DAKOTA COLLEGE AT BOTTINEAU

COURSE SYLLABUS

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

Number of Credits: 4

Course Description: Concepts of Biology is an introductory level non-majors transferrable class. It is designed to meet the requirements of a Lab Science.

Pre-/Co-requisites: None

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

1. Basic science literacy, possibly including superficial coverage of cell biology, ecology, human anatomy and physiology, evolution, genetics, and environmental biology.
2. Understanding how science informs cultural perspectives.
3. Understanding the relationship among levels of biological information.
4. Understanding the unity and diversity of life forms.
5. Comprehending methods of inquiry and technology applications for society.
6. Integrating knowledge and ideas in science.
7. Understanding and utilizing scientific knowledge.

Instructor: Dr. Jessica Guerrero

Office: Virtual

Office Hours: By appointment

Phone: 701-228-2277 (college phone)

Email: Jessica.Guerrero@dakotacollege.edu

Lecture/Lab Schedule: Online

Textbook(s): Connect Access Card with eBook. TBD

Course Requirements:
Below is a table of course requirements. This is subject to slight modification based on the discretion of the instructor.

Requirements	**Total**
Orientation	60
Module 1	565
Module 2	565
Module 3	340
Module 4	485
Module 5	480
Module 6	800
Total	**3295**

Grading:

- A = 100-90%
- B = 89.5-80%
- C = 79.5-70%
- D = 69.5-60%
- F = below 59.5%

*Please do not request bonus points, rounding of a grade, or a grade change. If there is an opportunity for extra points you will be notified.

General Education Competency/Learning Outcome(s) OR CTE Competency/Department Learning Outcome(s):

- Learning Outcome 1: Applies the scientific methods of inquiry.
- Performance Indicator 1: Utilizes the scientific process to solve problems.

Relationship to Campus Theme:

- Class announcement/discussion on news items about technological developments in biology, and how that influences the discipline as well as societal aspects.
- Covers DNA analysis, genetic engineering, and DNA fingerprinting.
- Knowledge of cell structure and function related to microscope development discussed.
- Interject technological developments and how they influence scientific development and societal issues.

Classroom Policies:

Participation: required for both lecture and lab for this online course.

Late Policy: Work is not accepted late for any reason. Please check into the course daily to review due dates and assignment requirements.

- Do not leave work until the last minute or due date. Time management skills are required to be successful in this course.
- Technology issues are not an excuse for late work. Time management will prevent missing due dates and provide time to work through technological issues if they arise.

Electronic Device Policy: Electronic devices should not be used during any examinations as they are prohibited and use of them will result in a Zero score and other academic integrity enforcement.

Student Email Policy:

Dakota College at Bottineau is increasingly dependent upon email as an official form of communication. A student's campus-assigned email address will be the only one recognized by the Campus for official mailings. The liability for missing or not acting upon important information conveyed via campus email rests with the student.

Academic Integrity:

According to the DCB Student Handbook, students are responsible for submitting their own work. Students who cooperate on oral or written examinations or work without authorization share the responsibility for violation of academic principles, and the students are subject to disciplinary action even when one of the students is not enrolled in the course where the violation occurred. The Code detailed in the Academic Honesty/Dishonesty section of the Student Handbook will serve as the guideline for cases where cheating, plagiarism, or other academic improprieties have occurred.

Cheating and plagiarism are serious and will not be tolerated in my class or lab.

If you decide to cheat and/or plagiarize you will be given at minimum a ZERO for that assignment, test, or quiz, and with more serious cheating/plagiarism you will need to meet with the Associate Dean for Academic and Student Affairs.

Disabilities or Special Needs:

Students with disabilities or special needs (academic or otherwise) are encouraged to contact the instructor and Disability Support Services within the first two weeks of the semester to line up accommodations. You will need to contact the Learning Center in Thatcher. Phone: 701-228-5435 Email: Erika.hamilton@dakotacollege.edu.

Title IX:

Dakota College at Bottineau (DCB) faculty are committed to helping create a safe learning environment for all students and for the College as a whole. Please be aware that all DCB employees (other than those designated as confidential resources such as advocates, counselors, clergy, and healthcare providers) are required to report information about such discrimination and harassment to the College Title IX Coordinator. This means that if a student tells a faculty member about a situation of sexual harassment, sexual violence, or other related misconduct, the faculty member must share that information with the College's Title IX Coordinator. Students wishing to speak to a confidential employee who does not have this reporting responsibility can find a list of resources on the DCB Title IX Webpage.

Tentative Course Outline: (attached)

Orientation Assignments

Assignment	Points	Due Date
Review Course Syllabus	-	
Email Etiquette Agreement	10	
Honor Code Agreement: Plagiarism and Collusion	10	
Discussion Board Etiquette	10	
McGraw-Hill: Connect Orientation Videos	10	
McGraw-Hill: SmartBook 2.0 Overview	10	
McGraw-Hill: Succeeding in Your Online Course	10	

ORIENTATION TOTAL POSSIBLE POINTS- 60

Module 1- The Scientific Study of Life, Chemistry, and Cells

Chapter 1- The Scientific Study of Life

Assignment	Points	Due Date
Chapter 1: The Scientific Study of Life	25	
Chapter 1 Assignment	10	
Relevancy Module: Scientific Thinking in Everyday Life	10	
BioNow Video Activities: Characteristics of Life	10	
Chapter 1 Assessment (proctored)	40	

Chapter 2- The Chemistry of Life

Assignment	Points	Due Date
Chapter 2: The Chemistry of Life	25	
Chapter 2 Assignment	10	
BioNow Video Activities: Properties of Water	10	
Relevancy Module: The Biology of Chocolate	10	
Chapter 2 Assessment (proctored)	40	

Chapter 3- Cells

Assignment	Points	Due Date
Chapter 3: Cells	25	
Chapter 3 Assignment	10	
BioNow Video Activities: Cell Size	10	
BioNow Video Activities: Cell Division	10	
Chapter 3 Assessment (proctored)	40	

Module 1 Labs

Assignment	Points	Due Date
LAB- 1st lab- Virtual Labs Tutorial	20	
LAB- Lab Safety- Personal Safety	20	
LAB- Lab Safety- Hand Washing Procedure	20	
LAB- How to use a Microscope!	20	
LAB- Cell Lab	20	
LAB- Passive and Active Process of Membrane Transport	20	
LAB- Diffusion Lab	20	
LAB- Osmosis Lab- Plant Cells	20	
LAB- Osmosis Lab- Animal Cells	20	

Module 1 Exam

Assignment	Points	Due Date
Module 1 Exam: The Scientific Study of Life, Chemistry, and Cells	100	

MODULE 1 TOTAL POSSIBLE POINTS- 565

Module 2- The Energy of Life, Photosynthesis, Respiration, Fermentation

Chapter 4- The Energy of Life

Assignment	Points	Due Date
Chapter 4: The Energy of Life	25	
Chapter 4 Assignment	10	
BioNow Video Activities: Energy Part I	10	
Chapter 4 Assessment (proctored)	40	

Chapter 5- Photosynthesis

Assignment	Points	Due Date
Chapter 5: Photosynthesis	25	
Chapter 5 Assignment	10	
BioNow Video Activities: Energy Part II	10	
Chapter 5 Assessment (proctored)	40	

Chapter 6- Respiration and Fermentation

Assignment	Points	Due Date
Chapter 6: Respiration and Fermentation	25	
Chapter 6 Assignment	10	
BioNow Video Activities: Energy Part III	10	
Relevancy Module: Fermentation	10	
Chapter 6 Assessment (proctored)	40	

Module 2 Labs

Assignment	Points	Due Date
LAB- Enzyme Lab Part 1	20	
LAB- Enzyme Lab Part 2	20	
LAB- Enzyme Lab Part 3	20	
LAB- Enzyme Lab Part 4	20	
LAB- Photosynthesis Lab Part 1	20	
LAB- Photosynthesis Lab Part 2	20	
LAB- Photosynthesis Lab Part 3	20	
LAB- Photosynthesis Lab Part 4	20	
LAB- Cellular Respiration Part 1	20	
LAB- Cellular Respiration Part 2	20	

Module 2 Exam

Assignment	Points	Due Date
Module 2 Exam: The Energy of Life, Photosynthesis, Respiration, and Fermentation	100	

MODULE 2 TOTAL POSSIBLE POINTS- 565

Module 3- DNA Structure, Gene Function, DNA Replication, Binary Fission, Mitosis

Chapter 7- DNA Structure and Gene Function

Assignment	Points	Due Date
Chapter 7: DNA Structure and Gene Function	25	
Chapter 7 Assignment	10	
Chapter 7 Assessment (proctored)	40	

Chapter 8- DNA Replication, Binary Fission, and Mitosis

Assignment	Points	Due Date
Chapter 8: DNA Replication, Binary Fission, and Mitosis	25	
Chapter 8 Assignment	10	
Relevancy Module: Module Cancer	10	
Chapter 8 Assessment (proctored)	40	

Module 3 Labs

Assignment	Points	Due Date
LAB- DNA Structure Lab	20	
LAB- DNA Gel Electrophoresis Lab	20	
LAB- Protein Synthesis Lab	20	
LAB- Mitosis Lab	20	

Module 3 Exam

Assignment	Points	Due Date
Module 3 Exam: DNA Structure, Gene Function, DNA Replication, Binary Fission, Mitosis	100	

MODULE 3 TOTAL POSSIBLE POINTS- 340

Module 4- Sexual Reproduction, Meiosis, Patterns of Inheritance, DNA Technology

Chapter 9- Sexual Reproduction and Meiosis

Assignment	Points	Due Date
Chapter 9: Sexual Reproduction and Meiosis	25	
Chapter 9 Assignment	10	
Chapter 9 Assessment (proctored)	40	

Chapter 10- Patterns of Inheritance

Assignment	Points	Due Date
Chapter 10: Patterns of Inheritance	25	
Chapter 10 Assignment	10	
BioNow Video Activities: Genetics	10	
BioNow Video Activities: Quail Hormones	10	
BioNow Video Activities: Metamorphosis	10	
Chapter 10 Assessment (proctored)	40	

Chapter 11- DNA Technology

Assignment	Points	Due Date
Chapter 11: DNA Technology	25	
Chapter 11 Assignment	10	
Relevancy Module: Mega Crops	10	
Chapter 11 Assessment (proctored)	40	

Module 4 Labs

Assignment	Points	Due Date
LAB- Meiosis Lab	20	
LAB- Mendelian Genetics Lab 1	20	
LAB- Mendelian Genetics Lab 2	20	
LAB- Mendelian Genetics Lab 3	20	
LAB- Mendelian Genetics Lab 4	20	
LAB- Human Genetics Lab	20	

Module 4 Exam

Assignment	Points	Due Date
Module 4 Exam: Sexual Reproduction, Meiosis, Patterns of Inheritance, DNA Technology	100	

MODULE 4 TOTAL POSSIBLE POINTS- 485

Module 5- The Evolution of Life

Chapter 12- The Forces of Evolutionary Change

Assignment	Points	Due Date
Chapter 12: The Forces of Evolutionary Change	25	
Chapter 12 Assignment	10	
BioNow Video Activities: Evolution	10	
Relevancy Module: Antibiotic Resistance	10	
Chapter 12 Assessment (proctored)	40	

Chapter 13- Evidence of Evolution

Assignment	Points	Due Date
Chapter 13: Evidence of Evolution	25	
Chapter 13 Assignment	10	
Chapter 13 Assessment (proctored)	40	

Chapter 14- Speciation and Extinction

Assignment	Points	Due Date
Chapter 14: Speciation and Extinction	25	
Chapter 14 Assignment	10	
Chapter 14 Assessment (proctored)	40	

Chapter 15- Origin and History of Life

Assignment	Points	Due Date
Chapter 15: The Origin and History of Life	25	
Chapter 15 Assignment	10	
Relevancy Module: Our Animal Ancestors	10	
Relevancy Module: Evolution of a Weed	10	
Chapter 15 Assessment (proctored)	40	

Module 5 Labs

Assignment	Points	Due Date
LAB- Evolution- Evidence Comparative Fossils	20	
LAB- Evolution- Molecular Evidence	20	

Module 5 Exam

Assignment	Points	Due Date
Module 4 Exam: The Evolution of Life	100	

MODULE 5 TOTAL POSSIBLE POINTS- 480

Module 6- The Diversity of Life

Chapter 16- Viruses

Assignment	Points	Due Date
Chapter 16: Viruses	25	
Chapter 16 Assignment	10	
Chapter 16 Assessment (proctored)	40	

Chapter 17- Bacteria and Archea

Assignment	Points	Due Date
Chapter 17: Bacteria and Archaea	25	
Chapter 17 Assignment	10	
Chapter 17 Assessment (proctored)	40	

Chapter 18- Protists

Assignment	Points	Due Date
Chapter 18: Protists	25	
Chapter 18 Assignment	10	
Chapter 18 Assessment (proctored)	40	

Chapter 19- Plants

Assignment	Points	Due Date
Chapter 19: Plants	25	
Chapter 19 Assignment	10	
Chapter 19 Assessment (proctored)	40	

Chapter 20- Fungi

Assignment	Points	Due Date
Chapter 20: Fungi	25	
Chapter 20 Assignment	10	
BioNow Video Activities: Enzymes and Fungi	10	
Chapter 20 Assessment (proctored)	40	

Chapter 21- Animals

Assignment	Points	Due Date
Chapter 21: Animals	25	
Chapter 21 Assignment	10	
Chapter 21 Assessment (proctored)	40	

Module 6 Labs

Assignment	Points	Due Date
LAB- Microscopy- Diversity of Microorganisms	20	
LAB- Organismal Diversity- Protists	20	
LAB- Organismal Diversity- Fungi	20	
LAB- Organismal Diversity- Flatworms, Rotifers, and Water Bears	20	
LAB- Organismal Diversity- Sponges and Cnidarians	20	
LAB- Dissection- Tutorial for Animals and Plants	20	
LAB- Dissection- Mussel (invertebrate)	20	
LAB- Dissection- Nematode (invertebrate)	20	
LAB- Dissection- Earthworm (invertebrate)	20	
LAB- Dissection- Sea Star (invertebrate)	20	
LAB- Dissection- Frog (vertebrate)	20	
LAB- Dissection- Perch (vertebrate)	20	

Module 6 Exam

Assignment	Points	Due Date
Module 6 Exam: The Diversity of Life	100	

MODULE 5 TOTAL POSSIBLE POINTS- 800