BIOLOGY 401A CRN10381 COURSE OUTLINE FALL 2019

1) MEET THE INSTRUCTORS

- Dr. Francis Choy: Professor in the Department of Biology and a member of the Centre for Biomedical Research (CBR).

  Office: Cun 062a
  Phone: 250- 721-7107
  E-mail: fchoy@uvic.ca
- Office hours: Friday at 3.30 p.m. – 5:00 p.m. Or by appointment. Or simply drop by.
- Expertise is in molecular genetics and enzymology, focusing on the metabolic and molecular bases, and treatments and prevention, of lysosomal storage diseases, specifically Gaucher disease and Sanfilippo syndrome (which result from an inherited deficiency of glucocerebrosidase and N-acetyl glucosaminidase, respectively).

- Dr. Barbara Ehlting (course coordinator): Assistant teaching professor in the Department of Biology

  Office Petch 005
  Email: behlting@uvic.ca
  Phone: 250 472 4066

  Office hours: Tuesdays at 10.30 am – noon. Or by appointment. Or simply drop by.
  I am happy to help you with lecture related questions as much as I can. Please do not hesitate to contact me.
- Expertise in molecular biology, cell biology, biotechnology, genetics, genomics, plant molecular biology...

- 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!

2) WHAT IS THIS COURSE ABOUT?

This course is designed to give you an understanding of the application of genetic and molecular biological principles to research and industry; it is about the "Tools and Rules" of Biotechnology: dive into the why and how and explore many variations of standard techniques like cloning, PCR, protein expression systems, use of DNA enzymes and sequencing.
We are in contact with local biotechnology companies and we try to organize field trips and/or invite CEOs to our class room for guest lectures.

3) WHERE AND WHEN

Monday and Thursday, 10:00 am to 11:20 am, ELL Room 162

4) STRUCTURE AND ORGANIZATION OF THE COURSE

The course will be given by Drs. Barbara Ehlting and Francis Choy

There is no designated textbook for this course, but all lectures notes can be downloaded from the Biol 401A CourseSpaces site. Please note, that lecture notes are for personal use only and must not be distributed outside class. References to scientific papers can be found in the lectures notes and it is your responsibility to find the papers online. If students wish they can take recordings of the lecture, which may be for PERSONAL USE ONLY.

5) THE GRADING SYSTEM

1st mid-term exam	25%
2nd mid-term exam	30%
Final Exam	45%
	100%

Optional assignment 6% (accordingly 1st midterm 23%, 2nd midterm 28%, final 43%)

Find a very recent peer reviewed **primary research paper** (published 2018 or 2019) that is **closely related to class material** and write a one – two page summary (including abstract, introduction, 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 22nd 2019**. Reports on topics that were submitted as assignments for other courses will not be accepted.

5.1) Mid-Term Exams

- The two mid-term exams will be held on
  October 3 - From lectures presented from September 5th – Sept 30th
  November 4 – From lectures presented on Oct 7th – Oct 31st (midterm2 focuses on material taught after midterm1, but overarching questions are possible!)

- You are responsible for all lecture materials.
- You must write at least ONE midterm. If you miss both midterms due to a valid reason there will be one deferred midterm exam.
- If you miss an exam please contact the course coordinator (BE) immediately.

5.2) The Final Exam

The final exam will be cumulative and cover all topics presented in the course, with emphasis on the third section after the 2nd mid-term. The date will be during the general exam time scheduled by UVic. 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.

5.3) The Grading System

Final Grades will be assigned on the basis of the following scale:

A+	A	A-	B+	B	B-	C+	C	D	F
90-100%	85-89.9%	80-84.9%	77-79.9%	73-76.9%	70-72.9%	65-69.9%	60-64.9%	50-59.9%	0-49.9%

5.4) 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 grades are negatively affected by focusing on OFF TASK material.

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!

6.) TENTATIVE LECTURE SCHEDULE FALL 2019

Introduction, Details of cloning	Dr. Ehlting
Sequencing and bioinformatics	Dr. Ehlting
Next generation sequencing	Dr. Ehlting
Midterm 1	Dr. Ehlting
Thanksgiving NO CLASS	
Biotechnology on industrial level	Dr. Ehlting
Review/ catch up	Dr. Ehlting
Details of cloning, Protein expression systems	Dr. Choy
DNA enzymes	Dr. Choy
Biotechniques	Dr. Choy
Midterm 2	Dr. Choy
Reading break NO CLASS	
Transgenic Animal Model	Dr. Choy
CRISP-Cas9 technology	Dr. Choy's lab: guest lecture
Antibody engineering	Dr. Choy
Stem cell technology	Dr. Choy

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 401A.

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 3rd	**Bio401A Midterm Exam 1; Dr. Ehlting's material only**
Monday, October 14th	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	**Bio401A Midterm Exam 2; Dr. Ehlting's and Dr. Choy's material**
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. 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, Email: svpcoordinator@uvic.ca, Web: www.uvic.ca/svp

We are looking forward to an exciting term with you and we hope that you have a great fall term!