

# University of Alberta

## Biology 107 - Introduction to Cell Biology

### Winter 2012 - Section B2 - Course Syllabus

**Lecturer** Dr. Mike Harrington, [mjh@ualberta.ca](mailto:mjh@ualberta.ca), BioSci B-109A, office hours 2:00 - 3:00 daily and by appointment

**Lab coordinator** Dr. Carla Starchuk, [starchuk@ualberta.ca](mailto:starchuk@ualberta.ca), BioSci CW-312

**Writing assignment coordinator** Maggie Haag, [mag.haag@ualberta.ca](mailto:mag.haag@ualberta.ca), BioSci CW-312

**Course content** This course provides an introduction to cell structure and function. Major topics include the molecules and structures that comprise prokaryotic and eukaryotic cells, the mechanisms by which energy is harvested and used by cells, how cells reproduce, and how information is stored and used within a cell via the process of DNA replication, transcription, and translation.

**Prerequisites** Biology 30 and Chemistry 30

**Course goals** When you have completed the work in this course you will be able to:

1. Explain how energy, matter, and information move within cells.
2. Apply laboratory skills to generate data and conduct analyses of it.
3. Demonstrate written communication skills.

**Text** Required text: "Campbell Biology - custom UofA edition" (2011)

Acceptable texts: "Campbell Biology, ninth edition" (2011); Campbell and Reece "Biology, eighth edition" (2008)

**Course website** [www.biology.ualberta.ca/courses/biol107/](http://www.biology.ualberta.ca/courses/biol107/)

**Lectures** Tuesdays & Thursdays 12:30 - 1:50, CCIS 1-430

**Labs** Labs begin the week of January 16 - 20. You need to purchase a new copy of the 2011/2012 lab manual and read pages i-1 to 1-15 prior to your first lab. Marks received on an assignment may be appealed within two weeks of the assignment's return.

**Seminars** Seminars begin the week of January 16 - 20. The seminars are where the course writing assignment will be introduced.

**Grading of the course** Your total mark in the course will be determined as follows:

- 10% - writing assignment
- 40% - overall lab mark
- 15% - lecture midterm exam
- 35% - lecture final exam

Total numerical marks will be converted to grades using the University's letter grading system. It is most likely that the grades will follow a normal distribution with a median grade of a B-.

## Important dates

Week of Jan. 30	Draft 1 of writing assignment	handed in during seminar period
Week of Feb. 6	Draft 2 of writing assignment	handed in during seminar period
Tuesday, Feb. 14	Lecture midterm exam	written during lecture period
Week of Mar. 19	Draft 3 of writing assignment	handed in during seminar period
Tuesday, Apr. 10	Lab final exam	6:00 PM - 8:00 PM, location TBA
Tuesday, Apr. 24	Lecture final exam (tentative)	2:00 PM - 4:00 PM, location TBA

## Lecture topics

### Part One How cells work

Macromolecules  
Classification of living organisms  
Cells & cell membranes  
Cell transport  
Cell exteriors in Prokaryotes and Eukaryotes  
Cell interiors in Prokaryotes and Eukaryotes  
Origin of cells  
Cytoskeleton and cell movement in Prokaryotes and Eukaryotes

### Part Two How cells acquire energy

Energy & life  
Energy & cells  
Photosynthesis  
Glycolysis & fermentation  
Cellular respiration  
Metabolism in Eukaryotes, Prokaryotes, and Ancient life

### Part Three How cells store information, use information, and reproduce

DNA function, structure, & replication  
Genetic code  
RNA synthesis  
Protein synthesis  
Regulation of gene expression  
Cell division in Prokaryotes and Eukaryotes

**Resource Room (BioSci G-107)** The Biological Sciences Resource Room is an academic support service for students in BIOL 107, 108, and 208. Its main services are (i) TA support for your labs and writing assignment, (ii) a text book library, and (iii) exam and assignment pick-up. Hours are available online.

### How to succeed in Biology 107 (my recommendations)

You should attend each lecture and actively take notes.  
You should do the online questions and assigned readings on a weekly basis.  
You should contact me or the resource room TAs if you have questions.  
In general you are responsible for material presented in class but not responsible for material found only online or in the text.

**Written English** Students are expected to use University-level spelling, grammar, composition, and handwriting throughout the course.

**Specialized support and disability services (SSDS)** Students who require accommodations in this course due to a disability affecting mobility, vision, hearing, learning, mental health, or physical health are advised and encouraged to discuss their needs with SSDS:  
[www.uofaweb.ualberta.ca/SSDS/](http://www.uofaweb.ualberta.ca/SSDS/)

**Academic support centre** Students who require additional help in developing strategies for better time management, study skills or examination skills should contact the Academic Support Centre: [www.uofaweb.ualberta.ca/academicsupport/](http://www.uofaweb.ualberta.ca/academicsupport/)

**Recording lectures** Audio recording is permitted only with the prior written consent of the professor or if recording is part of an approved accommodation plan.

**Missing the midterm exam** A student who cannot write the midterm due to an incapacitating illness, severe domestic affliction, or other compelling reason can apply to have the weight of the exam transferred to the final exam. The student should contact the instructor as soon as is feasible (normally within two days of the missed exam). It is up to the discretion of the instructor whether the request will be accepted or denied. The student may be required to provide documentation to support their claim or to make a signed declaration before a Commissioners of Oaths in the Student Services Office.

**Missing the final exam** A student who cannot write the final examination due to incapacitating illness, severe domestic affliction or other compelling reasons can apply for a deferred final examination. Such an application must be made to the student's Faculty office within 48 hours of the missed examination and must be supported by a Statutory Declaration (in lieu of a medical statement form) or other appropriate documentation (Calendar section 23.5.6). Deferred examinations are a privilege and not a right; there is no guarantee that a deferred examination will be granted. Misrepresentation of Facts to gain a deferred examination is a serious breach of the Code of Student Behaviour. The deferred application will be approved or denied by the student's faculty. The deferred lecture final exam will be held on Monday May 7, 5:00 PM, BioSci CW-313.

**Re-examinations** Re-examinations are not permitted in BIOL 107 because the final exam is worth less than 40% of the total course mark.

**Code of Student Behaviour** The University of Alberta is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves with the provisions of the Code of Student Behaviour (online at [www.ualberta.ca/secretariat/appeals.htm](http://www.ualberta.ca/secretariat/appeals.htm)) and avoid any behaviour that could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion from the University.

Policy about course outlines can be found in section 23.4(2) of the University Calendar

## Biology 107 Writing Seminars

**Seminars begin Week of January 16<sup>th</sup> through 20<sup>th</sup> in G-116**  
**You must attend the seminar section in which you are officially registered**

In Biology 107 you will be required to write a 500 word essay, worth 10% of the course mark. This assignment is designed to provide you with an opportunity to do multiple drafts of an essay in an attempt to have you learn through various stages of the writing process, “writing –to-learn.”

You will be given an article to read (accessible through course website). You will then be given a series of questions that you will answer based on this reading. While you may wish to do further investigation on the reading’s topic, you are not expected to do so. ***You should be able to answer the essay question successfully through understanding the assigned article and associated course work (lecture notes and textbook) covered during the seminar sessions.***

You will be required to attend three seminar sessions prior to submitting your essay in order to assist you with the understanding of the reading and how to write the essay. The seminar timetable is:

**Week of January 16-20** -brief overview of the assignment and reading assigned

**Week of January 23-27** – how to approach writing this essay (content and composition)

**Week of January 30-February 3** - first draft of essay due; peer-reviewed in seminar

**Week of February 6 -10** – first marked draft due in first 10 minutes of seminar; **no late essays accepted**

**Week of March 5-9** – essays returned in seminar; review of strategies for improvement

**Week of March 19-23** – final essay due in first 10 minutes of seminar; **no late papers accepted**

**Week of April 2-5** – final essays returned in seminar; note students with seminar on April 6<sup>th</sup> can pick up essays in the Resource Room up until April 12th.

### Accessing Resources for this Essay

- 1) Biology 107 course website [www.biology.ualberta.ca/courses/biol107/](http://www.biology.ualberta.ca/courses/biol107/)
- 2) Using the password information provided to you on your course syllabus, access Biology 107 website site for:
  - a. detailed information and instruction on the writing assignment
  - b. access to the article
  - c. additional links to library resources, code of student behaviour, cheating and plagiarism.

### Assistance with writing this Essay

**a. Department of Biological Sciences Resource Room – G 107**

Monday through Thursday 9:30 am to 3:30 pm

*General advice on how to improve writing abilities.*

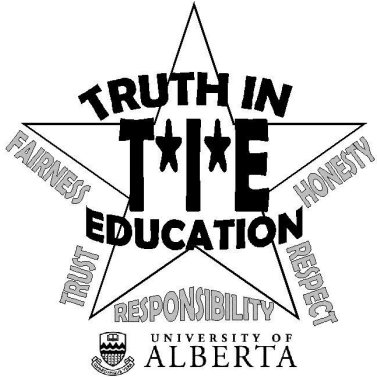
**b. Centre for Writers!-1-42 Assiniboia Hall, 10 am – 5 pm**

The Centre for Writers! offers free one-on-one writing coaching and support to all students. Students can bring in any writing project at any stage of development. Coaches will also help students read instructor comments on already-graded papers. ESL and EAL students are welcome. Must book appointment on-line at [www.rich37.com/ualberta](http://www.rich37.com/ualberta) or phone at 780-492-2639.

**c. Academic Support Centre-Effective Writing Resources 2-703 SUB**

Private consultations in which undergraduates may bring in essays or writing samples for analysis. A detailed evaluation of how their writing abilities could be improved will be provided (cost \$20). Workshops (15 weeks \$100) and short courses (4 hrs/Sat.) are also available for long-term assistance with writing.

Contact <http://www.ualberta.ca/ascntr>



# Plagiarism

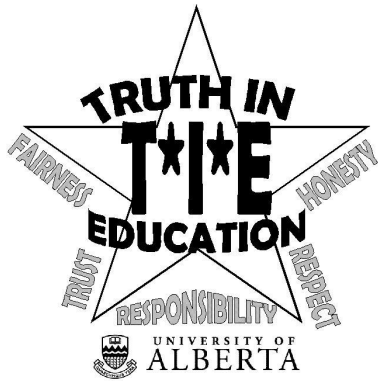
## Plagiarism

- ❖ If you use someone else's exact words without putting them in "quotation marks", that's plagiarism.
- ❖ If you use someone else's idea paraphrased in your own words without indicating where you got the idea, that's plagiarism.
- ❖ If you use data you didn't collect yourself and don't give credit to your source, that's plagiarism.
- ❖ If you use pictures, graphics, images or graphs that you didn't create on your own and don't state where you got them, that's plagiarism.

In other words, ANYTHING you submit as part of a course or program of study that doesn't credit any other sources you've used is assumed to be your own work. Therefore, you **MUST** credit the sources you use. It's the respectful thing to do and it's good academic practice.

### Code of Student Behaviour - Plagiarism

§30.3.2(1): No student shall submit the words, ideas, images or data of another person as the Student's own in any academic writing, essay, thesis, project, assignment, presentation or poster in a course or program of study.



# Cheating

- ❖ If you look at someone else's test, get information from someone else's during a test, give someone else information or allow someone to copy from your test, or bring a 'cheat sheet' into a test (even if you don't use it!), that's cheating.
- ❖ If you let someone else write a test, assignment or paper for you, or if you do those things for someone else, that's cheating.
- ❖ If you get too much editing or writing help (to the extent that your paper looks substantially different than it would if you wrote it on your own), that's cheating.
- ❖ If you submit something in a class that has already been submitted and graded in another class, that's cheating.
- ❖ If you include facts or references that you know to be false in any assignment of any kind, that's cheating.

In other words, cheating is dishonest behaviour designed to gain academic advantage. Any work you hand in or do for credit at the University of Alberta **MUST** be done honestly and with integrity!

#### Code of Student Behaviour – Cheating (§30.3.2(2))

**a** No Student shall in the course of an examination or other similar activity, obtain or attempt to obtain information from another Student or other unauthorized source, give or attempt to give information to another Student, or use, attempt to use or possess for the purposes of use any unauthorized material.

**b** No Student shall represent or attempt to represent him or herself as another or have or attempt to have himself or herself represented by another in the taking of an examination, preparation of a paper or other similar activity. See also misrepresentation in 30.3.6(4).

**c** No Student shall represent another's substantial editorial or compositional assistance on an assignment as the Student's own work.

**d** No Student shall submit in any course or program of study, without the written approval of the course Instructor, all or a substantial portion of any academic writing, essay, thesis, research report, project, assignment, presentation or poster for which credit has previously been obtained by the Student or which has been or is being submitted by the Student in another course or program of study in the University or elsewhere.

**e** No Student shall submit in any course or program of study any academic writing, essay, thesis, report, project, assignment, presentation or poster containing a statement of fact known by the Student to be false or a reference to a source the Student knows to contain fabricated claims (unless acknowledged by the Student), or a fabricated reference to a source.