

## **Cell Biology, Biol 360, Fall 2019**

### **Goals for this course:**

We selected interesting and complex topics of cell biology in order to introduce you with major concepts and working techniques of cell biology. We want you to understand general principles of cell organization, intracellular transport, cell communication, signal transduction pathways & cell cycles including apoptosis. Occasionally we include peer reviewed research papers in order to show you how textbook knowledge is created and how experiments are performed. We want you to understand experimental set up and be able to interpret figures presenting research results. Our main goal is to teach you the scientific way of thinking. We look forward to the continuing studies of the fascinating world of cell biology!

**Class time and location:** Monday & Thursday 1 pm -2.20 pm in HSDA240. Classes start Wednesday September 4<sup>th</sup> and end Wednesday December 4<sup>th</sup>.

**Prerequisites:** Biol230 OR BME200 and BME201, AND one of Bioc 299, Bioc300A, Bioc300B (Bioc300A or 300B can be taken as corequisites). Please be aware that if you drop a co-req the system will automatically drop you from this course as well!

### **Instructors: Dr. Ryan Gawryluk**

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*office:* Petch 010

*Office hours:* TBA

### **Dr. Barbara Ehltng (Course coordinator)**

*email:* behlting@uvic.ca

*office:* Petch 005

*office hours:* Wednesdays 9-10.30 am or by appointment or simply drop by.

Office hours are for you to connect with us, review exams, discuss lecture material and get to know each other. It is easier for us to a write reference letter for you if we know you!

**Textbook:** Molecular Biology of the Cell, 6<sup>th</sup> edition, Alberts B, Johnson, A, Lewis J, Morgan, Raff M, Roberts K, Walter P, Garland Science, ISBN 978-0-8153-4432-2

The book is available to you in various forms:

- USED text: \$214.75 (21 copies available at UVic bookstore)
- Looseleaf: \$167.75 (10 copies available at UVic bookstore)
- Etext is available via VitalSource.com
- And there is always Amazon.ca

Lecture notes will be posted on a CourseSpaces website for you. I recommend that you bring the lecture notes to classes to add comments on slides and answer questions. **Provided lecture slides are for personal use ONLY and are not allowed to be distributed without permission from the publisher.**

### **Tentative Class Schedule**

- Welcoming, rules and regulations,
- Introduction to Cell Biology (parts of chapters 1,3, 4, 12, 14)
- Working with cells: visualizing cells and manipulation of cells (chapters 8, 9)
- Membranes (chapter 10)
- Membrane transport of small molecules & the electrical properties of membranes (chapter 11)
- Intracellular Compartments and Protein sorting (chapter 12)
- Intracellular vesicular Traffic (chapter 13)
- Cell communication and signaling pathways in cells (chapter 15)
- Cytoskeleton (chapter 16)
- Cell cycle (chapter 17)
- Apoptosis (chapter 18)
- Cancer (chapter 20)
- Wrap up and catch up, Review, evaluation...

### **How to be successful**

In order to be successful, we strongly recommend that you **TURN OFF all online sources** (social media/cell phone/facebook/twitter/Youtube/email/text messaging...) **during class time AND while you study at home.** Digital communication is distracting and you are not able to concentrate on lecture material. There are many studies showing that students' grades are negatively affected by focusing on **off task** material.

### **Exams:**

Midterm 1	30%	in class on Thursday October 3 <sup>rd</sup>
Midterm 2	30%	in class on Monday November 4 <sup>th</sup>
Final	40%	scheduled by registrar, cumulative

Optional assignment 6% (accordingly 1<sup>st</sup> midterm 28%, 2<sup>nd</sup> midterm 28%, final 38%)

Find a very recent **peer reviewed primary research paper** (published 2018 or 2019) which is **related to class content** and write a one – two page summary (including abstract, methods, results and discussion). It is up to you if you want to do this assignment. If you decide to hand in your paper summary you can do so over the entire term, but no later than **Friday, November 15<sup>th</sup> 2019**. Reports on topics that were submitted as assignments for other courses will not be accepted.

**Exam times can be very stressful for you. In order to stay healthy physically and mentally make sure that you get enough sleep, eat well, exercise and take breaks. Avoid last minute study panic by working regularly throughout the term: we recommend that you spend at least 2-3 hours studying after each lecture!**

Life can happen and it can happen to every one of us. If there is any situation arising that makes it difficult for you to be successful in this class, please come and talk to me. I am sure that together we can find solutions!

No electronic devices of any kind will be permitted during the exams.

If you cannot attend an exam for a valid reason (illness, accident, family crisis), it is your responsibility to inform the course coordinator (BE) as soon as possible and provide suitable documentation (doctor's note or counselor's note).

There will be NO supplemental midterm exams. If you are excused from a missed midterm test the course coordinator (BE) will inform you how your final course mark will be calculated. You must write at least ONE midterm. If you miss BOTH midterms due to a valid reason there will be one deferred midterm exam. You are eligible to write the deferred final exam (date would be announced if necessary) if you have a valid reason for missing the final exam.

### **General regulations:**

Grading system:

In determining final grades for the course, our spreadsheet will round your course score to the nearest whole percent. That is the official course grade that will be submitted for you.

We cannot change your grade for any reason, except if we have made an error calculating it. There is no extra work that you can do to raise your grade.

Failure to complete at least one midterm and the final exam will result in a grade of "N" regardless of the cumulative percentage on other elements of the course. An N is a failing grade, and it factors into a student's GPA as 0. The maximum percentage that can accompany an N on a student's transcript is 49.

Please read the appropriate section of the current UVic Academic Calendar regarding your rights and obligations.

It is your responsibility to be aware of ADD/DROP dates published in the Calendar. If you intend to drop this course, please do so officially and give up a space for students who might be on a waitlist.

You are expected to observe UVic standards of scholarly integrity especially with regards to plagiarism and cheating. If you cheat during an exam you will be graded

with 0 for this exam and the incident will be reported. Further consequences might apply.

UVic and we as instructors are committed to promoting, providing and protecting a supportive and safe learning and working environment for you and us.

### **Important Dates**

In the UVic calendar you will find a fuller list of important dates, but the ones we have listed below are the ones that will matter to students in Biology 360.

Wednesday, September 4	First day of classes
Tuesday, September 17	Last day for 100% reduction of tuition fees for standard first-term and full-year courses
Friday, September 20	Last day for adding classes
Thursday, October 3 <sup>rd</sup>	<b>Bio360 Midterm Exam 1; Dr. Ehlting's material only</b>
Monday, October 14 <sup>th</sup>	Thanksgiving holiday, no classes
Tuesday, October 8	Last day for 50% reduction in tuition fees for standard courses. 100% of tuition fees will be assessed for courses dropped after this date.
Thursday, October 31	Last day for withdrawing from courses without penalty of failure
Monday, November 4	<b>Bio360 Midterm Exam 2; Dr. Ehlting's and Dr. Gawryluk's material</b>
Mon-Wed, November 11-13	Reading break, no classes
Wednesday, December 4	Last day of classes
Saturday, December 7	First day of final exam period
Saturday, December 21	Last day of final exam period

### **Stay healthy!**

A note to remind you to take care of yourself. Do your best to maintain a healthy lifestyle this semester by eating well, exercising, getting enough sleep and taking some time to relax. This will help you achieve your goals and cope with stress. All of us benefit from support during times of struggle. **You are not alone.**

**Counselling Services** - Counselling Services can help you make the most of your university experience. They offer free professional, confidential, inclusive support to currently registered UVic students. <https://www.uvic.ca/services/counselling/>

**Health Services** - University Health Services (UHS) provides a full service primary health clinic for students, and coordinates healthy student and campus initiatives. <http://www.uvic.ca/services/health/>

**Centre for Accessible Learning** - The CAL staff are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations <https://www.uvic.ca/services/cal/>. The sooner you let us know your needs the quicker we can assist you in achieving your learning goals in this course.

**Elders' Voices** - The Office of Indigenous Academic and Community Engagement (IACE) has the privilege of assembling a group of Elders from local communities to guide students, staff, faculty and administration in Indigenous ways of knowing and being. <https://www.uvic.ca/services/indigenous/students/programming/elders/index.php>

### **Sexualized Violence Prevention and Response at UVic**

UVic takes sexualized violence seriously, and has raised the bar for what is considered acceptable behaviour. We encourage students to learn more about how the university defines sexualized violence and its overall approach by visiting [www.uvic.ca/svp](http://www.uvic.ca/svp). If you or someone you know has been impacted by sexualized violence and needs information, advice, and/or support please contact the sexualized violence resource office in Equity and Human Rights (EQHR). Whether or not you have been directly impacted, if you want to take part in the important prevention work taking place on campus, you can also reach out: Where: Sexualized violence resource office in EQHR; Sedgewick C119, Phone: [250.721.8021](tel:250.721.8021), Email: [svpcoordinator@uvic.ca](mailto:svpcoordinator@uvic.ca), Web: [www.uvic.ca/svp](http://www.uvic.ca/svp)

**We hope that you are enjoying a great fall term with Bio360 Cell Biology!**