PRINCIPLES OF LIVING SYSTEMS (BIOB 161N)

Syllabus for the laboratory portion of the class. Most lab sections meet in Natural Sciences 203.

Fall Semester 2022

Lecture Instructor

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Office hours: 3:00 – 4:00pm, Monday, Wednesday, and Friday in HS103a.

Overview and Objectives

The labs provide different ways to get hands-on experience with the concepts discussed in class. *It is important to remember that labs are a supplement to the lecture material, and not a replacement.*

There will be 8 lab reports that must be turned in for a grade, all of which will be worth 90 points. Additionally, there will be a weekly quiz at the beginning of each lab worth 10 points. These quizzes are designed to ensure that you read over the labs before coming to class and have a general idea of the main goals and concepts of each lab. The lab report score combined with the quiz score will make up your total lab score (100 pts) for each week.

In general, **lab write-ups will be due one week after the lab meets for an activity**. The write-ups will consist of a series of questions, observations, and hypotheses that you formulate during the lab. For most labs, much of the report can be completed in the lab, and it is a good idea to at least look over all of the questions in case you need extra clarification on any of them. This is a better time to ask for clarification than 30 minutes before it must be turned in the following week.

Podcast project and symposium

Your final lab project is an exciting opportunity to explore biological questions in a small, collaborative group. Working in groups of 2-4, you will identify a pattern or question that interests your group, do a literature review of your topic, then design a podcast to tackle an outstanding question about your topic. The week of September 26 you will receive detailed instructions and guidelines about this project as well as examples of simple but interesting questions researched by BIO161 students in the past. This project will be worth 300 points (27% of your total lab grade), so spend a lot of time on it and take it seriously. A project like this cannot be thrown together in just one night.

Lab Teaching Assistants (TAs)

There are eight TAs for BIOB 161 labs this semester:

Timothy Forrester (head TA – Section 14) timothy.forrester@umontana.edu
Jackson Birrell (lecture TA - Section 12) jackson.birrell@umontana.edu
Eric Lyons (Sections 11 & 4) eric.lyons@umontana.edu
Rosalee Elting (Sections 7 & 1) rosalee.elting@umontana.edu
Taylor Goldquiros (Sections 2 & 6) taylor.goldquiros@umontana.edu
Romain Boisseau (Sections 5 & 10) romain.boisseau@umontana.edu
Jennifer Helm (Sections 9 & 8) jennifer.helm@umontana.edu
Harris Sloan (Sections 3 & 13) harris.sloan@umontana.edu

If you are taking the laboratory portion of the class, you will meet your TA at the first lab meeting, which will start the SECOND WEEK of classes (week of September 5). Your TA will be an essential resource for this class, and he or she should be your first point of contact when you have questions, either about the course structure or about particular ideas and concepts with which you may be having trouble.

Students with disabilities

The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and The Office for Disability Equity (ODE). If you think you may have a disability adversely affecting your academic performance, and you have not already registered with ODE, please contact ODE in Aber Hall 1st floor (www.umt.edu/disability). We are happy to work with you and ODE to provide appropriate accommodations for your learning and testing. For example, lectures will be recorded. Students with disabilities and/or students who have had to miss class due to documented illness or participation in University-sanctioned activities may request to listen to these via iTunes. For more information, please consult www.umt.edu/disability.

Computers

The Division of Biological Sciences maintains a computer lab that is dedicated for use in biology courses. It is located in Health Sciences 114. You need to have an account to use the computers, software, and printers. There are good black & white and color printers in the HS114 computer lab. If you don't already have an account, a lab monitor can help you set one up between 8 AM – 5 PM, Monday through Friday.

A Note on Email and Spam Filters

All email communication for the course will be sent to your official university email, and not to other email providers. If you don't normally check your university email you will miss important emails. You can have your university email forward messages to other email addresses (e.g., gmail, yahoo, etc). When we email the whole class the message will go to lots of email addresses, and some email providers will block this as spam. You will want to check the settings of your spam filters so that they allow such messages. Please use your official university email address for sending emails to your TAs. We are not allowed to reply to an email from a non-university sponsored email address.

Plagiarism and Cheating

Although you will be encouraged to work collaboratively with others in this class and the lab, ***the work you hand in must be your own.*** A good rule of thumb is that you can work together up to the point of committing words to paper (or computer). After that, the words you put down should be your own. We remind you of the official University policy on plagiarism: "Plagiarism is the representing of another's work as one's own. It is a particularly intolerable offense in the academic community and is strictly forbidden. Students who plagiarize may fail the course and may be remanded to Academic Court for possible suspension or expulsion (See Student Conduct Code section of this catalog). Students must always be very careful to acknowledge any kind of borrowing that is included in their work. This means not only borrowed wording but also ideas. Acknowledgment of whatever is not one's own original work is the proper and honest use of sources. Failure to acknowledge whatever is not one's own original work is plagiarism." (Quotation from The University of Montana Catalog).

If you have any questions about the line between collaboration and plagiarism, see your professors or your TA before you hand in material. Assignments from two or more students that have significant overlap will be regarded as reflecting a violation of the expectation that students turn in independent work. All the students involved will be given no points for that material, and the violation will be dealt with according to the Student Conduct Code. *The only exception to this is the research project, in which work will be turned in as a group.* Penalties for plagiarism and cheating can be as severe as suspension or expulsion from The University. For more information on UM policies on plagiarism, see the Student Conduct Code.

Adds, drops, and changes of grading

University policies on drops, adds, changes of grade option, or change to audit status will be strictly enforced in BIOB161N. These policies are described in the course catalogue. The last day for making many changes is September 19th at 5 pm.

- Last day to drop individual Autumn classes on CyberBear with refund
- Last day to withdraw from Autumn (drop all courses) with a partial refund – see Withdrawal Policy below.
- Last day to add Autumn classes with Registration Override slip or Electronic Override on CyberBear.
- Last day to change Autumn credits in variable credit courses & switch grade mode in CyberBear.
- Last day to change Autumn grading option to or from audit.
- Last day to buy or refuse health insurance coverage or add clinical health fee

For more information, see UM's dates and deadlines document.

Laboratory Behavior

You must conduct yourself as a responsible, courteous adult. **Disruptive or distracting behavior such as talking, sending or receiving cell phone messages, including text messages, reading the newspaper, and eating, will not be permitted**. Anyone engaged in any of these disruptive behaviors will be dismissed from class. The second such offense will result in dismissal from labs with a grade of F.

Please also be courteous when sending emails. For example, use a salutation and sign-off, and write in good English.

Grading

Grades in the lab part of the course will be assigned in the +/- system, according to the following scheme:

Grade	Percent of Total Points
A	93-100%
A-	90-92.99%
B+	87-89.99%
B	83-86.99%
B-	80-82.99%
C+	77-79.99%
C	73-76.99%
C-	70-72.99%
D+	67-69.99%
D	63-66.99%
D-	60-62.99%
F	Below 60%

Your grade will be based on the following weighting of course components:

Component	Weighting
Labs (720 pts for lab reports, 80 pts for quizzes)	73%
Research Project (300 pts)	27%
Total	**100%**

Course Schedule

Week of	***Topic***	***Reading from Text***	***Lab Activity (if you are taking the lab portion of the class)***
Aug 29	Introduction and overview Key concepts for life What is science?	Chaps. 1, 13	No labs
Sept 5	*No class Monday (Labor Day)* Processes of evolution (forces of evolutionary change, evolution of populations)	Chap. 13	**What is science?** **Mondays section will need to attend a different section this week.**
Sept 12	Processes of Evolution Phylogenetic trees History of life on earth	Chaps. 13 and 14	**How to read and find scientific papers**
Sept 19	Speciation ***Friday, Sept 10– Test 1***	Chap. 16	**The curious case of the Tasmanian Wolf**
Sept 26	Ecological systems in time and space	Chap. 38	Term projects instructions
Oct 3	Populations	Chap. 39	**Population ecology**
Oct 10	Life's chemistry	Chap. 2	**Amazing water!**
Oct 17	Biological macromolecules ***Friday, Oct 8– Test 2***	Chap. 3	Work on term projects
Oct 24	Biological macromolecules Cell structure and membranes	Chaps. 3 and 4	**How enzymes work: lactase and lactose**
Oct 31	Cell structure and membranes	Chap. 4	Work on term projects
Nov 7	Cell metabolism & photosynthesis *No class Tues 8th (Election day) and Fri 11th (Veterans Day)*	Chap. 5	No labs
Nov 14	Photosynthesis ***Friday, Nov 5 - Test 3***	Chap. 5	**Photosynthesis**
Nov 21	*No class Wednesday-Friday (Thanksgiving Holiday)* Cell cycle and cell division	Chap. 7	No labs
Nov 28	DNA	Chap. 9	**DNA extraction and Sequence Evolution**
Dec 5			Term project symposium

FINALS WEEK is Dec 12 - 16