- Define biosphere and characterize biomes
- Explore and analyze ecological issues, such as climate change, habitat destruction and/or restoration, biodiversity, species extinctions, environmental stewardship

E. Laboratory Skills

Seven dedicated laboratory and/or fieldwork activities, wherein biology learners will:

- Conduct lab and field procedures safely and ethically
- Demonstrate familiarity with common lab and field equipment and its use
- Demonstrate microscope skills
- Collect and record data effectively
- Analyze and interpret data collected
- Communicate results and conclusions