

Dakota College at Bottineau Course Syllabus

Course Prefix/Number/Title: BIOL 111 Concepts of Biology

Number of Credits: 4 semester credits

Course Description: This course is a study of nature, diversity, and classification of life, cells and cell processes, genetics, evolution, and ecology. The course is an introductory level, non-majors transferable class designed to meet requirements of a lab science.

Pre-/Co-requisites: none

Course Objectives:

1. To be able to understand the theories and concepts of cell biology, genetics, ecology, and evolution
2. To be familiar with the resources and methods used to acquire scientific data
3. To be able to demonstrate an orderly approach to the solution of a problem
4. To be able to relate past knowledge to an understanding of modern biology
5. To have acquired an awareness of new scientific developments and their potential implications

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

Office: NSC 114

Office Hours: MWF 9:00-10:00 & 2:00-3:00

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Lecture/Lab Schedule: Fall semester

Textbook(s): Audesirk, T., G. Audesirk, and B. Byers. 2011. Biology, life on earth. 9th Edition, Benjamin Cummings, Publ. Co.

Course Requirements:	4 Hour Exams @ 100 pts. ea.	400 pts.
	Lec assign/quizzes	200 pts.
	Lab evaluations	<u>150 pts.</u>
	TOTAL POINTS	750

A = 100-90%

B = 89-80%

C = 79-70%

D = 69-60%

F = below 60%

Tentative Course Outline:**BIOLOGY 111 TENTATIVE SYLLABUS
FALL 2012**

DATE	TOPIC	READING ASSIGN.
Aug 22-24	Introduction, scientific method LAB: NO LAB THIS WEEK	1
Aug 27-31	Chemistry of life, cell structure & function LAB: Microscopy & Cells	2,3,4
Sep 3-7	Monday September 3 – Labor Day Membranes, energy, photosynthesis LAB: Photosynthesis	5,6,7
Sep 10-14	Photosynthesis continued, respiration FIRST HOUR EXAM, FRIDAY SEPTEMBER 14 LAB: Respiration	7,8
Sep 17-21	DNA, gene expression, LAB: Protein Synthesis	11,12
Sep 24-28	Cellular reproduction (mitosis and meiosis) LAB: Mitosis & Meiosis	9
Oct 1-5	Inheritance Wednesday, October 3: Assessment Day – No Class LAB: Human Genetics	10
Oct 8-12	Gene expression & regulation, biotechnology SECOND HOUR EXAM, FRIDAY OCTOBER 12 LAB: Recombinant DNA	12,13
Oct 15-19	Systematics LAB: Classification & Nomenclature	18
Oct 22-26	Animal and Plant Diversity LAB: Survey of Plants and Animals	21,23,24
Oct 29-Nov 2	Viruses, Prokaryotes, Protistans, Fungi, LAB: Archaea	19,20,22
Nov 5-9	Natural Selection & Evolution LAB: Hardy-Weinberg and Evolution	14,15
Nov 12-16	Monday November 12, Veteran's Day Speciation and Macroevolution THIRD HOUR EXAM, FRIDAY NOVEMBER 16 LAB: Speciation in Gallotia lizards	16,17
Nov 19-23	Populations and Communities Thursday & Friday November 22-23 Thanksgiving Break LAB: NO LAB THIS WEEK	26,27

Nov 26-30	Ecosystem structure & function LAB: Lake Ecosystem Case Study	28
Dec 3-7	Ecosystems/Biomes and Conserving Biodiversity LAB: Pheasant Habitat Suitability Model	29,30
Dec 10	Conserving Biodiversity	30

***** FINAL EXAM: THURSDAY DECEMBER 13 9:00-11:00 *****

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:

Announcements/discussion on news topics relating to technological developments in biology

Genetic engineering, DNA fingerprinting, and genetic engineering covered/discussed in class

Class discussion on how technological developments influence our knowledge base (e.g. genetics, cell structure and function)

Class discussion technological development and ethical concerns (e.g. genetic testing/screening)

Portion of lecture and full lab dedicated to ecosystem modeling.

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.