BIO255H1F - CELL AND MOLECULAR BIOLOGY WITH ADVANCED LABORATORY

36L, 33P

**This course has a lab fee of $50.**

**Lab coat and safety glasses are required and the approximate cost is $25. Students are responsible for purchasing these items.**

**Lecturers:**

Prof. D. Desveaux (Day)

TBA

Evening Lecturer: TBA

**Course and Laboratory Coordinator:**

Prof. M. Neumann RW206C 416-978-5551 [melody.neumann@utoronto.ca](mailto:melody.neumann@utoronto.ca)

**BIO 255 Office:**

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Exclusion: BIO 230H1

Prerequisite: BIO 130H1, CHM (135H1, 136H1)/(138H1, 139H1)/151Y1, cGPA 3.0

Recommended preparation: BCH 210H1 (taken concurrently or previously)

Students in BIO255H1F will attend the same lectures as students taking BIO230H1F (see calendar for description of lecture component of BIO230H). The Enhanced Laboratory provides the opportunity for greater laboratory skill development in modern investigative techniques and is intended for students interested in conducting their own laboratory research. Students will attend 10 weekly laboratories.

*Please make sure you attend your first lab on Monday, September 9th . There are no alternative or make-up labs for this course. Please bring the notes for Lab 1, a lab coat, safety glasses, and a notebook (Any kind of notebook is fine, but if you intend to print out the lab notes from the course website, a binder with loose leaf paper may be most convenient). Demand for the course may be high, so if you miss the first lab, we cannot guarantee your place in the course.*

A very general outline of the lecture and laboratory topics is listed below:

**Section/Dates Lecture Topics Laboratory Exercises**

1. Sept-Oct-- Genome biology, regulation of gene expression, *Arabidopsis* DNA extraction, basic regulation of gene product function and location. and more advanced bioinformatics,

experimental design, PCR, cloning, plasmid preps, and restriction enzyme diagnostics.

2. Nov-Dec-- Cell signaling, molecular basis of development and Use of immunofluorescence and

cancer. transgenic *Drosophila* to examine cell structure and function. Cell imaging and analysis. Primary paper analysis.

**Required Text:**

The required textbook for BIO255H1F 2019 is a custom e-text rental derived from: Alberts B, Johnson A, Lewis J, Raff M, Roberts K, and Walter P. Molecular Biology of the Cell 6th Ed. New York: Garland Science; 2014. p 1464. We have negotiated a price of $30usd for this custom e-text rental. You can download the e-text by following this link: [www.garlandscience.com/bio230](file:///C:\Users\Nylanm\AppData\Local\Temp\www.garlandscience.com\bio230). Associated student resources are available from: [www.garlandscience.com/MBOC6-students](file:///C:\Users\Nylanm\AppData\Local\Temp\www.garlandscience.com\MBOC6-students). Lecture notes will be available on the BIO255 Quercus Site. The laboratory section of BIO255 will include readings from the BIO130 textbook (Karp--Cell and Molecular Biology). If you do not already have access to the Karp textbook, please e-mail Dr. Melody Neumann ([melody.neumann@utoronto.ca](mailto:melody.neumann@utoronto.ca)) for advice.

Lab Manual: All lab notes will be available on-line through the course Quercus site (will be opened up in late August/early September) for students to view.

Sample Evaluation (Finalized course evaluation will be posted on Quercus in early September): October term test (20%), December final exam (40%), and lab reports/lab participation/lab and textbook quizzes (40%).