



**BIOB10H3 Cell Biology
Fall Term Syllabus, 2012
Dr. Rene Harrison**

This course is designed to introduce theory and modern experimental techniques in cell biology. Emphasis will be on eukaryotic cells. Structure and function of major animal and plant organelles will be covered. Subsequent topics include the role of the cytoskeleton. Plasma membrane and extracellular matrix will also be detailed in the context of cellular interactions with the environment.

Prerequisites: BIOA01H & BIOA02H & CHMA10H & CHMA11H

Exclusions: BIO240H, BIO241H, (BIO250Y)

Instructor: Rene Harrison: biob10@hotmail.ca

Office hours: Tuesdays **11-1pm**, or by appointment

Office location: SW 540C

Lectures: AC 223, Tuesdays 4-6 p.m.

Tutorials: Room - AC 223, **Dates: Thursday Oct. 11 & Nov. 22 (5-7 p.m.)****

**Optional: Tutorials will be used as extended office hours only- no new material will be presented. Students must email Dr. Harrison questions/content to review. If there is no interest or need then the tutorial will be cancelled.

Intranet Resources:

On campus: "https://intranet"

- outline of PowerPoint presentations will be uploaded onto intranet
- will be available approx. 3 days before lecture
- will not contain all contents of lectures (only major points)
- students should print and bring outlines to class to take notes on additional details.

Textbook: "Cell and Molecular Biology: Concepts and Experiments." 6th edition*. Gerald Karp.

*Used 5th editions are also acceptable but some figures have changed so students must check "5th Edition Textbook Figure # Changes" document on intranet.

Exams: 2 Exams: Midterm worth 40%

-40 multiple choice questions + short answer questions- 2 hours

Final exam worth 60%

-75 multiple choice questions- 3 hours

Optional Writing Assignment*: Worth 10% of grade *see additional details at end of syllabus

Marking Scheme A (default)

Item	Value
Midterm test	40%
Final exam	60%

Marking Scheme B (optional)

Item	Value
Midterm test	35%
Writing assignment	10%
Final exam	55%

Please note there is **NO** web option for this course. Lecture attendance is essential for success in this course.

Course Email: biob10@hotmail.ca

Teaching Assistants: Alex Sin, Kewei Xu & Hesong Sun

Course email policy:

- Your email message must include in the Subject line the course identifier and a concise and clear statement of purpose [e.g., BIOB10Y: appointment outside of office hours]; the body should contain your full name; otherwise it is likely to be deleted, along with spam messages and messages potentially containing viruses. **Please only use your UTSC email address.**
- We will respond to legitimate email inquiries by email within 48 hours (in most instances) during the workweek (does NOT apply to weekends).
- Email should NOT be used as an alternative to office hours or as a mechanism to receive private tutorials.
- Specific questions regarding prerequisites/ administration should be addressed to the course coordinator: [Angela Jiang](#) (see below).

Facilitated Study Groups: BIOB10 is supported by Facilitated Study Groups. These weekly study sessions are open to everyone in the class. Attendance is voluntary, but students who attend regularly tend to earn higher grades. Please be sure to fill out the survey at the beginning of the term to help ensure the study groups are scheduled at the most convenient times. If you have any questions, please ask your facilitator, Aasma Akhtar who can be emailed at the course email (biob10@hotmail.ca, address your email to her), or visit the FSG website at <http://ctl.utsc.utoronto.ca/home/fsg>.

Course Administration questions: Questions regarding course organization, exam planning, exam viewing and issues pertaining to special accommodation (AccessAbility, missed exams, illness, religious accommodation, legal issues etc.) are to be directed to the **Course Coordinator, [Angela Jiang](#)**. These issues are NOT dealt with by the professor or TA's.

Course Coordinator's [Angela Jiang](#) office hours: MWF (10-12) and Tu/Th (2-4) in SW421-D
Email: xijia.jiang@utoronto.ca

Missed Exams

There will be a single make-up for the midterm. Students who will be unable to attend the midterm for religious reasons must notify the Course Coordinator as soon as possible after the date is announced. Students who are unable to attend the midterm due to illness must notify Mr Ramrattan (by telephone or email) within 3 working days of the test and arrange to present him with a completed UTSC medical certificate (available via the registrar's website) which confirms their illness, and medical attention, at the time of the exam. Medical certificates will be verified. The date of the make-up exam will be announced on the intranet and it is the **SOLE RESPONSIBILITY** of the affected student to ensure they know the date of the make-up exam. Students who miss a midterm with no acceptable, documented excuse will receive zero for that midterm.

****Students who miss the final must petition the Registrar to write a deferred exam.****

Accessibility Needs:

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, please feel free to approach me and/or the AccessAbility Services Office as soon as possible. I will work with you and AccessAbility

Services to ensure you can achieve your learning goals in this course. Enquiries are confidential. The UTSC AccessAbility Services staff (located in S302) are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations (416) 287-7560 or ability@utsc.utoronto.ca.

Academic Integrity:

Please consult: <http://www.utoronto.ca/academicintegrity/resourcesforstudents.html>. Academic integrity is essential to the pursuit of learning and scholarship in a university, and to ensuring that a degree from the University of Toronto is a strong signal of each student's individual academic achievement. As a result, the University treats cases of cheating and plagiarism very seriously. The University of Toronto's *Code of Behaviour on Academic Matters* (<http://www.governingcouncil.utoronto.ca/policies/behaveac.htm>) outlines the behaviours that constitute academic dishonesty and the processes for addressing academic offences.

eg. On tests and exams: Using or possessing unauthorized aids. Looking at someone else's answers during an exam or test. Misrepresenting your identity.

***Midterm and Final Exams:** A handout will be posted on the intranet "What to Study for Exams". Please refer to this if you have any questions on what course material to study

A short sample exam will be given 2 weeks prior to each exam. Answers to the sample exams will be given 1 week prior to exam so you can check your answers.

***Optional Writing Assignment:** "My Favourite Cell"

- Done in groups of 2-3 only.
- Due at beginning of class, October 30th, 2012.
- No extensions permitted, students who do not hand in assignment on time will be graded on exams only according to the default grading scheme (40 & 60% for midterm & final).
- Written and electronic copy must be provided. Electronic copy may be checked with turnitin for plagiarism
- Students must also hand in a "contribution" page to describe their individual contribution to the project
- All questions about the assignment should be directed to the course email: biob10@hotmail.ca subject: Assignment
- The TA's will answer questions but will not proofread assignments.
- A more detailed description of the assignment as well as an example will be posted on the intranet.

Assignment: Choose your favourite cell. Discuss why it is your favourite cell (ie. How it looks, how it functions). Choose one specialized protein in the cell. Describe what it looks like (primary, secondary, tertiary structure, etc.), where it is found in the cell and what targets it to that compartment, and what the final function of that protein is.

The assignment should be 2 written pages, double spaced, including references. On a 3rd page, draw your favourite cell, highlighting the protein. Drawings can be crayon, pencil, computer graphics or pictures of home-made models, etc. Creativity and humour within the drawings is encouraged.

Be very careful about paraphrasing your assignments to avoid plagiarism. You should include primary references (ie. NOT Wikipedia). Recommended scientific search engines will be listed in the detailed assignment description posted on the intranet.

BIOB10 Lecture Content & Assigned Figures

DATE	TOPIC	CHAPTER	RELEVANT FIGURES*
Sept 11	Course Introduction	---	---
Sept 11	Prokaryotes & Eukaryotes	1	Fig. 1, 8, 10, 17, EPFig.1
18	Biological Macromolecules	2	Fig. 3,4,5, 7, 10, 11, 17, 21, 22, 46, 53, 54, Ch 3 -Fig. 5
18	Protein Functions & Sorting	2	Fig. 24, 35
25	Studying Cells	18	Fig. 1, 6, 7, 9, 10, 11, 16, 17, 19, Ch. 1 -HP Fig. 2
25	Cytoplasmic Membrane Systems: ER & Golgi	8	Fig. 2, 3, 9, 12, 13, 20, 23, 24, 28, Ch. 11 - Fig. 2, Ch 4 .- Fig.11, 19
Oct 2	Trafficking to Lysosomes & Plasma Membrane	8	Fig. 6, 11, 14, 29b, 31, 33
Oct 2	Plasma Membrane: structure	4	Fig. 4, 5, 7, 12, 24, 50
9	Plasma Membrane: transport	4	Fig. 27, 28, 33, 34, 44, 46
9	Trafficking From Plasma Membrane (PM)- I	8	Fig. 37, 38, 42
16	Trafficking From PM- II	8	Fig. 45
16	Review		
EXAM	Date and Time TBA	---	----
23	Mitochondria I	5	Fig. 1, 3, 4, 5(aerobic only)
23	Mitochondria II	5	Fig. 10, 20, 30, Ch 8 -Fig.47
30	Chloroplasts	6	2, 3, 4, 5,16,20,Ch. 8 -Fig.48
30	Other Organelles	8, 12	Ch. 8 - Fig.10,36, Ch. 12 - Fig.1,2,3,5
Nov 6	Studying Proteins	18	Fig. 24, 25, 26, 28, 30, 31, Ch 2 -Fig.47-50,Ch 11 -Fig37
Nov 6	Cytosolic Proteins/Scientists	---	---
13	Cytoskeleton: Microtubules I	9	Fig. 1, 2, 6b, 7, 8c, 9,10, 11, 13, 15c, 16, 17, Table 1
13	Cytoskeleton: Microtubules II	9	Fig. 18, 19, 29
20	Cytoskeleton: Actin/ Intermediate Filaments	9	Fig. 41, 42, 43, 46b, 49, 50, 51, 53, 57, 66, 68-72, 74
20	Extracellular Matrix (ECM) I	7	Fig. 1,4,5,6,14,15,16,17,18
27	Extracellular Matrix (ECM) II	7	19a, 23, 25, 27a, 28, 30, 32, 33, HP fig 1
27	Cell Specializations	---	---
FINAL EXAM	Date and Time TBA		

***Disclaimer:** The figures correspond to the 6th edition. Check the file on the intranet for figure changes in the 5th edition. The above schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances.