Biology 1130-FDF
Course outline
2020F

THE BASICS

- Lecturer: Dr. D. Law
- Office: Virtual
- email: dlaw@lakeheadu.ca
- Office hour: Thursdays in Zoom, 11:30 AM to 12:30 PM, or by email appointment.
- Phone: Make an appointment by email to talk with me on Zoom.

Please use the lakeheadu.ca email address above to contact me, not the email within D2L. I will check my email daily Monday to Friday, and will try to respond to your questions as quickly as possible during those days.

Class info

All material is posted on MyInfo/D2L; check there for the latest course updates and information. Biology 1130 is sychronous Zoom course. The lectures are "live" but are also recorded, so you can watch (and rewatch, if desired) these as many times as you like.

Calendar description

Biology 1130 Plant Biology
An introduction to plant diversity stressing the evolution of plants. Comparative morphology of vegetative and reproductive structures will be emphasized. Topics will also include functional anatomy, photosynthesis and respiration.
Credit Weight: 0.5
Offering: 3-3; 0-0
Notes: An additional fee (see Miscellaneous Fees) is required for this course.
Course Classifications: Type C: Engineering, Mathematical and Natural Sciences

OBJECTIVES

During this course, you will...

- demonstrate your understanding of the importance of plants in the ecosphere
- improve and expand your critical understanding of major concepts in plant biology, including
    - diversity and evolution
    - morphology and anatomy
    - development
    - reproduction

    - classification
    - biochemistry
    - ecology
- develop both hard and soft biological skills, such as
- working with your peers
- conceiving, writing and delivering written work by applying information obtained in lecture, from your textbook and from other scientific sources

By the end of this course, you will be comfortable...

- using common plant biology terms
- using library resources to find scientific literature on plant biology
- discussing the importance of plant conservation and the environment
- discussing experimental model organisms used in plant biology
- discussing cross-species themes related to the biology of all eukaryotes
- debating the pros and challenges of modern agriculture, organic agriculture and genetically modified crop plants

ZOOM LECTURES

My lectures are live

All lectures and labs will be delivered live (synchronously) via Zoom.

This is new territory for all of us, and we should all try to be patient and kind to others during these lectures. That includes me; while I've used Zoom previously (probably like all of us), I'm still learning what works and what doesn't when teaching remotely.

Links to each lecture will be posted in advance in Calendar. You have to be signed into D2L for this link to work. This will ensure that I can see your real name in Zoom.

Be courteous in Zoom

You all likely know this, but mute your audio if you're not participating. It's up to you whether to turn on your video or not during the lecture. I'm OK either way.

Participate in class

I ask a lot of questions during lectures. I welcome volunteers to answer; turn on your video and/or audio to do so, whatever you're comfortable with. I also plan to call on students by name to answer some simple questions during class, so be prepared for that. This isn't to embarrass you but rather to make you more comfortable participating in group work, which will be a major part of your university life and future career.

Do the review questions in the breakout rooms

I will end each lecture with some relevant questions. We'll answer these in breakout groups of around 4 students each. One person per group will turn on video and audio to answer their question. I'm not expecting perfect answers but want you to think about the questions and answers. Participating in the breakout rooms is excellent prep for answering similar questions that might appear on the midterms and final exam.

Ultimately, you should answer all of the questions I post to prepare for the next exam.

Attend lectures synchronously to receive participation marks

Lectures will be recorded and posted on the D2L site and thus available for you to review. However, you have to be present during the synchronous lectures to participate in the iClicker questions and receive participation marks.

LECTURE AND LAB SCHEDULE

Lectures:

- Tues. Sept. 8 to Thurs. Dec. 3, 2020
- Tuesdays and Thursdays, 10:00 AM - 11:30 AM
- Location: Zoom

Following is a **preliminary** lecture schedule. Details will be added as the lecture material becomes more finalized. Lectures are generally available for download from D2L on the evening prior to the lecture.

Note that the 2020F study break is M October 12 to F October 16 for both Lakehead Orillia and Lakehead-Georgian joint degree/diploma students.

The course also includes a final exam based on the lecture material, written during the normal fall exam period in December; date and time is TBA.

Week of	Topics	Reading chapters	
		Exploring Biology	***Biology 2e***
Sept. 7	Introduction	--	1.1, 1.2
	Chemistry of life	4, 5	2, 3
Sept. 14	Diffusion, osmosis and membranes	8	2.2, 5
	Plant cells	6.2, 6.3	4.1, 4.3-4.6
Sept. 21	Plant cells	6.2, 6.3	4.1, 4.3-4.6
	Mitosis and meiosis	11, 12	10.1-10.3; 11
Sept. 28	Photosynthesis	9	8
	Midterm #1: Thurs. Oct. 1		
Oct. 5	Respiration	10	7
	Plant tissues	6.3	30.1
Oct. 12	**Study break**		
Oct. 19	Green algae	20.2	23 intro; 23.3; 25.2
	Mosses and bryophytes	21	25.3
Oct. 26	Seedless vascular plants: ferns	22	25.4
	Seed plants: gymnosperms	23	26.1; 26.2
Nov. 2	Seed plants: angiosperms	24	26.3
	Midterm #2: Thurs. Nov. 5		
Nov. 9	Stems	25.1-25.3	30.2
	Roots	25.1-25.3	30.3
Nov. 16	Leaves	25.4	30.4
	Flowers and fruits	24.2	26.4
Nov. 23	Water in plants	--	30.5
	Water in plants	--	30.5
Nov. 30	Catch up day		
	Final exam review		

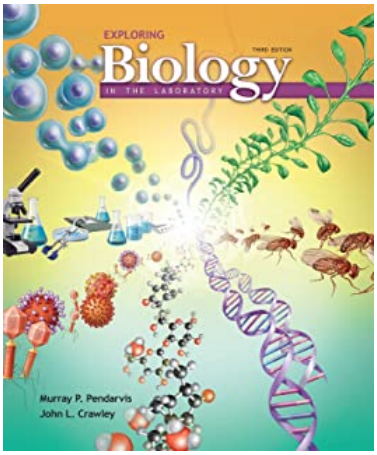
Labs: See your lab schedule and content in its separate D2L site.

- Labs start the first week of class (week of Sept. 7)
- For Orillia students: **FD6**: Friday 2:30-5:30 PM; **FD7**: Wednesday 2:30-5:30 PM
- For Barrie students: **FB1**: Monday 10:00 AM-1:00 PM; **FD9**: Monday 2:00 – 5:00 PM
- Lab location: Zoom
- Instructors: Dr. Vicki Te Brugge (Orillia); Mr. Chase Moser (Barrie)
- Office: Virtual
- Email: vtebrug@lakeheadu.ca; cmoser@lakeheadu.ca
- Phone: Make an appointment on Zoom to talk with Chase or Vicki.

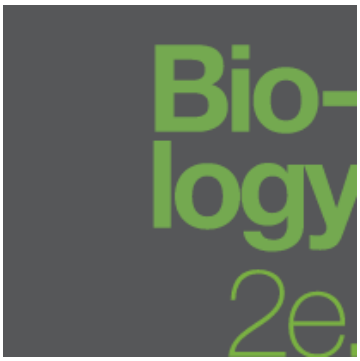
TEXTBOOKS

The two textbooks below are required:

- ***Exploring Biology in the Laboratory***, Murray P. Pendarvis and John L. Crowley (third edition, 2018), Morton Publishing, Englewood, CO, USA. ISBN 978-1-61731-755-2. You can buy either the paper version from the Lakehead bookstore (CAD 143) or elsewhere (e.g., CAD 207 at Amazon), or the e-version for USD 80.21/~CAD 105 from Redshelf or Google Play. Note that most of you will also use this lab manual next term in BIOL-1110: Animal biology and so you'll need to access it until the end of April 2021; I thus recommend buying rather than renting.



- ***Biology 2e***. Mary Ann Clark, Matthew Douglas and Jung Choi (2019). OpenStax. ISBN 978-1-947172-52-4. Available free online.



- The iClicker Reef app for your mobile device: CAD 22 for the fall term. Once you've installed it, link it to the course by searching for my name at the Lakehead University-Orillia campus and choosing BIOL-1130-FDF: Plant biology. This will get you ready to participate and receive marks for the in-class polling that will start on Thursday, Sept. 10. See further info below for how this works under "Student participation".

MARKING SCHEME

- Midterm exam 1: **15%**
- Midterm exam 2: **20%**
- Final exam (date TBA): **20%**
- Course participation: **5%**
- Labs (more details in lab D2L site): **40%**

STUDENT PARTICIPATION

All course participation will be done using the **iClicker Reef** app for your smartphone/tablet/computer/other device. Buy it in either the Android or iOS app store.

Bring either your device with the app on it to each class. You will use it to answer questions in class and receive participation marks.

To link your app to the course, search for the course under my name at Lakehead-Orillia: "BIOL-1130-FDF: Plant Biology". Then add it to your list of courses. The cost is around $22 for a 6-mo subscription.

Five percent of your final mark is allocated to participation. In each lecture, you will use the clicker to answer questions that are based on the course material using the iClicker during my lectures. The 5% participation mark will be equally weighted for

- attendance (2.5%), and
- correct answers (2.5%).

Therefore, to receive a high participation mark, you have to be both physically and mentally present in class!

You may miss 3 lectures without penalty to your participation mark. For example, if there are 15 classes where you vote with iClicker, you need to be present for 12 of these to receive full credit for attendance. Additional information on the technology will be given in the first class.

ACADEMIC DISHONESTY

Lakehead has a Student Code of Conduct – Academic Integrity. All students in this course should read the Code and become familiar with it.

To summarize the relevant parts of the Code, the penalty for plagiarism or cheating on any part of this or any other course is zero for the work where the student is caught. Serious or repeated plagiarism, including cheating on an examination or test, will result in a mark of zero for the course and may result in expulsion from Lakehead.

There are three particular places in this course where cheating might occur:

1. submitting written work that you did not research and write;
2. using written or electronic notes to confer with another person in a test or examination; or
3. voting electronically in place of another person using iClicker Reef.

Academic dishonesty for any of these areas will result in a mark of **zero** for the work concerned.

To ensure academic fairness for students who work hard, rest assured that the course instructors will take **every precaution** to ensure that potential cheaters are caught and subjected to the appropriate penalty.

IF ZOOM GOES DOWN...

If Zoom is offline during class or lab time, which happens infrequently, we will use D2L's Virtual Classroom (VC) videoconferencing instead. If we can't connect via Zoom, I'll send an email invitation within 5 min to your lakeheadu.ca email account. You can check out VC yourself within D2L; at the top of the class D2L page, go to **Other Tools > Virtual Classroom**. It operates much like Zoom.