

# BIOLOGY 401A CRN10342 COURSE OUTLINE FALL 2015

## 1) MEET THE INSTRUCTORS

- ◆ Dr. Francis Choy (course coordinator):
  - ◆ Professor in the Department of Biology and a member of the Centre for Biomedical Research (CBR).
  - ◆ Expertise is in molecular genetics and enzymology, focusing on the metabolic and molecular bases of lysosomal storage diseases, specifically Gaucher disease and Sanfilippo syndrome (which result from an inherited deficiency of glucocerebrosidase and N-acetyl glucosaminidase, respectively).
  - ◆ My Lab and Office are in Cunn 062. You can reach me at the following numbers;
    - Office (062a): 721-7107
    - FAX: 721-7120
    - E-mail: [fchoy@uvic.ca](mailto:fchoy@uvic.ca)

Dr. John Nelson is the other lecturer for this course. He works on a range of issues currently mostly around molecular population genetics, evolution, and marine ecology with a focus on the Arctic. He works in private industry, government and academia. His email address is [seastarbiotech@gmail.com](mailto:seastarbiotech@gmail.com).

## 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.

## 3) WHERE AND WHEN

- ◆ Monday and Thursday, 11:30 am to 12:50 pm, Cornett Building Room B112988u

## 4) STRUCTURE AND ORGANIZATION OF THE COURSE

The course will be given by Dr. John Nelson and Dr. Francis Choy

- ◆ There is No designated textbook for this course, but all lectures notes can be downloaded from the Biol 401A CourseSpaces site

## 5) THE GRADING SYSTEM

1 <sup>st</sup> mid-term exam	25%
2 <sup>nd</sup> mid-term exam	30%
1 Final Exam	<u>45%</u>
	100%

### 5.1) Mid-Term Exams

- ◆ The two mid-term exams will be held on

**October 5** - From lectures presented from September 10-14, and Sept 21 to October 1

**November 16** – From lectures presented on September 17, and from October 8 to November 2

- ◆ You are responsible for all lecture materials.

## 5.2) The Final Exam

- ◆ The final exam will be cumulative and cover all topics presented in the course, with emphasis from the third section after the 2<sup>nd</sup> mid-term. The format will be announced late in the semester.

## 6) THE GRADING SYSTEM

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

<b>A+</b>	<b>A</b>	<b>A-</b>	<b>B+</b>	<b>B</b>	<b>B-</b>	<b>C+</b>	<b>C</b>	<b>D</b>	<b>F</b>
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%

An “E” grade will not be assigned and Supplemental Exams will not be allowed.

### TENTATIVE LECTURE SCHEDULE FALL 2015

Thursday	September 10	Protein Expression Systems I	Dr. Choy
Monday	September 14	Protein Expression Systems II	Dr. Choy
Thursday	September 17	Current topics in Biotechnology	Dr. Nelson
Monday	September 21	DNA enzymes I	Dr. Choy
Thursday	September 24	DNA enzymes II	Dr. Choy
Monday	September 28	Biotechniques I	Dr. Choy
Thursday	October 1	Biotechniques II	Dr. Choy
Monday	October 5	<b>FIRST MID-TERM EXAM</b>	Dr. Choy
Thursday	October 8	Transgenic Animal Model I	Dr. Choy
<b>Monday</b>	<b>October 12</b>	<b>NO CLASS Thanksgiving Day</b>	
Thursday	October 15	Transgenic Animal Model II	Dr. Choy
Monday	October 19	Enzyme Replacement Therapy & Stem Cell Technology	Dr. Choy
Thursday	October 22	Plasmids and other Cloning Systems	Dr. Nelson
Monday	October 26	Cloning systems and Strategies	Dr. Nelson

Thursday	October 29	Gene cloning and reporter system	Dr. Nelson
Monday	November 2	Bioinformatics	Dr. Nelson
Thursday	November 5	X-omics	Dr. Nelson
<b>Monday</b>	<b>November 9 – NO CLASS Remembrance Day</b>		
Thursday	November 12	Primer Design Workshop Part 1	Dr. Nelson
Monday	November 16	<b>SECOND MID-TERM EXAM</b>	Drs. Choy & Nelson
Thursday	November 19	Primer Design Workshop Part 2	Dr. Nelson
Monday	November <b>23</b>	Ethics and Society	Dr. Nelson
Thursday	November 26	Targeted genome editing using CRISPR -Cas9	Dr. Choy
Monday	November 30	DNA sequencing	Dr. Nelson
Thursday	December 3	Assignment: Profile of a Biotech Company/Review	Drs. Choy & Nelson

**FINAL EXAMINATION, PLACE AND DATE TO BE ANNOUNCED**