

Dakota College at Bottineau Course Syllabus

Course Prefix/Number/Title: BIOL 150 General Biology I

Number of Credits: 4 semester credits

Course Description: Introduction to cellular and molecular biology, genetics, evolution, and ecology.

Prerequisites: none

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

1. Cell structure and function
2. Mendelian genetics and recombinant DNA technology
3. Evolution
4. The scientific method
5. Ecology

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

Office: NSC 114

Office Hours: MWF 10:00-11:00

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, C.L. 2010. 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 2010**

DATE	TOPIC	READING ASSIGN.
Aug. 25-27	Scientific Method, Chemistry of Life, Water	Chapter 2,3,4
Aug 30- Sept 3	Large Biological Molecules, Cell Structure and Function LAB: Chemistry of Life	5,6
Sept 6-10	Monday September 6: Labor Day Cell Structure and Function cont'd., LAB: Microscopy, Eukaryote Cell Structure and Function	6
Sept 13-17	Cell structure and function cont'd., FRIDAY SEPTEMBER 17: HOUR EXAM I LAB: Cells: diversity and phylogeny	6
Sept 20-24	Enzymes, and Metabolism LAB: Enzymes	8
Sept 27-Oct 1	Photosynthesis and Respiration LAB: Photosynthesis	10,9
Oct 4-8	Respiration cont'd., DNA LAB: Respiration	9,16
Oct 11-15	MONDAY OCTOBER 11: ASSESSMENT DAY Mitosis and Meiosis FRIDAY OCTOBER 15: HOUR EXAM II LAB: LAB MIDTERM	12,13
Oct 18-22	Nucleic Acids, Protein Synthesis LAB: Mitosis and Meiosis	15,17
Oct 25-29	Gene Expression & Regulation, Inheritance DNA Technology, Genetic Engineering LAB: Inheritance and Probability	14,18,20
Nov 1-5	Hardy-Weinberg, Natural Selection LAB: Hardy-Weinberg	22,23
Nov 8-12	Speciation and Phylogeny Thursday November 11: Veteran's Day LAB: Island Biogeography and Evolution	18,19
Nov 15-19	Macroevolution FRIDAY NOVEMBER 19: HOUR EXAM III	25

LAB: Macroevolution

Nov 22-26	Populations and Communities Thursday & Friday November 25-26: Thanksgiving Break LAB: Sampling Populations and Communities	53,54
Nov 29-Dec 3	Ecosystems- energy flow & biogeochemical cycles LAB: Ecosystem Modeling	55
Dec 6-10	Conservation & Restoration LAB: LAB FINAL	56
Dec 13	Summary and Future Considerations	

*******FINAL EXAMS DECEMBER 14-17*******

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.

DNA analysis, genetic engineering, and DNA fingerprinting covered in class

Knowledge on cell structure and function related to microscope development discussed in class

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

Portion of lecture (and full lab) dedicated to computer modeling of populations or ecosystems.

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.