



DEPARTMENT OF SCIENCE

COURSE OUTLINE – Winter 2011

BI 2010

CELLULAR BIOLOGY

INSTRUCTOR: Dr. Shauna Henley, **PHONE:** 539-2439
PhD

OFFICE: C 220 **E-MAIL:** SHenley@gprc.ab.ca

OFFICE HOURS: Tuesdays 10:30-12:00
Wednesdays 12:30-2:00

PREREQUISITE(S)/COREQUISITE: BI 1070

REQUIRED TEXT/RESOURCE MATERIALS:

“The World of the Cell”, 7th edition (2009) by Becker Kleinsmith and Hardin, Benjamin Cummings Publishing.

DESCRIPTION: A structural and functional dissection of a eukaryotic cell with emphasis on the techniques of modern cell biology. 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.

COURSE OUTCOME: Students will gain a deeper understanding of how eukaryotic cells work and an appreciation for important experiments and techniques in cellular biology.

CREDIT/CONTACT HOURS: 3 Credits (3-0-0) UT

DELIVERY MODE(S): Lectures – Tues and Thurs, 1:00 – 2:20, Rm J229

TRANSFERABILITY: University of Alberta

University of Calgary

University of Lethbridge

Athabasca University

Augustana Faculty

University of Alberta

Concordia University College

King's University College

GRADING CRITERIA: Exam I – 20%

Exam II – 20%

Online quizzes – 20%

Final Exam – 40%

Exams I and II will be non-cumulative and held during class on **Tuesday February 8** and **Thursday March 17**, respectively. There will be 4 online quizzes (worth 5% each), and the dates and topics of these quizzes will be announced in class. The final exam will be cumulative and will take place during the scheduled exam period. Failure to write a quiz or exam will result in a grade of zero unless appropriate documentation is provided.

STATEMENT ON PLAGIARISM AND CHEATING:

Please refer to pages 49-50 of the College calendar regarding plagiarism, cheating and the resultant penalties. These are serious issues and will be dealt with severely.

BI 2010 Topic Outline

Topics	Required Text Readings (pages)
1. Introduction to BI 1070	
2. A preview of the cell	1-9, A1-A26
3. The macromolecules of the cell	41-71, 25-27, 32-36
4. Cells and Organelles	78-98
5. Membranes	156-189
6. Membrane transport	194-215
8. The nucleus	538-546
9. The cell cycle, DNA replication & mitosis	551-566, 572-591
10. Transcription	645-675
11. Protein synthesis and sorting	679-705
12. Mitochondria & chloroplasts	254-258, 293-297
13. The endomembrane system and peroxisomes	324-359
14. Cytoskeletal systems	425-448
15. Cellular Movement	452-456, 461-476
16. Beyond the cell	480, 484-500
17. Signal transduction	371-388, 392-421
18. Cancer cells	757-789

GRANDE PRAIRIE REGIONAL COLLEGE**GRADING CONVERSION CHART**

Alpha Grade	4-point Equivalent	Percentage Guidelines	Designation
A⁺	4.0	90 – 100	EXCELLENT
A	4.0	85 – 89	
A⁻	3.7	80 – 84	FIRST CLASS STANDING
B⁺	3.3	77 – 79	
B	3.0	73 – 76	GOOD
B⁻	2.7	70 – 72	
C⁺	2.3	67 – 69	SATISFACTORY
C	2.0	63 – 66	
C⁻	1.7	60 – 62	
D⁺	1.3	55 – 59	MINIMAL PASS
D	1.0	50 – 54	
F	0.0	0 – 49	FAIL
WF	0.0	0	FAIL, withdrawal after the deadline