

SEP. 10 2002



**Grande Prairie Regional College**

**Dept. of Science & Technology**



**BI 2010  
Cellular Biology  
Course Outline  
Fall 2001 - 2002**

Instructor  
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**Course Description:** This course deals with the ultrastructure and metabolism of cells. It covers material on energy in biological systems; methods in cell biology, contractility; cell growth and replication, nuclear structure and cancer cell biology.

**Pre-requisites:** BI 1070

**Pre-requisite/Co-requisite:** CH 1610 or CH 2610

**Transferability:** University of Alberta - BIOL 201  
University of Calgary - BIOL 331  
University of Lethbridge - BIOL 2xxx

**Textbook:** "Molecular Cell Biology" (2000)  
Lodish, Berk, Zipursky, Matsudaira, Baltimore & Darnell  
*Freeman Publishing, Inc.*

This text is intended to supplement the lecture notes, not substitute for them. **It is expected that students read both the pages listed in the Lecture Outline along with other relevant sections of the text.**

<b>Evaluation:</b>	Quizzes / Assignments	15%
	Mid-term Exam I	20%
	Mid-term Exam II	25%
	Final Exam	40%

Quizzes will be given during class time, and designed to test your knowledge of terminology.

Any assignments will be concerned with the medical aspects of material being covered in the course.

**Web-site:** [http://www.gprc.ab.ca/courses\\_and\\_programs/biology/bi2010nf.html](http://www.gprc.ab.ca/courses_and_programs/biology/bi2010nf.html)

**Other Resources:** Lecture summaries and samples of exams (University of Alberta) are available on the Internet at the address:

<http://www.biology.ualberta.ca/courses.hp/bio201/bio201.htm>

## Lecture Outline - BI 2010

TOPIC		READINGS
		"Molecular Cell Biology"
1	Introduction: Cell culture and cell fractionation	83-9, 152-57, 180-9
2	Microscopy: light and electron microscopy	90-4, 138-52
3	Methodology: light and electron microscopy	
4	Labelling and detection methods	
5	ATP and energy interconversions	616-18, 632-40
6	Membrane structure and membrane transport	78-83, 157-67, 582-85, 588-97
7	Specific examples of membrane transport	
8	Cell junctions: desmosomes, tight junctions, gap junctions	602-8, 917-24, 968-79, 998-9
9	Intracellular compartments: endoplasmic reticulum	691-741
10	Intracellular compartments: golgi, lysosomes, peroxisomes, vesicular transport	
11	Protein sorting and targeting	
12	Endocytosis and exocytosis	
13	Lysosomal Storage Diseases	
14	Cytoskeleton	752-848
15	Cilia and flagella	
16	Mitosis and cytokinesis	
17	Cellular contractility	
18	The nucleus and ribosomes	126, 426-34
19	Chromatin structure	320-9
20	Eucaryotic cell cycle and control of the cell cycle	9-11, 495-533
21	Cancer cell biology	1054-63, 1067-8, 1076-8

The pages listed above refer only to those sections of the text which will be covered directly in class. Other sections of the text are relevant and therefore should also be read by students.