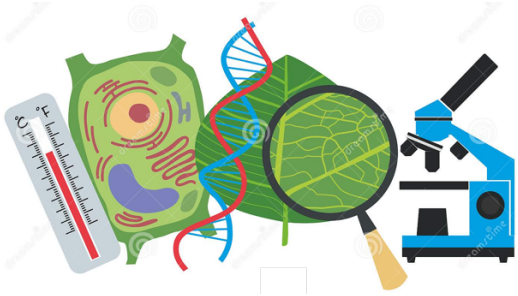
Fall 9-1-2021

# BIOB 160N.02C: Principles of Living Systems

Jennifer A. Corbin
*University of Montana, Missoula*, jennifer.corbin@umontana.edu



# Principles of Living Systems
# BIOB 160N

## SYLLABUS: Fall Semester 2021


- Jennifer Corbin, instructor
- Office: MC451
- Telephone: 243-7248
- E-mail: Jennifer.corbin@mso.umt.edu
- Office hours: MWF 10 -11:00 AM OR By Appointment


**Course runs:** August 30 – December 10, 2021
**Lectures:** MWF: 9:00-9:50, Missoula College, MC436
**Labs:** The optional lab BIOB 161 lab meets separately at the main campus
**Text**: Peters, G., *Principles of Living Systems*, Missoula College, Fall 2021 Edition

**Description:** *Principles of Living Systems* explores unifying themes in biological relationships at diverse levels of organization. Key content includes reproduction, genetics, evolution, life molecules, cells, and energy transformations. This broad course is a requirement for biology, wildlife, and most health majors. The purpose of this course is to prepare students for success in the more detailed curriculum that follows. We will therefore address the nature of scientific discovery alongside key foundations of biology. Credit is not allowed for both BIOB 101N and 160N.

**Class pattern:** This course explores biology through five learning units. Each unit includes the same pattern:

- 3 weeks long
- includes readings, case studies, discussions, an assignment, and an exam
- first set of discussion posts due the first Sunday of the unit, before 11:55pm

- all other tasks due at the end of the unit, before Sunday night at 11:55pm
- no late exams or discussion posts will be supported

**Core learning objectives:**

For the foundational biology goals, upon completion of this course, you will be able to:

- *describe and apply methods of scientific investigation,*
- *understand basic physical and chemical properties that characterize living systems,*
- *recognize the structures and roles of molecules common to all living systems,*
- *understand how energy is captured, stored, and used in living systems,*
- *understand how genetic information is stored, inherited, and used to instruct function,*
- *describe the processes of natural selection and evolution, and*
- *recognize some of the ways that humans affect biological processes on Earth.*

For general education requirements, upon completion of this course, you 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, and*
- *understand the means by which analytic uncertainty is quantified and expressed in the natural sciences.*

## Course Policies:

Your lowest exam, textbook assignment, and weekly discussion score will be dropped from your final grade. No make-up exams or discussion posts are accepted unless accompanied by signed documentation of extreme circumstances. Students are expected to work alone on exams and submit original thoughts in their own words in discussions and written assignments. All features of the UM student conduct code will be followed in this course. After the 45$^{th}$ day of the semester, drops, adds, or changes of grade options are not automatically approved; they may be requested by petition, and the petition must be accompanied by documentation of extreme circumstances. A grade of C or higher will be considered a passing grade for the P/NP option.

Students with disabilities will receive appropriate accommodations. Please contact me and provide a letter from your ODE coordinator, so accommodations can be made.

## Writing Assignments:

You have one writing assignment in each unit. With these assignments, you will help create readings for future students in this class. In fact, your textbook this semester was created in large part by students,

with some help from their instructors. Each Textbook Assignment is an opportunity to help current and future students, enrich your understanding in preparation for exams, and contribute to your class grade.

The most important consideration is to submit work **in your own words**. You will need to share more than simply a reworded summary of an existing textbook with a truly original contribution. Any plagiarized work will earn a zero; if you have questions about creating original work, please ask, and see the UM writing center statement on plagiarism. Synthesize at least two different sources into your topic and share either full citations or links to web sources. Also make sure that you include at least one helpful image that is not copyright protected.

**Complete your Textbook Assignment in each unit as follows:**

- *Select your topic using the survey on Moodle. Make a choice that few others have selected yet.*
- *Research the topic using diverse resources (web pages, older textbooks, our ebook…)*
- *Write 1-2 paragraphs (100-200 words) that presents the content in **your own words**.*
- *Add one image that clarifies your topic. You can create the image, share a photograph, or find an image online, but it **cannot** be a copyrighted picture. Consider the "labeled for non-commercial reuse" option (under tools à usage rights) in a Google image search. INCLUDE A CAPTION FOR YOUR IMAGE, like the NATIONAL GEOGRAPHIC MOMENT example in class.*
- *If helpful, include a link to a useful webpage that clarifies the content of your paragraph.*
- *Include citations or links to your two or more sources used.*
- *Identify which topic you focused on.*
- *Use the link on Moodle to submit your assignment in .doc format.*
- *Indicate if you prefer that your work not be included in future resources for students.*
- *Consider sharing your assignment as one of your discussion posts and refining with classmate feedback.*

**To submit assignments:**

1. *Save your work in .doc format*
2. *Open the appropriate assignment link on Moodle*
3. *Upload your assignment by clicking the "add submission" button, then:*
    a. *click the left button directly beneath the "file submissions" header, click "choose file," select the file to upload, click "upload this file," and click "save changes."*

    *OR*

    b. *drag and drop your file into the rectangular space beneath the "file submissions" header and then click "save changes."*

*Remember that a late assignment brings a late penalty and must be sent as an email attachment.