

OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

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

Course Code and Number: BIO 083		Number of Credits: 3 Course credit policy (105)															
Course Full Title: Adult Basic Education (ABE) Advanced Biology Course Short Title: ABE Advanced Biology <i>(Transcripts only display 30 characters. Departments may recommend a short title if one is needed. If left blank, one will be assigned.)</i>																	
Faculty: Faculty of Access and Continuing Education		Department: Upgrading and University Preparation															
Calendar Description: A university preparatory course equivalent to Biology 11. Topics include ecology as it relates to current environmental problems; cell structure, function, and reproduction; and an overview of simple organisms such as algae and their relationship to advanced life forms of plants and animals. An important component of the course is a series of laboratory sessions that reinforce classroom topics.																	
Prerequisites (or NONE):		NONE. English 10 recommended.															
Corequisites (if applicable, or NONE):		NONE															
Pre/corequisites (if applicable, or NONE):		NONE															
Antirequisite Courses <i>(Cannot be taken for additional credit.)</i> Former course code/number: Cross-listed with: Dual-listed with: Equivalent course(s): <i>(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.)</i>		Special Topics <i>(Double-click on boxes to select.)</i> This course is offered with different topics: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <i>(If yes, topic will be recorded when offered.)</i>															
Typical Structure of Instructional Hours <table border="1"> <tr> <td>Lecture/seminar hours</td> <td>45</td> </tr> <tr> <td>Tutorials/workshops</td> <td></td> </tr> <tr> <td>Supervised laboratory hours</td> <td>45</td> </tr> <tr> <td>Experiential (field experience, practicum, internship, etc.)</td> <td></td> </tr> <tr> <td>Supervised online activities</td> <td></td> </tr> <tr> <td>Other contact hours:</td> <td></td> </tr> <tr> <td>Total hours</td> <td>90</td> </tr> </table>		Lecture/seminar hours	45	Tutorials/workshops		Supervised laboratory hours	45	Experiential (field experience, practicum, internship, etc.)		Supervised online activities		Other contact hours:		Total hours	90	Independent Study If offered as an Independent Study course, this course may be repeated for further credit: <i>(If yes, topic will be recorded.)</i> <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes, repeat(s) <input type="checkbox"/> Yes, no limit	
		Lecture/seminar hours	45														
		Tutorials/workshops															
		Supervised laboratory hours	45														
Experiential (field experience, practicum, internship, etc.)																	
Supervised online activities																	
Other contact hours:																	
Total hours	90																
Transfer Credit Transfer credit already exists: <i>(See bctransferguide.ca.)</i> <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Submit outline for (re)articulation: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <i>(If yes, fill in transfer credit form.)</i>																	
Grading System <input checked="" type="checkbox"/> Letter Grades <input type="checkbox"/> Credit/No Credit																	
Maximum enrolment (for information only): 24 Expected Frequency of Course Offerings: Every semester <i>(Every semester, Fall only, annually, etc.)</i>																	
Department / Program Head or Director: Greg St. Hilaire		Date approved: April 9, 2021															
Faculty Council approval		Date approved: April 9, 2021															
Dean/Associate VP: Sue Brigden		Date approved: April 9, 2021															
Campus-Wide Consultation (CWC)		Date of posting: n/a															
Undergraduate Education Committee (UEC) approval		Date of meeting: June 18, 2021															

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

Learning Outcomes:

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

A. Cell Biology

- Identify the levels of biological organization
- Describe organic macromolecules and their monomers:
 - Proteins
 - Carbohydrates
 - Lipids
 - 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
 - Plants – nonvascular and vascular
 - Animals – invertebrates and vertebrates

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

Options:

The following topics may be included:

- First Peoples' ecological knowledge and practices
- Bioethics
- Ethnobotany
- Resource management
- Applied ecology
- Methods in ecology
- Behavioural ecology
- Genetics
- Parasitology
- Local topics

Laboratory Skills:

All biology courses must include a minimum of 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

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.*)

The course will be presented using a variety of techniques: classroom lectures, laboratory exercises, activities, films, demonstrations. Close correlation will be maintained between course lecture and laboratory activities.

Weekly assignments will be used to evaluate rate of learning and student comprehension.

At least seven classes will be formal three-hour lab sessions.

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. Johnson, G.	The Living World Ed: 9TH	<input checked="" type="checkbox"/>	Mcgraw-Hill	
2. Gillespie, Carson, St. Hilaire	Cp: Bio 083 Lab Manual Ed: F18	<input checked="" type="checkbox"/>	UFV	
3.		<input type="checkbox"/>		

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

UFV Campus Card (student card) with credit available.

Typical Evaluation Methods and Weighting

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

Details (if necessary):

Typical Course Content and Topics:

Lectures:

1. Ecology

- Energy flow
- Ecosystems
- Biosphere and biomes
- Ecological changes over time
- Ecological issues

2. Cell Biology

- Levels of biological organization
- Organic molecules
- Cell theory
- Structure and functions in prokaryotic and Eukaryotic cells
- Photosynthesis and cellular respiration
- Mitosis and meiosis

3. Evolution

- Evidence
- Mechanisms

4. Diversity of Life

- Classification and major taxonomic groups
- Structure and functions in following groups:
 - Viruses
 - Bacteria
 - Protists
 - Fungi
 - Plants
 - Animals

Laboratories:

There should be at least one laboratory from each of the following core topics:

1. Measurement and microscopy
2. Cell structure and function
3. Mitosis and meiosis
4. Bacteria
5. Protist/Fungi
6. Plant
7. Animal