



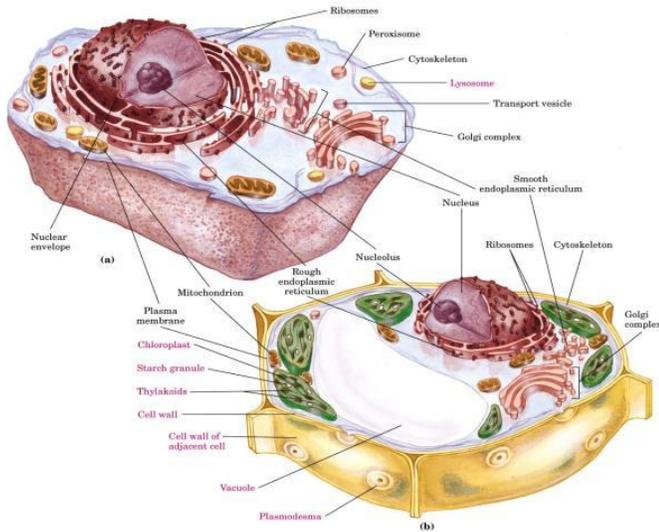
**Grande Prairie Regional College**  
**Department of Science**

**Introduction to Cell Biology, Biology 1070 (3\* 3-0-3)**  
**Fall 2008 Course Outline**

**Instructor:** David Dansereau, PhD  
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**Course Description:**

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 processes of DNA replication, transcription and translation.



**University Transfer:** This course is transferable to: Athabasca U (BIOL 2xx), Concordia UC (BIO 1xx), King's UC (BIOL 210), U of C (Jr. BIOL), U of A (BIOL 107 or AUBIO 130), and U of L (BIOL 1010). See <http://www.acat.gov.ab.ca/> for details.

**Schedule:**

Classes:	Tuesdays & Thursdays	8:30 – 9:50	Room J 203
Labs:	Tuesdays	2:30 – 5:20	Lab J 126
	or Wednesday	2:30 – 5:20	Lab J 130

**Office Hours:** You are welcome to drop in to my office (J 221) at any time. Times that I will be out of the office for a lecture or lab (or lunch) will be posted on my office door. If you prefer to have an appointment, please email and we can choose a time that is convenient to both of us.

**Text books:** *“Biology”* by Campbell and Reece (8<sup>th</sup> edition) (REQUIRED)  
This text is available at G.P.R.C. Bookstore  
The 7<sup>th</sup> Edition (2005) of this text is also acceptable but there are differences in the material covered by the various editions.

*Biology 1070 Laboratory Manual*, 2008-2009 edition (REQUIRED)

*Student Workbook*, Benjamin Cummings Publishing Company  
This book is recommended as a study aid but is not a required text.  
(available at G.P.R.C. Bookstore)

**Online resources:** BI1070 page on Blackboard  
<http://blackboard/webapps/login/>

**Mastering Biology Web site**

Students can access this resource using the Student Access Kit provided with the text book. The Study Area of this site provides many useful tools including animations, videos and practice quizzes.

**Course Assessment:**

25%	Lab assignments & quizzes
15%	Final lab exam
5%	Lecture quizzes
20%	Mid-term exam
35%	Final exam

Details of assessments associated with laboratory exercises will be provided during the first lab of the semester.

The Mid-term Exam will be scheduled during a normal class period approximately half way through the course and will consist primarily of multiple-choice questions. If you miss the midterm due to illness or emergency (with documentation provided) no make-up exam will be scheduled; the weight of the midterm will be transferred to the final exam.

The Final Exam will be scheduled by Registration during the official exam period. It will consist primarily of multiple-choice questions. Approximately 25-30% of the questions will concern material covered in classes prior to the mid-term, 70-75% of the questions will cover material presented after the Mid-term Exam.

**Final Grade:** At the end of this course you will be assigned a letter grade that the Registrar's office will convert to four-point equivalence as follows:

Grade	4-point Equivalence	Descriptor
A+	4.0	Excellent
A		
A-	3.7	First class standing
B+	3.3	
B	3.0	Good
B-	2.7	
C+	2.3	Satisfactory
C	2.0	
C-	1.7	
D+	1.3	Minimal Pass
D	1.0	
F	0.0	Fail

**Student Conduct:** This course includes 3 hours of lecture and 3 hours of lab each week. Participation in all of the lectures and laboratories is essential. The lab includes its own quizzes, assignments and final exam. All assignments must be completed and handed into the instructor by the date specified; no late assignments can be accepted.

## BI 1070 Topic Outline

### Chapter

- various The diversity and classification of life
- 5 Macromolecules and the chemical basis of life
- 18, 27 Prokaryotes
- 19 Viruses
- 6 Eukaryotic cell structure, cellular compartments, organelles
- 7 Membrane structure and function, fluid mosaic model, permeability and transport
- 8 Metabolism overview
- 9 Cellular respiration, glycolysis
- 9 Anaerobic metabolism in Eukaryotes
- 9 Anaerobic metabolism in Prokaryotes, fermentation
- 10 Photosynthesis
- 12 Mitosis and cell cycle control
- 13 Meiosis and sexual life cycles
- 16 Nucleic acids
- 16 DNA replication
- 17 Genes, proteins and the genetic code
- 17 Transcription
- 17 Translation
- 17 Protein trafficking and targeting
- 17 Mutation
- 18, 19 Control of gene expression
- 20 Biotechnology, molecular genetics