DEPARTMENT OF SCIENCE

COURSE OUTLINE – WINTER 2017

BI1050 A3 The Organization and Diversity of Life 3 (3-0-0) UT 45 HR, 15 WEEKS

INSTRUCTOR: Phil Johnson **PHONE:** 780-539-2863
OFFICE: J224 **EMAIL:** PJohnson@gprc.ab.ca

OFFICE HOURS: TBA

CALENDAR DESCRIPTION: A study of biological concepts and mechanisms illustrated by current examples of medical and environmental problems.

PREREQUISITES: None

REQUIRED TEXT/RESOURCE MATERIALS: "Campbell Essential Biology" by Simon, Dickey Hogan and Reece, PEARSON Publishing, 6th edition, 2016 (or 5th edition, 2013).

DELIVERY MODES: Lecture plus use of Moodle and online resources.
Tuesday and Thursday 11:30 – 12:50 room J201

COURSE OBJECTIVES: To foster an appreciation for the science of biology and its applications. To make students aware of how biology impacts their lives. Students will be exposed to the scientific study of life, the nature of life and the major themes in biology: Cell structure and function, Information Flow, Energy Transformations, and Interconnections within Biological Systems.

LEARNING OUTCOMES: Biology 1050 has four main units. The major learning outcomes of each unit for students successfully completing this course are to:

1. Explain what the basic molecules of life are
2. Explain the basic structure and function of the cell
3. Explain basic principles of genetics and inheritance
4. Explain the basics of DNA technology and its applications to genetic engineering, forensic science and bioinformatics
5. Explain and recognize the diversity of life
6. Explain how natural selection is a mechanism for Evolution
7. Recognize the main features of protists, fungi, plants and animals

TRANSFERABILITY: Students with credit in BI1050 will not receive credit in BI1070 or BI1080. Bachelor of Science students will not receive credit for this course.

*Transfer: Athabasca University, King's University College, MacEwan University, University of Alberta, University of Calgary, University of Lethbridge

***Warning:** Although we strive to make the transferability information in this document up-to-date and accurate, **the student has the final responsibility for ensuring the transferability of this course to Alberta Colleges and Universities**. Please consult the Alberta Transfer Guide for more information. You may check to ensure the transferability of this course at Alberta Transfer Guide main page http://www.transferalberta.ca or, if you do not want to navigate through few links, at http://alis.alberta.ca/ps/tsp/ta/tbi/onlinesearch.html?SearchMode=S&step=2

** Grade of D or D+ may not be acceptable for transfer to other post-secondary institutions. **Students are cautioned that it is their responsibility to contact the receiving institutions to ensure transferability**

EVALUATIONS:

Quizzes……..……..…10%
Exams 1……...…….20%
Exam 2…….20%
Exam 3…….20%
Final Exam ……..…...30%

Exams 1,2 and 3 will be scheduled during regular class time.

GRADING CRITERIA:

GRADING CRITERIA: please note that most universities will not accept your course for transfer credit **IF** your grade is less than **C-.** This means **DO NOT GET LESS THAN "C-" IF YOU ARE PLANNING TO TRANSFER TO A UNIVERSITY.**

Alpha Grade	4-point Equivalent	Percentage Guidelines		Alpha Grade	4-point Equivalent	Percentage Guidelines
A+	4.0	90-100		C+	2.3	67-69
A	4.0	85-89		C	2.0	63-66
A-	3.7	80-84		C-	1.7	60-62
B+	3.3	77-79		D+	1.3	55-59
B	3.0	73-76		D	1.0	50-54
B-	2.7	70-72		F	0.0	00-49

COURSE SCHEDULE

TOPIC	TEXT READINGS	
	5th edition	**6th edition**
1. Introduction to BI 1050 ---		
2. Introduction & the scientific method	2-20	2-20
3. Chemistry and Biological Molecules	22-28, 37-53	22-28, 37-53
4. Classification and Taxonomy	285-291	286-291
EXAM 1		
5. Cell Structure	54-73, 83-89	54-73, 83-89
6. Introduction to Metabolism	75-82	75-82
7. Respiration and Fermentation	90-105	90-105
8. Photosynthesis	106-118	106-118
EXAM 2		
9. Cell Division and Reproduction	120-143	120-143
10. Patterns of Inheritance	144-161, 165-171	144-161, 165-169
11. Structure and Function of DNA	172-187	170-185
12. Biotechnology	207-210, 218-227, 234-237	205-208, 216-226 234-237
EXAM 3		
13. Evolution: how populations evolve	242-267	246-267
14. Evolution: how diversity evolves	268-285	268-285
15. Viruses and prokaryotes	188-194, 299-305	186-192, 299-306
16. Protists	306-313	307-313
17. Plants and Fungi	314-335	314-335
18. Animals	336-360	336-360
FINAL EXAM		

STUDENT RESPONSIBILITIES:

Refer to the College Policy on Student Rights and Responsibilities at www.gprc.ab.ca/d/STUDENTRIGHTSRESPONSIBILITIES

If you are absent from an exam, you MUST notify the instructor of your absence (by email or voice message) on the day of the missed exam, or as soon as possible after. Also you may be asked to provide a doctor's certificate or a verification that explains your absence for that particular time. Only then will an alternate time be scheduled for you to write a different exam.

Attendance:

Students are expected to attend all classes and complete all assignments and tests.

STATEMENT ON PLAGIARISM AND CHEATING:

Cheating and plagiarism will not be tolerated and there will be penalties. For a more precise definition of plagiarism and its consequences, refer to the Student Conduct section of the College Admission Guide at http://www.gprc.ab.ca/programs/calendar/ or the College Policy on Student Misconduct: Plagiarism and Cheating at http://www.gprc.ab.ca/about/administration/policies/

**Note: all Academic and Administrative policies are available on the same page.