

Syllabus

Biology 260: Fundamentals of Physiology

Teaching team

Note: You may contact the teaching team via email or telephone only for personal or confidential issues. Content or organizational questions should be posted to the course bulletin board on Vista

Professors:

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Office hours

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Code of conduct

1. Cell phones and similar devices must be turned off and put away. If you do not follow these instructions we reserve the right to confiscate the device until the end of class and the student may forfeit their in-class marks for the day.
2. You are expected to be actively engaged in learning while in the classroom. Laptop computers and iPads can only be used for lecture-related activities. Playing computer games, checking your email, texting etc. are not acceptable (See above for penalties).
3. Please respect the learning environment of your fellow students. Do not talk while the professor is talking. Get actively involved in the class discussions when appropriate
4. Academic integrity is important. Cheating and plagiarism in any form will not be tolerated. See the following resources for details: <http://science.ubc.ca/students/new/conduct>

Required Resources:

1. Textbook:

Each week there are assigned pre-readings from the textbook followed by online questions. You must purchase or have access to a copy of the book to complete these assignments. You have several choices:

- a. Purchase the custom textbook specifically for this course (Fundamentals of Physiology - a custom book made up of chapters extracted from Freeman, S., Harrington, M., and Sharp, J. (2011) Biological science, Canadian Edition. Pearson Education Inc., San Francisco, CA)
- b. If you still have the complete set of custom books from Biology 112 and 121, most of the chapters you need will be in volume 3
- c. Purchase a new or used copy of Freeman, S., Harrington, M., and Sharp, J. Biological science, Canadian Edition. Either the 2011 or 2008 edition is fine (older copies are also mostly fine)
- d. Purchase a new or used copy of Freeman, S. Biological science, (US edition)
- e. Use the copy that is on reserve at Woodward.

For the pre-readings, we will give page numbers ONLY from the custom edition (which are the same as in the complete edition). We will not give page numbers from other editions. We will also provide the topic headings, so you will be able to figure out what pages to read if you choose to buy (or already have) a different edition.

2. iClicker:

You must have an iClicker for this course. You may share an iClicker with a friend ONLY if they are not taking this course.

Evaluation

Pre-reading assignments	5%
Clickers	5%
In-Class activities	10%
Midterm 1 (Tuesday, February 7)	20%
Midterm 2 (Thursday, March 8)	20%
Final Exam (Date TBA, determined by UBC)	<u>40%</u>
Total	100%

Teaching and Learning Resources

Pre-reading and online assignments (5% of course grade)

- Each week we will assign a specific set of readings from the textbook, which you will use to answer a set of questions on the course Vista site. The questions are not designed to be difficult, but instead are intended to point out the most important parts of the reading.
- You need to do the reading to get the most out of the upcoming lectures. (Some of the in-class activities will be very difficult if you have not done your reading).

Clicker questions (5% of course grade)

- We use clicker questions to probe your level of knowledge of background material, to poll the class for their opinions, to detect conceptual misunderstandings, and to illuminate particularly challenging topics in the course. Because the clicker questions may have more than one correct answer, or may ask you to go outside your "comfort zone", we do not assign points for correct answers. Instead, your clicker grade is determined based on

participation. It is important to take the clicker questions seriously and to try your best to answer the questions, because that will help the teaching team determine the areas where we need to provide you with extra help.

- To get 100% on this part of the course, you must answer at least 75% of the questions (so you can miss up to about 2 weeks of class due to illness without losing any participation points).

In class activities (10% of course grade)

- We will be doing a variety of activities including worksheets, problem sets and practice exam questions in class. A subset of these activities will be handed in and graded.
- Because of the size of the class we will not grade every person for each activity. Instead, we will grade a subset of the class for each activity, and we guarantee to grade at least 3 activities for every person. This will form the basis of your "in-class activity" grade.

Midterms and final examination (80% of course grade)

- Both midterms and the final are closed book
- You are allowed one 8½ x 11 page (both sides) with your own hand written notes on it as a memory aid
- You are allowed (and encouraged) to bring a calculator. You may not use one that connects to the internet.
- Most questions on the exams will be short answer questions or calculations (similar to the practice questions done in class).
- There may be one short essay question on the final

Vista Discussion Board

The discussion board is the main way to work through questions about lecture content. There are two good ways to use the discussion board:

1. Post your question to the discussion board. If there is something you are having trouble with, it is likely that others are having trouble as well. By posting your question, you will be helping out both yourself and others
2. Answer a question posted on the discussion board. Answering other student's questions is an excellent way to review the material. If you can explain it, then you know it well!

The teaching team will monitor the discussion board regularly to clarify any discussions that are getting off track or when someone posts an answer that isn't quite right. We also use the discussion board to identify any topics that need additional time in class.

Tips for doing well in this course

1. **Do the pre-reading.** The pre-reading is designed to help you get the most out of lecture
2. **Come to class and engage actively.** Data consistently show that class attendance and grades are highly correlated. The most important thing you can do to maximize your chances of doing well in the course is to show up for class and engage with the material while you are there.

3. **Form a study group.** It often helps to form a study group to review the material from class each week. You can also use your study group to review vocabulary and your notes. (Make flash cards of the vocabulary words and test each other)
4. **Use active methods for review.** Don't just read and re-read the book. Take notes. Study your notes, then cover up the notes and see if you can re-write them. Our course notes are organized in the form of questions. Use these as a self test. If you can answer the questions in the course outline without looking at your notes, you have a fairly good grasp of the material.

If you are struggling with the course:

1. Check out the Faculty of Science teaching and learning resources <http://science.ubc.ca/students/resources>
2. If English is not your first language, you may find the amount of writing in this course challenging. UBC offers FREE courses for students who want some help and support with their academic English: <http://cstudies.ubc.ca/aes/index.html>
3. Don't wait to the last minute to meet with one of your Professors. Come and see us in office hours as soon as you think there is a problem. We can help you!

Biology 260: Fundamentals of Physiology Tentative syllabus

Week #	Date	Unit	Topic	Lecturer
Week 1	January 3		No class	
	January 5	Intro	Introduction and Expectations Evolution of multicellularity	What is Physiology? How many times did multicellularity evolve?
Week 2	January 10	Diversity	Tree of life	Trish/Mandy
	January 12	Diversity	Diversification of plants and animals	Mandy
Week 3	January 17	Nutrient	Nutrient acquisition in animals and fungi	Trish
	January 19	Nutrient	Nutrients in animals II	Trish
Week 4	January 24	Nutrient	Gas exchange in animals	Trish
	January 26	Nutrient	Nutrient acquisition in plants	Jae
Week 5	January 31	Nutrient	Nutrient acquisition in plants	Jae
	February 2	Nutrient	Nutrient acquisition in plants	Jae
Week 6	February 7	Transport	Nutrient acquisition and transport in plants	Jae
	February 9		Midterm exam 1	
Week 7	February 14	Transport	Transport in plants	Activity - Mandy
	February 16	Transport	Transport in animals - circulation	Trish
Week 8	February 20-24	(break)	Midterm break	
Week 9	February 28	Transport	Transport in animals – gas transport	Trish
	March 1	Sensing and responding	Sensing and responding in animals	Trish
Week 10	March 6	Sensing and responding	Sensing and responding in animals	Trish
	March 8		Midterm 2	
Week 11	March 13	Sensing and responding	Sensing and responding in plants	Jae
	March 15	Sensing and responding	Sensing and responding in plants	Jae
Week 12	March 20	Reprod.	Reproductive strategies in animals	Mandy
	March 22	Reprod.	Reproduction in plants	Jae
Week 13	March 27	Reprod.	Reproduction in plants	Jae
	March 29	TBA	Special topic	
Week 14	April 3	TBA	Special topic	
	April 5		Review session	