

Dakota College at Bottineau Course Syllabus

Course Prefix/Number/Title: BIOL 150 General Biology I, Number of Credits: 4 semester credits

Course Description: The first semester of a two-semester sequenced study of the fundamental topics of biology, with an emphasis on cellular biology.

Prerequisites: none

Course Objectives: Demonstrate an understanding and proficiency with the following concepts:

1. Understand cellular and viral structure and function.
2. Understand fundamental biochemical principles.
3. Understand rudimentary classical genetics
4. Understand rudimentary molecular genetics and have a familiarity with various DNA technologies
5. Use knowledge about mechanisms of cellular and molecular processes.

Instructor: C. L. Lura, Ph.D.

Office: NSC 114

Office Hours: MWF: 1:00-2:00

Phone: (701) 228-5472

Email: chuck.lura@dakotacollege.edu

Lecture/Lab Schedule: Fall semester

Textbook(s): Campbell, N.A. and J.B. Reece. 2008. Biology. 8th Edition. Pearson/Benjamin Cummings, Publ. Co.

Lura. 2012. Biology 150 Lab Manual.

Course Requirements:	4 Hour Exams @ 100 pts. ea.	400 pts.
	Lec assign/quizzes	100 pts.
	2 Lab Exams @ 50 pts. ea.	100 pts.
	10 Lab Quizzes	<u>100 pts.</u>
	TOTAL POINTS	700

A = 100-90%

B = 89-80%

C = 79-70%

D = 69-60%

F = below 60%

Tentative Course Outline:**BIOLOGY 150 TENTATIVE SYLLABUS
FALL 2012**

DATE	TOPIC	READING ASSIGN.
Aug. 22-24	Scientific Method, Chemistry of Life, Water	Chapter 2,3,4
Aug 27- 31	Large Biological Molecules LAB: Microscopy	5
Sept 3-7	Monday September 3: Labor Day Prokaryotes and Archaea LAB: Osmosis and Diffusion	27
Sept 10-14	Eukaryotic Cell Structure and Function FRIDAY SEPTEMBER 14: HOUR EXAM I LAB: Chemistry of Life	6
Sept 17-21	Membranes, Endosymbiotic Theory LAB: Eukaryotic Cell Structure and Function	7
Sept 24-28	Sexual Life Cycles, Tissues and Tissue Organization LAB: Prokaryotic Cell Structure and Function	13
Oct 1-5	Virus Structure and Function, Viroids, Prions Wednesday, October 3, Assessment Day – No Class LAB: Enzymes	19
Oct 8-12	Enzymes and Metabolism FRIDAY OCTOBER 12: HOUR EXAM II LAB: Lab Midterm	8
Oct 15-19	Photosynthesis LAB: Photosynthesis	10
Oct 22-26	Respiration LAB: Respiration	9
Oct 29-Nov 2	DNA, Mitosis LAB: Mitosis and Meiosis	16,12
Nov 5-9	Mitosis cont'd., Meiosis LAB: Inheritance and Probability	12,13
Nov 12-16	Protein Synthesis Monday November 12: Veteran's Day FRIDAY NOVEMBER 16: HOUR EXAM III LAB: Protein Synthesis	17
Nov 19-23	Gene Expression and Regulation Thursday & Friday November 22-23: Thanksgiving Break LAB: No lab this week	18
Nov 26-30	Inheritance	14,15

LAB: Human Genetic Disorders

Dec 3-7	DNA Technology, Genetic Engineering LAB: LAB FINAL	20
Dec 10	Summary and Future Considerations	

*******FINAL EXAMS DECEMBER *******
8:00 section: Wednesday December 12, 12:00-2:00
1:00 section: Thursday, December 13, 12:00-2:00

General Education Goals/Objectives:

Goal 1: Explains the interrelationships between humans and their environment and the role of science in their lives

Goal 2: Demonstrates knowledge and application of technology

Relationship to Campus Theme:

Class announcement/discussion on news items about technological developments in biology and how that influences the discipline as well as the societal aspects.

Covers DNA analysis, genetic engineering, and DNA fingerprinting

Knowledge on cell structure and function related to microscope development discussed.

Interject technological developments and how they influence scientific development and societal issues.

Classroom Policies: Regular attendance and participation in lab and lecture is expected.
All make-up exams will include a significant essay/short answer component and must be made up within one week of the students return to class unless prior arrangements have been made.

Academic Integrity: Cheating on a test, quiz, or other assessment results in zero points for the assessment.

Disabilities and Special Needs: Any accommodations due to a learning disability must come through the Dakota College Learning Center. If you have a diagnosed learning disability, you need to contact the Learning Center in Thatcher 1104 or phone (701) 228-5477.