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BIOB 210N.50: Communicating Biology

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Biology 210N: *Communication of Biology*

Spring 2022 Syllabus

Instructor	Greg Peters - greg.peters@mso.umt.edu; 406-207-6154
Course runs	January 17 - May 11
Format	Online learning through Moodle
Attributes	Natural science and intermediate-level writing General Education credits
Resources	Greene, A. E. (2013). <i>Writing science in plain English</i> Additional resources are available for free on the course Moodle page

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.

Online Format

This course is offered entirely online through [Moodle](#), accessed using your UM [netID](#). If you are unfamiliar with Moodle, please visit the [UMOnline Moodle tutorial](#). Contact the helpful staff at UMonline (umonline-help@umontana.edu or 406-243-4999) if you have any technical Moodle questions.

Class pattern

This course uses weekly learning units. Each week follows the same pattern:

- content available by Monday morning at 9:00am
- readings in Greene textbook and on Moodle
- recorded biology video lecture and/or lecture slides to review on your schedule
- first three discussion posts due by Thursday before 11:55pm
- three more discussion posts due by Sunday night at 11:55pm (minimum 6 per week)
- biology quiz due before Sunday night at 11:55pm
- many weeks include a written assignment due by Sunday night at 11:55pm

Assignments and Assessment

There are guidelines for all assignment types at the end of this syllabus and on Moodle. Each writing assignment will be outlined on Moodle well before deadlines.

Discussion forums (highest 15 of 16 @ 15 pts ea.)	225 pts	
Science quizzes (highest 11 of 12 @ 25 pts ea.)	275 pts	90-100% = A- to A
Personal Essay	50 pts	80-89% = B- to B+
Journal Article Summary	50 pts	70-79% = C- to C+
Field Note	100 pts	60-69% = D- to D+
Synthesis Paper	200 pts	<60% = F
<u>Reflection Paper</u>	<u>100 pts</u>	
Total	1000 pts	

Recommendations for success

One benefit of an online class is the freedom to work when you want during the week. The main challenge is the isolation that can make it easier to overlook weekly tasks. The best advice for success is:

- 1) Commit to weekly participation with a reliable schedule for completing tasks on time.
- 2) Ask questions any time. Email is the most reliable way to get in touch.

Policies & Support

The lowest scoring discussion forum and science quiz will be dropped for any reason to accommodate unexpected life occurrences. There will therefore be no late/makeup discussions or quizzes offered without documentation of extreme circumstances. Late written assignments will be accepted with a late penalty of 10% per week, beginning the day after the deadline.

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 exams 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. Don't be scared! Just be sure to share your own ideas using your own words.

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 Dr. Salena Beaumont Hill in 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](#).

Make sure you have reliable internet access. Please share any technical questions with [UMOnline student support services](#).

Effective scientists and writers ask for help. You are not alone! Please consider these resources:

- The [UM Writing and Public Speaking Center](#) is there to help
- The [Missoula College Learning Center](#) offers tutoring for writing at no cost. 406-243-7826
- Visit the "Helpful Links" resource on our class Moodle page for more guidance

BIOB 210 Course Schedule

Date & Theme	Topics	Readings/Resources	Assignments	Quiz#
Week 1 (ends 1/23) Biology awareness	Course Introduction Communication of Biology	Biology Source 1	Discussion 1 Personal Essay	1
Week 2 (ends 1/30) Scientific literature	Writing in the sciences Species interactions	Greene 1-4 Biology Source 2	Discussion 2	2
Week 3 (ends 2/6) Science in the news 1	Biology writing style Pathogens & microbiomes	Greene 6-11 Biology Source 3	Discussion 3 Journal Art. Summ.	3
Week 4 (ends 2/13) Science in the news 2	Field Notes overview Human nutrition	Sample Field Notes Biology Source 4	Discussion 4	4
Week 5 (ends 2/20)	Subjects & verbs No bio content	Greene 12-16	Discussion 5 Field Note draft	-
Week 6 (ends 2/27) Science in the news 3	Strong verbs Human health: mind & body	Greene 16-20 Biology Source 5	Discussion 6	5
Week 7 (ends 3/6) Social media	Active voice Biotechnology	Greene 22-25 Biology Source 6	Discussion 7 Field Note final	6
Week 8 (ends 3/13) Documentary film	Synthesis Paper overview Human impacts on life	Sample Synthesis Papers Biology Source 7	Discussion 8	7
Week 9 (ends 3/20) Entertainment	Short words More species interactions	Greene 30-33 Biology Source 8	Discussion 9	8
Spring Break March 21-25				
Week 10 (ends 4/3)	Noun strings No bio content	Greene 35-38	Discussion 10 Synth. Paper draft	-
Week 11 (ends 4/10) Podcasts & more	Needless words Biodiversity	Greene 40-43 Biology Source 9	Discussion 11	9
Week 12 (ends 4/17) Charts and figures	More needless words Invasive species	Greene 44-49 Biology Source 10	Discussion 12	10
Week 13 (ends 4/24) Fiction	New information Human roles in evolution	Greene 52-53 Biology Source 11	Discussion 13 Synth. Paper final	11
Week 14 (ends 5/1) Citizen science	Parallel lists Biomimicry	Greene 60-61 Biology Source 12	Discussion 14	12
Week 15 (ends 5/8) Science Communication	Assessing validity No bio content	Shared Readings	Discussion 15 Reflection Paper	-
Finals Week (ends 5/11)	Course Conclusion	-	Discussion 16 UPWA paper submission Any late written work	

Notes: Weekly work is due before 11:55pm each Sunday night
No late work will be accepted for any reason after Wednesday, May 11

Overview of Class Responsibilities

The instructions below are also available in the “Assignment Instructions” topic on our Moodle page.

Resources

There are three types of resources used in most weeks:

- 1) Greene textbook - Short readings are applied in the weekly discussion forums.
- 2) Biology resources - These are available for free through Moodle and will be revisited on the quizzes.
- 3) Biology lectures - Each biology resource is examined in a broader biology context through a recorded lecture from the face-to-face version of this class. They present most of the material reviewed on the weekly quizzes in under one hour. Copies of the slides used are also available on Moodle.

Biology quizzes

Quizzes are offered through Moodle and close by 11:55pm each Sunday night, covering content from the biology resources and recorded lectures. You can take the quiz at any time during the week, but it must be completed in one half-hour sitting. It cannot be "paused" and restarted. You may use any resource to assist you, but with a time limit is essential to be prepared. You are encouraged to start quizzes well before the end of the last day. Make sure to give yourself time for the unexpected.

When you are ready, open the quiz on Moodle and follow the prompts. Make sure to press all the "submit" and "finish" buttons at the end. Please contact your instructor if you have concerns about taking a Moodle quiz.

Discussion forums

Please share a minimum of six posts to the discussion forum each week. For full credit, share your first three posts by Thursday and your next three by Sunday each week. There are three topics each week, so this means sharing two or more posts per topic. A good plan is to share your first three posts as responses to the original topics and your next posts as responses to classmates.

Your participation will be graded based upon sharing meaningful, original posts on time that address the topics presented by your instructor. To encourage an environment of mutual respect and shared learning, full credit in discussions will require courteous treatment of others. Different perspectives enrich the class by exposing each of us to new ideas, and these perspectives should be encouraged and heard so long as they honor others with equal respect.

To participate, click on the week’s discussion forum on Moodle. Select a topic, press “reply,” add your comments to the textbox, and press “submit.”

Writing assignments

Writing projects are a core part of this class and contribute to half of your grade. Most weeks have a written assignment due by Sunday, except when multiple weeks are available for longer or more complex projects. Your Moodle page has guidelines for each writing assignment. For full credit, writing assignments must be submitted on time in .doc format through the appropriate Moodle assignment link.

Give your writing time. Allow for reflection and revision before turning in assignments. Writing is a skill and a process. No one is expected to be perfect, but everyone is expected to clearly demonstrate genuine effort and willingness to learn and improve. Remember that the UM [Writing and Public Speaking Center](#) is there to help.

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 - 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 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

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. You can learn more at the [UPWA website](#).