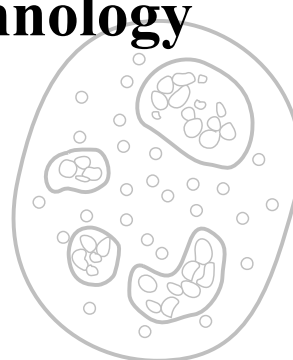
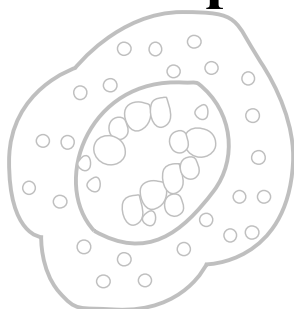


**Grande Prairie Regional College**

**Dept. of Science & Technology**



**BI 2010**

**Cellular Biology**

**Course Outline**

**Winter 2007 - 2008**

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**Course Description:** A structural and functional dissection of a eucaryotic cell. Detection of specific molecules at the ultrastructural level; plasma membrane structure and function; cytoskeletal involvement in intracellular transport, mitosis and cytokinesis; the endomembrane system, protein targeting, exocytosis and endocytosis; nuclear structure and function; cell cycle control and cancer

**Schedule:** Tuesday / Thursday 1300-1420 hrs J202

**Pre-requisites:** BI 1070

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

**Transferability:** Athabasca University - BIOL 3xx (3)  
Augustana University - BIO 2xx (3)  
Canadian University College - BIOL 374 (4)  
Concordia University College - BES 201 (3)  
King's University College - BIOL 3xx (3)  
University of Alberta - BIOL 201 (3)  
University of Calgary - BIOL 331 (3)  
University of Lethbridge - BIOL 2xxx (3)

**Textbook:** "The World of the Cell" 6<sup>th</sup> Edition (2006)  
Becker, Kleinsmith and Hardin  
*Benjamin Cummings*

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>	Assignments	10%
	Exam I	30%
	Exam II	30%
	Exam III	30%

All exams are non-cumulative consisting mostly of multiple-choice questions. Exams will be held during regular class hours in J226.

**Other Resources:** A copy of the following text will be placed on reserve in the library

'Molecular Biology of the Cell' (Alberts *et al*)

Copies of the Powerpoint slides used during classes will be available on the BI 2010 Blackboard site.

## Lecture Outline - BI 2010

Hours	Topic	Readings	
		5 <sup>th</sup> Edition	6 <sup>th</sup> Edition
1.5	Course introduction Techniques used in modern cell biology	5-8; 92; 326-330 Guide to microscopy 1-26	1-8; 322-326; Appendix A1-A26
2	Organization of the genome	486-490; 504-509	517-521; 535-54`
2	DNA replication	525-541; 543-544	556-572; 574-576
2	Gene Expression - Transcription	640-655	665-680
2	Gene Expression - Translation	660-674	684-698
2	Gene Expression - Regulation	704-706; 717-725	727-729; 737-747
<b>Mid-term Exam I</b>			
2	The Nucleus	510-518; 729-730	541-550
3	Membrane organelles	323-325; 330-362; 469-471; 676-683; 770-773	323-363
1.5	Flow of energy in the cell	112-125	112-125
3	The cytoskeleton and intracellular movement	95-97; 742-765; 777-786; 792-795	95-97; 427-450; 453-475
3	The Cell Membrane	166-180; 184-189; 203-215; 310-313	162-186; 199-212; 499-501
<b>Mid-term Exam II</b>			
1.5	Cell Signaling - Neurons	225-243	363-380
3	Cell Signaling - Non-neuronal, responses	256-282	392-419
1.5	Cell Death - Apoptosis	282-285	419-422
2	The Cell Cycle	544-571	576-596
1.5	Basics of Development		
1.5	Special Cell Types, Cellular Pathologies		

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.

Copies of Powerpoint presentations used in class will be available for download from Blackboard