



UNIVERSITY OF CALGARY
FACULTY OF SCIENCE
DEPARTMENT OF BIOLOGICAL SCIENCES
COURSE OUTLINE

1. Course: BIOL 205 – THE ORGANIZATION AND DIVERSITY OF LIFE

Lecture Section: L01 TR 09:30-10:45 TI FORUM WINTER 2018

Course Coordinator/Instructor: Dr. I. Barrette-Ng BI 430A 403-220-6240 mibarret@ucalgary.ca

Teaching Assistant: Ms. Muznah Abrar

D2L Site – W2018BIOL205L01:BIOL 205 L01 (Winter 2018)

Biological Sciences Department BI 186; (403) 220-3140; biosci@ucalgary.ca

2. Prerequisites: None

Antirequisites: Credit for both BIOL 205 and any of BIOL 231, 233, 241 or 243 will not be allowed.

Note: Not open for credit to Honours, Majors or Minors in the Department of Biological Sciences or to Natural Sciences program students with a Concentration in Biological Sciences.

3. Grading: The University policy on grading and related matters is described sections [F.1](#) and [F.2](#) of the online University Calendar. In determining the overall grade in the course the following weights will be used:

Peer assessment	3%
Team contract	2%
In-class quizzes (3)	6% (2% each)
Assignments	25%
Capstone project	30%
Presentation on capstone project	10%
Learning portfolio	
Individual component	10%
Team component	10%
Surveys	4%

Your letter grade for the course will be determined by summing the weighted numerical scores earned for each component listed above and converted using the table on the course outline and posted on the D2L site for the course. **Note:** Letter grades are not determined for any individual component but the table may be used to give you an approximate sense of your standing during the term.

Final grade scale:

Letter Grade	A+	A	A-	B+	B	B-	C+	C	C-	D+	D
Min. Percent Required	97	86	82	78	74	70	66	62	58	54	50

4. Missed Components of Term Work: The regulations of the Faculty of Science pertaining to this matter are found in the Faculty of Science area of the Calendar in [Section 3.6](#). It is the student's responsibility to familiarize himself/herself with these regulations. See also [Section E.6](#) of the University Calendar.

If you miss an in-class assignment or an in-class quiz for medical reasons, the only documentation that will be accepted in BIOL 205 is a completed **Physician/Counsellor Statement Form**, which can be downloaded from the following website: <http://www.ucalgary.ca/registrar/PDFs/phycoun.pdf>. This form must be completed by your physician or counsellor and brought to Dr. Barrette-Ng within 48 hours of the date that you missed the assignment or quiz.

5. Scheduled out-of-class activities: None

6. Textbook: None – all course materials will be available from the D2L site.

Online course components:

In the lecture component of this course, we will use the Top Hat Monocle classroom performance system, where you will be asked to use a cell phone to text answers to questions during class. The use of the Top Hat Monocle system is optional, but highly recommended to enhance learning in the classroom. If you answer 85% or more of the in-class questions, your lowest grade on one of the in-class quizzes will be replaced by 100%. If you answer less than 85% of the in-class questions, a grade of 0 will be assigned for this course component, and the grade for the lowest in-class quiz will not be replaced. It is your responsibility to ensure that your participation is being properly recorded by the Top Hat Monocle system. In the event of any discrepancy, you must contact the administrators of the Top Hat Monocle system to have them corrected. Correction of any discrepancies must be done prior to 5 PM on April 13, 2018. If you are unable to use the Top Hat Monocle system, please contact Dr. Barrette-Ng within the first week of class to make alternate arrangements.

7. **Examination Policy:** No electronic or written aids (e.g. cell phones, tablets, computers, notes, textbooks) will be allowed during writing of any exams. Only non-programmable calculators will be permitted to answer quantitative questions on exams, if applicable, and permission to do this will be clearly indicated on the examination paper. You should also read the Calendar, Section G, on Examinations.
8. **Writing across the curriculum statement:** In this course, the quality of your writing in various written components will be a factor in the evaluation of those components. See also [Section E.2](#) of the University Calendar.
9. **Human studies statement:** If you agree, your course work may be used for research purposes. Your responses will remain anonymous and confidential. Grouped data (no individual responses) may be used in academic presentations and publications. Participation in such research is voluntary and will not influence grades in this course. Students' signed consent forms will be withheld from instructors until after final grades are submitted. More information will be provided at the time student participation is requested. See also [Section E.5](#) of the University Calendar.

ETHICS IN THE BIOLOGICAL SCIENCES

Studies in the Biological Sciences involve the use of living and dead organisms. Students taking laboratory- and field-based courses in these disciplines can expect involvement with and experimentation on such materials. Students perform dissections on dead or preserved organisms in some courses. In particular courses, students experiment on living organisms, their tissues, cells, or molecules. Sometimes field work requires students to collect a variety of living materials by many methods, including humane trapping.

All work on humans and other animals conforms to the Helsinki Declaration and to the regulations of the Canadian Council on Animal Care. The Department strives for the highest ethical standards consistent with stewardship of the environment for organisms whose use is not governed by statutory authority. Individuals contemplating taking courses or majoring in one of the fields of study offered by the Department of Biological Sciences should ensure that they have fully considered these issues before enrolling. Students are advised to discuss any concern they might have with the Undergraduate Program Director of the Department.

10. OTHER IMPORTANT INFORMATION FOR STUDENTS:

- (a) **Misconduct:** Academic misconduct (cheating, plagiarism, or any other form) is a very serious offence that will be dealt with rigorously in all cases. A single offence may lead to disciplinary probation or suspension or expulsion. The Faculty of Science follows a zero tolerance policy regarding dishonesty. Please read the sections of the University Calendar under [Section K](#). Student Misconduct to inform yourself of definitions, processes and penalties.
- (b) **Assembly Points:** In case of emergency during class time, be sure to FAMILIARIZE YOURSELF with the information on [assembly points](#).
- (c) **Student Accommodations:** Students needing an Accommodation because of a Disability or medical condition should contact Student Accessibility Services in accordance with the Procedure for Accommodations for Students with Disabilities available at http://www.ucalgary.ca/policies/files/policies/procedure-for-accommodations-for-students-with-disabilities_0.pdf.

Students needing an Accommodation in relation to their coursework or to fulfil requirements for a graduate degree, based on a Protected Ground other than Disability, should communicate this need, preferably in writing, to the Associate Head of Biological Sciences, Dr. H. Addy by email addy@ucalgary.ca or phone 403-220-3140.
- (d) **Safewalk:** Campus Security will escort individuals day or night (<http://www.ucalgary.ca/security/safewalk/>). Call 403-220-5333 for assistance. Use any campus phone, emergency phone or the yellow phones located at most parking lot pay booths.
- (e) **Freedom of Information and Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPP). As one consequence, students should identify themselves on all written work by placing their name on the front page and their ID number on each subsequent page. For more information see also <http://www.ucalgary.ca/secretariat/privacy>.
- (f) **Student Union Information:** VP Academic Phone: 403 220-3911 Email: suvpaca@ucalgary.ca
SU Faculty Rep. Phone: 403-220-3913 Email: science1@su.ucalgary.ca, science2@su.ucalgary.ca and science3@su.ucalgary.ca
Student Ombuds Office: 403-220-6420 Email: ombuds@ucalgary.ca; <http://ucalgary.ca/provost/students/ombuds>

- (g) **INTERNET and ELECTRONIC COMMUNICATION DEVICE Information.** The use of your cell phone in class must be restricted to answering in-class questions using the Top Hat Monocle system. Importantly, communication with other individuals, via laptop computers, Blackberries or other devices connectable to the Internet is not allowed in class time unless specifically permitted by the instructor. If you violate this policy you may be asked to leave the classroom. Repeated abuse may result in a charge of misconduct.
- (h) **U.S.R.I.:** At the University of Calgary, feedback provided by students through the Universal Student Ratings of Instruction (USRI) survey provides valuable information to help with evaluating instruction, enhancing learning and teaching, and selecting courses (www.ucalgary.ca/usri). Your responses make a difference - please participate in USRI Surveys.

Department Approval _____ ORIGINAL SIGNED _____ Date _____

Department Approval
For No Final Exam _____ ORIGINAL SIGNED _____ Date _____
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OVERVIEW OF THE COURSE:

In this course, we will cultivate scientific literacy by exploring how to critically analyse information sources relating to claims about biology, health and the environment. Specifically, we will explore practical approaches to detect the presence of bias in the media and to determine the validity of information based upon an understanding of the scientific method, and the nature and process of scientific discovery.

The course is broken down into the following main themes, with each theme containing a series of topics and sub-topics:

1. What is the process of scientific discovery?
2. How can we evaluate the validity of scientific information?
3. How are scientific discoveries publicized in the media?
4. How do people develop beliefs relating to scientific information?

Further details on each theme is available from the lecture schedule on D2L.

COURSE LEARNING OUTCOMES:

By the end of this course, you should be able to:

- evaluate data with respect to statistical significance;
- critically evaluate the scope, reliability and validity of claims in popular media and scientific publications;
- recognize the presence of bias and unstated assumptions in biology news reports;
- find reliable sources of primary scientific literature to support or refute claims made in the media;
- describe the strengths and limitations of information obtained from the scientific method and process of scientific discovery;
- analyze the logical structure and validity of arguments presented in media reports;
- demonstrate scientific literacy through the use, analysis and evaluation of appropriate resources;
- articulate a considered opinion based on the logical analysis of scientifically reliable information;
- examine the factors that influence how people develop beliefs relating to scientific information; and
- work effectively in diverse teams and provide constructive peer feedback to teammates.

COURSE ORGANIZATION AND LEARNING TEAMS:

Throughout this course, you will be asked to actively engage during the lectures and in our online D2L environment in informal and formal discussions. The assignments you will be asked to complete are designed to foster the development of critical thinking and scientific literacy skills which will enable you to better detect bias in media reports.

In each class and for most assignments, you will be asked to work in five-person learning teams. Teamwork has been shown in educational literature to substantially increase learning. To ensure that we can form the most diverse teams possible, I will make use of the ITP Metrics system to form teams in the first week of class. ITP Metrics is a free, secure, web-based tool. To help with team formation, you will be asked to complete a survey in week 1 of the semester; you will receive the link to the survey via email. Once teams are formed, you will be asked to work with your teammates on the ungraded and graded in-class assignments this semester.

COURSE COMPONENTS:

A. IN-CLASS ASSIGNMENTS

Some of the practice problems we will work on together during class time will be graded. Further details on these in-class assignments will be provided on D2L.

B. TEAM CONTRACT AND PEER EVALUATIONS

To ensure individual accountability in all team work that will be completed this semester, you will be asked to produce a team contract. Team contracts will be completed in class on January 11. You will also be asked to also use the ITP Metrics system to evaluate the contributions of each of the members of your group. Further details on how you will be asked to evaluate your peers will be provided in class.

C. IN-CLASS QUIZZES

There will be three in-class quizzes; the dates on which each quiz will be administered are listed below:

Quiz no.	Date
1	January 30
2	February 27
3	March 20

Each LOW-STAKES quiz will be worth 2%. They have been designed to help you assess your understanding of the various concepts we will be studying together this semester and to help you successfully complete the capstone project. Further details on these quizzes will be given during the lecture component of this course.

D. CAPSTONE PROJECT

You and your teammates will be asked to complete a project on a biology topic of your choosing that has been improperly portrayed in the popular media. Further details on the capstone project will be made available on D2L.

E. LEARNING PORTOFOLIOS

Throughout the term, you will be asked to record your work in a learning portfolio available through D2L. Further details on the portfolios will be available on D2L.

F. SURVEYS

Surveys will be available through D2L for completion by due dates announced in class. These surveys will be marked for completion only. They are designed to improve instruction in this course and we appreciate the time and effort you place in completing them.

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BIOLOGY 205
COURSE SYLLABUS WINTER 2018**

THEME	DATES
Introduction to the course	January 9
What is the process of scientific discovery?	January 11 - 30
How can we evaluate the validity of scientific information?	February 1 - 27
How are scientific discoveries publicized in the media?	March 1 - 20
How do people develop beliefs relating to scientific information?	March 22
Capstone project presentations	March 27-April 12

All required readings will be available from D2L.