ORIGINAL COURSE IMPLEMENTATION DATE:	May 1994
REVISED COURSE IMPLEMENTATION DATE:	September 2020
COURSE TO BE REVIEWED (six years after UEC approval):	March 2026

Course outline form version: 05/18/2018

OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

Note: The University reserves the right to amend course outlines as needed without notice.

Course Code and Number: BIO 112

Number of Credits: 5 Course credit policy (105)

Course Full Title: Introductory Biology II

Course Short Title:

(Transcripts only display 30 characters. Departments may recommend a short title if one is needed. If left blank, one will be assigned.)

Faculty: Faculty of Science

Department (or program if no department): Biology

Calendar Description:

A continuation of the study of core biological concepts from BIO 111, designed for students majoring in biology or applying to professional programs. Includes an examination of ecology, anatomy and physiology, biodiversity, and evolution.

Prerequisites (or NONE):	BIO 111.
Corequisites (if applicable, or NONE):	None
Pre/corequisites (if applicable, or NONE):	

Antirequisite Courses *(Cannot be taken for additional credit.)*

Former course code/number:

Cross-listed with:

Dual-listed with:

Equivalent course(s):

(If offered in the previous five years, antirequisite course(s) will be included in the calendar description as a note that students with credit for the antirequisite course(s) cannot take this course for further credit.)

Typical Structure of Instructional Hours

Lecture/seminar hours	45
Tutorials/workshops	12
Supervised laboratory hours	45
Experiential (field experience, practicum, internship, etc.)	
Supervised online activities	
Other contact hours:	
Total hours	**102**

Labs to be scheduled independent of lecture hours: ☐ No ☒ Yes

Special Topics *(Double-click on boxes to select.)*

This course is offered with different topics:

☒ No ☐ Yes *(If yes, topic will be recorded when offered.)*

Independent Study

If offered as an Independent Study course, this course may be repeated for further credit: *(If yes, topic will be recorded.)*

☒ No ☐ Yes, repeat(s) ☐ Yes, no limit

Transfer Credit

Transfer credit already exists: *(See **bctransferguide.ca**.)*

☐ No ☒ Yes

Submit outline for (re)articulation:

☐ No ☒ Yes *(If yes, fill in transfer credit form.)*

Grading System

☒ Letter Grades ☐ Credit/No Credit

Maximum enrolment (for information only): 36

Expected Frequency of Course Offerings:

Every year *(Every semester, Fall only, annually, etc.)*

Department / Program Head or Director: Anthony Stea	**Date approved:**	December 2019
Faculty Council approval	**Date approved:**	January 10, 2020
Dean/Associate VP: Lucy Lee	**Date approved:**	January 10, 2020
Campus-Wide Consultation (CWC)	**Date of posting:**	March 20, 2020
Undergraduate Education Committee (UEC) approval	**Date of meeting:**	April 24, 2020

Learning Outcomes:

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

a) Demonstrate a foundational understanding of core concepts in Ecology (e.g. Population and Community ecology, Ecosystems, and Conservation ecology).

b) Demonstrate a foundational understanding of core concepts in Anatomy and Physiology (e.g. Plant structure and growth, Plant transport, Animal structure and growth, Animal body systems).

c) Demonstrate a foundational understanding of core concepts in Biodiversity and Evolution (e.g. Descent with modification, Evolution of populations, Origin of species, Phylogeny of living things, Biological diversity).

d) Engage in observation and identification of the unique characteristics of diverse organisms.

e) Work collaboratively in small groups to divide experimental lab work, gather evidence, and analyze data.

f) Use mathematical, statistical, and/or graphical analysis of experimental data to determine differences from control data.

g) Complete a term research project using the scientific method. This will entail understanding the experimental methodology including the proper types of controls and appropriate number of replicates.

h) Present a scientific oral presentation and/or write a project thesis introducing the research project and summarizing the main results and conclusions.

Prior Learning Assessment and Recognition (PLAR)

☒ Yes ☐ No, PLAR cannot be awarded for this course because

Typical Instructional Methods *(Guest lecturers, presentations, online instruction, field trips, etc.; may vary at department's discretion.)*

Lectures and tutorials which will include: demonstrations, small group discussions, audiovisual presentation, the use of models, videos, overhead transparencies, and charts. The tutorials will be used for general discussions, amplification of materials in the lectures and reading assignments, answering student queries, small group discussions, and quizzes. Laboratory exercises, in a series of three hour laboratory sessions, will complement the materials given in lectures.

NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.

Typical Text(s) and Resource Materials *(If more space is required, download Supplemental Texts and Resource Materials form.)*

	Author (surname, initials)	Title (article, book, journal, etc.)	Current ed.	Publisher	Year
1.	Freeman	Biological Science Custom Volume 2 with Mastering and Components	☒	Pearson	2019
2.	In-House	Lab Manual	☒	UFV	
3.			☐		
4.			☐		
5.			☐		

Required Additional Supplies and Materials *(Software, hardware, tools, specialized clothing, etc.)*

Typical Evaluation Methods and Weighting

Final exam:	30%	Assignments:	%	Field experience:	%	Portfolio:	%
Midterm exam:	25%	Project:	%	Practicum:	%	Other:	%
Quizzes/tests:	10%	Lab work:	35%	Shop work:	%	Total:	100%

Details (if necessary):

Typical Course Content and Topics

Lecture topics:

- Descent with modification
- Evolution of populations
- Origin of species
- Tracing phylogeny
- Plant evolution
- Invertebrates

- Origin of animals
- The vertebrate genealogy
- Plant structure and growth
- Transport in plants
- Plant reproduction and development
- An introduction to animal physiology
- Animal nutrition
- Circulation
- Gas exchange
- The body's defenses
- Chemical regulation
- Nervous systems
- Movement
- Introduction to ecology
- Population ecology
- Community ecology
- Ecosystems
- Conservation ecology

Lab topics:

- Prokaryotes
- Protista
- Fungi
- Plant diversity
- Invertebrate diversity
- Vertebrates
- Project planning and early set-ups
- Research projects
- Oral presentations