Fall 9-1-2022

BIOB 210N.01: Communicating Biology

Gregory D. Peters
University of Montana, Missoula, greg.peters@umontana.edu

Biology 210N: *Communication of Biology* Fall 2022 Syllabus

Instructor: Greg Peters
Contact: greg.peters@mso.umt.edu; 406-207-6154
Office hours: M & W 8:30-10:30 in office 407 or by appointment

Course meets: MWF 11:00-11:50 in room MC 232, August 30 - December 10
Attributes: Natural science and intermediate-level writing GenEd
Resources: Greene, A. E. (2013). *Writing Science in Plain English*
Additional resources are available on the course Moodle

Overview

This course explores core biology that influences humans. Despite the clear impact of biology on our daily lives, there is a troubling disconnect between what scientists discover and what most of us understand. Science, as it is communicated in today's world, can appear complex, exclusive, and ever-changing. This course seeks to empower you to confidently integrate themes in biology and the process of scientific discovery into your life. We will examine methods of communicating about biology, from science journals and news articles to podcasts and videos. You will incorporate feedback and guidance to develop effective writing. The three main purposes of this class are to:

1) Explore current issues in the life sciences that relate to our daily lives.
2) Develop skills interpreting and synthesizing scientific information.
3) Foster confidence and skills writing about biology to a non-scientist audience.

Class pattern

This course follows a reliable pattern:

- Monday classes are devoted to Biology content connected to weekly science readings.
- Wednesday classes use in-class worksheets and short lectures to explore science communication and writing skills related to weekly Greene textbook readings.
- Friday classes include 11:50am deadlines for biology quizzes on Moodle, opportunities for small-group interaction, and individual guidance through writing workshops.
- Writing assignments are due through Moodle by 11:55pm Sunday night following the class date listed in the schedule.

You will submit assignments and take quizzes on Moodle (use your UM netID). Visit the UMOnline Moodle tutorial if you are unfamiliar with Moodle. Contact the helpful staff at UMonline (umonline-help@umontana.edu or 406-243-4999) with technical questions.

Committing to **regular attendance and on-time completion of work** is essential in this interactive and fast-moving course. It is equally important to avoid the classroom if you are ill, especially if you are experiencing any symptoms of COVID. To balance these goals:

- Monday classes will be supplemented with recorded lectures available on Moodle
- Your lowest Wednesday in-class worksheet will be dropped for any reason
- Missed in-class worksheets may be completed for partial credit (just ask if you miss one)
- Quizzes will be available on Moodle for roughly 48 hours
- Late written assignments will be accepted with a 10% per week penalty

Assignments and Assessment

In-class activities (highest 10 of 11 @ 20 pts)	200	
Science quizzes (12 @ 25 pts)	300	
Writing:		
Personal essay	50	90-100% = A- to A
Journal article summary	50	80-89% = B- to B+
Field Note	100	70-79% = C- to C+
Synthesis Research Paper	200	60-69% = D- to D+
Reflective Paper	100	<60% = F
Total	1000	

Policies

This class will meet all **accommodations** outlined in documented ODE contracts. Please share appropriate paperwork with your instructor as soon as possible if you require any accommodation.

Per university policy, please use only your **university account for email** communication.

University policies on drops, adds, changes of grade option, or change to audit status will be followed. Please note that after the **45th day of the semester**, such changes are not automatically approved. A grade of C or higher will be considered passing for the P/NP option.

Students are expected to work alone on quizzes and submit independent assignments. All features of the UM student conduct code will be followed in this course. **Avoiding plagiarism** is an ethical obligation in written work. Any plagiarized work will earn a zero and merit a one-on-one discussion. A second case of plagiarism will earn an automatic class failure. Any work you present that is not your own must honor its author with acknowledgment of their ownership over their ideas, expressions, and creations. We will discuss plagiarism in class in more detail.

Missoula College **values diversity** of students, faculty, and staff as an essential strength that contributes to our shared educational mission. Students of all backgrounds and perspectives are recognized and respected in this class. Please notify your instructor if components of this course present barriers to your inclusion. Students can contact the Office of Inclusive Excellence for Student Success, which provides support for BIPOC and LGBTQ+ students and groups. For counseling or advocacy related to discrimination, please visit SARC.

Tools for success

Effective scientists and writers ask for help. Please seek and accept feedback about your work. Instructor office hours and Friday classes are time reserved for helping students.

- The UM Writing and Public Speaking Center is there to help.
- The Missoula College Learning Center offers tutoring for writing at no cost.
- The Missoula College library is a valuable resource. In addition to the quiet study spaces and print holdings, the library provides technology resources including laptops that check out for two days. MC library contact: mclibrary@umontana.edu, 406-243-7820
- The Mansfield Library has sources to inform and support your writing.
- Make sure you have reliable internet access. Please share any technical questions with UMOnline student support services.

BIOB 210 Course Schedule

Date:	Topic:	Reading:	Assignment Due:
8/29	Course introduction	Syllabus	
8/31	1 - Communication of Biology	Source 1	
9/2	Quiz 1; open class		
9/5	*No Class - Labor Day Holiday*		
9/7	Scientific journals / Writing in the sciences	Greene 1-4	
9/9	Open class & writing workshopping		
	Writing assignment due 9/11		Personal Essay
9/12	2 - Species interactions	Source 2	
9/14	Using Science literature / Style	Greene 6-11	
9/16	Quiz 2; open class & writing workshopping		
	Writing assignment due 9/18		Article Summary
9/19	3 - Human health: pathogens & microbiomes	Source 3	
9/21	Science in the news / Field Notes	Field Notes	
9/23	Quiz 3; open class		
9/26	4 - Human nutrition	Source 4	
9/28	Science in the news / Subjects & verbs	Greene 12-16	
9/30	Quiz 4; open class & writing workshopping		
	Writing assignment due 10/2		Field Note Draft
10/3	5 - Human health: mind & body	Source 5	
10/5	Synthesizing & revising / Strong verbs	Greene 16-20	
10/7	Quiz 5; open class & writing workshopping		
10/10	6 - Biotechnology	Source 6	
10/12	Biology in social media / Active voice	Greene 22-25	
10/14	Quiz 6; open class & writing workshopping		
	Writing assignment due 10/16		Field Note
10/17	7 - Human impacts on life	Source 7	
10/19	Synthesis Paper discussion	Sample Paper	
10/21	Quiz 7; open class & writing workshopping		
10/24	8 - Biodiversity	Source 8	
10/26	Film, podcasts, and more / Short words	Greene 30-33	
10/28	Quiz 8; open class & writing workshopping		

BIOB 210 Course Schedule

Date:	Topic:	Reading:	Assignment Due:
10/31	9 - More species interactions	Source 9	
11/2	Biology in entertainment / Noun strings	Greene 35-38	
11/4	Quiz 9; open class & writing workshopping		
	Writing assignment due 11/6		Synthesis Paper Draft
11/7	10 - Invasive species	Source 10	
11/9	Charts and figures / Needless words	Greene 40-43	
11/11	Quiz 10 *(no class meeting - Veterans Day)*		
11/14	11 - Human roles in evolution	Source 11	
11/16	Biology in fiction / More needless words	Greene 44-49	
11/18	Quiz 11; Writing Workshops		
11/21	Writing Workshops		
11/23	*No class - Thanksgiving Travel Day*		
11/25	*No class - Thanksgiving Holiday*		
11/28	12 - Biomimicry	Source 12	
11/30	Citizen science / New Information	Greene 52-53	
12/2	Quiz 12; open class & writing workshopping		
	Writing assignment due 12/4		Synthesis Paper
12/5	Assessing validity; Reflective Paper	Source 13	
12/7	Science communication / Parallel lists	Greene 60-61	
12/9	Open class & writing workshopping		
	Writing assignment due 12/11		Reflective Paper
12/12	Final meeting Monday 8:00-10:00am		Last day for late work

Notes:

- Written work is due through Moodle before 11:55pm Sunday night on the due date.
- No assignments will be accepted after the beginning of the scheduled finals week meeting.
- In the case of a professor absence, class will be coordinated through Moodle.
- Writing workshops will be scheduled individually and contribute to your grade.

University-wide Program-level Writing Assessment:
This course may require a Moodle submission of an assignment with your personal information removed to be used for educational research and assessment of the university's writing program.

Class Responsibilities

Biology lectures will usually be offered on Mondays. Lectures will explore current issues in biology as they relate to human lives and review the weekly **biology resource** on Moodle. **Quizzes** are offered through Moodle and **close by 11:50am each Friday**. Quizzes include content from biology resources and lectures. You can take a quiz any time that is open, but it must be completed in one, half-hour sitting. You may use any resource, but with a time limit is essential to be prepared. Start quizzes well before the deadline; give yourself time for the unexpected. When you are ready, open the quiz and follow the prompts. Press all the "submit" and "finish" buttons at the end. Contact your instructor if you have concerns about Moodle quizzes.

Wednesday classes will usually include an in-class **writing worksheet**. Worksheets will involve individual and collaborate work. They will be handed out at the beginning of class and turned in at the end. Full credit will require punctuality, respectful treatment of others, active participation, and appropriate use of technology. Wednesday classes will continue with **discussions of science communication and writing skills**.

Writing assignments are a core part of this class and roughly half of your grade. Many weeks have a written assignment due by Sunday night, except when multiple weeks are available for longer projects. Your Moodle page has guidelines for each writing assignment, and they will be explained in person. For full credit, writing assignments must be submitted on time in .doc format through the appropriate Moodle assignment link. Please note the formatting requirements listed on Moodle and in your first assignment guidelines.

Learning Goals

1) For course specific goals - through active investment in this class, students will be able to:

- Appreciate the influence of biological phenomena on their lives
- Make informed decisions about their own health related to diet, disease, and fitness
- Explain current human impacts on other living systems in everyday language
- Describe evolution, biomimicry, invasive species, gene technologies, and climate change
- Recognize science as a mechanism of exploring the world
- Interpret and summarize scientific journal articles, including data and charts

2) For general education science goals - upon completion of this course, a student will be able to:

- understand the general principles associated with the discipline(s) studied
- understand the methodology and activities scientists use to gather, validate, and interpret data related to natural processes
- detect patterns, draw conclusions, develop conjectures and hypotheses, and test them by appropriate means and experiments
- understand how scientific laws and theories are verified by quantitative measurement, scientific observation, and logical/critical reasoning
- understand the means by which analytic uncertainty is quantified and expressed in the natural sciences

3) For general education intermediate writing course goals - Students should understand writing as means to practice academic inquiry and demonstrate the ability to formulate and express opinions and ideas in writing. Upon completing the W-designated course, the student should be able to:

- Use writing to learn and synthesize new concepts
- Formulate and express opinions and ideas in writing
- Compose written documents that are appropriate for a given audience or purpose
- Revise written work based on constructive feedback
- Find, evaluate, and use information effectively
- Begin to use discipline-specific writing conventions
- Demonstrate appropriate English language usage