

OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

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

Course Code and Number: BIO 105		Number of Credits: 4 Course credit policy (105)																	
Course Full Title: Human Biology																			
Course Short Title (if title exceeds 30 characters):																			
Faculty: Faculty of Science		Department (or program if no department): Biology																	
Calendar Description: <p>This course is designed for non-science students with an interest in biology. Cell and organismal physiology, nutrition, reproduction, genetics, biotechnology, and basic ecology are studied in lectures and laboratory using the human organism as a focus.</p> <p>Note: Students with credit for any Biology course numbered above 110 may not take this course for further credit.</p>																			
Prerequisites (or NONE):		None.																	
Corequisites (if applicable, or NONE):																			
Pre/corequisites (if applicable, or NONE):																			
Equivalent Courses (cannot be taken for additional credit) Former course code/number: Cross-listed with: Equivalent course(s): <i>Note: Equivalent course(s) should be included in the calendar description by way of a note that students with credit for the equivalent course(s) cannot take this course for further credit.</i>		Transfer Credit Transfer credit already exists: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Transfer credit requested (OREg to submit to BCCAT): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (if yes, fill in transfer credit form) Resubmit revised outline for articulation: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No To find out how this course transfers, see bctransferguide.ca .																	
Total Hours: 90 Typical structure of instructional hours: <table border="1"> <tr> <td>Lecture hours</td> <td>45</td> </tr> <tr> <td>Seminars/tutorials/workshops</td> <td></td> </tr> <tr> <td>Laboratory hours</td> <td>45</td> </tr> <tr> <td>Field experience hours</td> <td></td> </tr> <tr> <td>Experiential (practicum, internship, etc.)</td> <td></td> </tr> <tr> <td>Online learning activities</td> <td></td> </tr> <tr> <td>Other contact hours:</td> <td></td> </tr> <tr> <td>Total</td> <td>90</td> </tr> </table>		Lecture hours	45	Seminars/tutorials/workshops		Laboratory hours	45	Field experience hours		Experiential (practicum, internship, etc.)		Online learning activities		Other contact hours:		Total	90	Special Topics Will the course be offered with different topics? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, different lettered courses may be taken for credit: <input type="checkbox"/> No <input type="checkbox"/> Yes, repeat(s) <input type="checkbox"/> Yes, no limit <i>Note: The specific topic will be recorded when offered.</i>	
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Laboratory hours	45																		
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Online learning activities																			
Other contact hours:																			
Total	90																		
		Maximum enrolment (for information only): 36 Expected frequency of course offerings (every semester, annually, every other year, etc.): every semester																	
Department / Program Head or Director: Allan Arndt		Date approved: February 2017																	
Faculty Council approval		Date approved: March 3, 2017																	
Campus-Wide Consultation (CWC)		Date of posting: n/a																	
Dean/Associate VP: Lucy Lee		Date approved: March 3, 2017																	
Undergraduate Education Committee (UEC) approval		Date of meeting: June 16, 2017																	

Learning Outcomes

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

Disciplinary Knowledge, Skills and Techniques

- Discuss basic biological principles including, but not limited to, cell structure, mitosis and cancer, meiosis and reproduction, evolution and ecology and how these relate to the human organism.
- Describe basic principles of evolutionary processes e.g. natural selection, origins of life, and human evolution.

Critical Analysis, Problem Solving, Assessment of Evidence

- Use the scientific method to answer questions through observations, predictions and the formulation of hypotheses
- Demonstrate critical thinking about biology by discussing and relating content in current articles in magazines and newspapers to course topics, and decide if the science being presented is based on good biological premises and valid scientific procedures.

Scientific Breadth, Perspective and Literacy

- Describe the pros and cons of immunization and discuss how immunization, or the lack of it, can affect their lives.
- Debate the pros and cons of genetically modified organisms.

Computation and Information

- Use the internet to search out and access information on human pedigrees
- Perform basic laboratory skills with proficiency.

Upon completion of the laboratory section of the course students will be able to:

- Identify and characterize members of a detritus or pond ecosystem using books.
- Work safely in a lab using WHMIS and following other safety procedures.
- Operate a compound light microscope and dissecting microscope.
- Identify slides of human tissues and organs.
- Measure the pH of a solution and discuss the significance of pH to living organisms.
- Perform biochemical analysis of solutions and food using Gram's iodine, Benedict's Reagent and Biuret solution to test for starch, sugars and proteins.
- Use pipettes to deliver accurate amounts of solutions and use laboratory glassware and balances appropriately.
- Perform genetics experiments using *Drosophila melanogaster* including etherizing and sexing and analyze the data using Punnet Squares. Calculate the ratio of phenotypes from the F1 and F2 crosses and determine if a mutant gene is autosomal or sex-linked.
- Identify the parts of the human circulatory and digestive systems and describe their functions.
- Measure blood pressure.
- Use a spirometer to measure lung tidal volume and vital capacity.
- Analyze a pedigree chart and determine the mode of inheritance for a genetic mutation.

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, demonstrations, small group discussions, student participatory activities, laboratory sessions (3 hours/week), M PowerPoint slides, overhead transparencies and audiovisual presentations will be used to present the course material.

Grading system: Letter Grades: ☒ Credit/No Credit: ☐ Labs to be scheduled independent of lecture hours: Yes ☒ No ☐

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. Goodenough, J.	Biology of Humans	<input checked="" type="checkbox"/>	Pearson	2017
2.		<input type="checkbox"/>		
3.		<input type="checkbox"/>		
4.		<input type="checkbox"/>		
5.		<input type="checkbox"/>		

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

Typical Evaluation Methods and Weighting

Final exam:	40%	Assignments:	%	Midterm exam:	20%	Practicum:	%
Quizzes/tests:	%	Lab work:	20%	Field experience:	%	Shop work:	%
Quizzes and Assignments:	20%	Other:	%	Other:	%	Total:	100%

Details (if necessary):

Typical Course Content and Topics

- Scientific Method

- Levels of Organization
- Basic Chemistry
- Biological Macromolecules
- Cell Structure and Function
- Human Body Organization, tissues and organ systems
- Homeostasis
- Digestive System and Disorders
- Nutrition
- Cardiovascular System and Disorders
- Blood and Blood Disorders
- Lymphatic System and Immunity
- Bacterial and Viral Diseases
- HIV and AIDS
- Mitosis and Cancer
- Respiratory System and Disorders
- Excretory System
- Nervous System
- Meiosis and Reproduction
- Mendelian Genetics
- Human Genetics
- Errors in Meiosis
- Biotechnology
- Cancer
- Evolution
- Basic Ecology

Laboratory Topics:

- Introductory Microscopy and scientific method
- Cells
- Chemistry and cellular processes
- Digestion and Nutrition
- Circulation and Respiration
- Genetics Project
- Nervous System
- Reproduction
- Cell Division
- Human Genetics
- Ecology
- Evolution