



BIOL 1001002LB BKilburn

Course Syllabus: Fall 2019

"Northeast Texas Community College exists to provide responsible, exemplary learning opportunities."

NORTHEAST TEXAS
COMMUNITY COLLEGE

Instructor: Barbara Kilburn

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Office Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Online
				12:30-1:00 (or by appt.)		

The information contained in this syllabus is subject to change without notice. Students are expected to be aware of any additional course policies presented by the instructor during the course.

Catalog Course Description (include prerequisites): This course is a study of the biological sciences for students who plan to major in biology or pre-professional studies or to fulfill the laboratory science requirement of other majors. The course utilizes an integrated approach and emphasizes the molecular basis of life, cellular organization, bioenergetics, Mendelian and molecular genetics.

3 Hours of Lecture plus 3 hours of Lab course work per week. Lecture meets 2X/week; Lab meets 1X/week.

Lab hours: 1:30-4:20 Thursday

Required Textbook

Raven: Foundations of Life Volume 1 with Text with Connect

ISBN 9781308806068

Required Lab Manual

Hearron and Ward: Exploring Biology 1 Lab Manual

NTCC Bookstore

Recommended Readings

Chapters 1-8, 10-15 in lecture text; Lab units 1-12 in Lab Manual

Other Course Requirements

Notebook along with pens/pencils for note taking, diagram labeling, data collection, and graphing.

Lab drawings should be in Pencil/colored pencil only.

Core Curriculum Purpose and Objectives:

Through the core curriculum, students will gain a foundation of knowledge of human cultures and the physical and natural world; develop principles of personal and social responsibility for living in a diverse world, and advance intellectual and practical skills that are essential for all learning.

Courses in the foundation area of **life and physical sciences** focus on describing, explaining, and predicting natural phenomena using the scientific method. Courses involve the understanding of interactions among natural phenomena and the implications of scientific principles on the physical world and on human experiences.

College Student Learning Outcomes:

Critical Thinking Skills

CT.1 Students will demonstrate the ability to 1) analyze complex issues, 2) synthesize information, and 3) evaluate the logic, validity, and relevance of data.

Communication Skills

CS. 1 Students will effectively develop, interpret and express ideas through written communication.

Empirical and Quantitative Skills

EQS.1 Students will manipulate numerical data or observable facts by organizing and converting relevant information into mathematical or empirical form.

EQS.2 Students will analyze numerical data or observable facts by processing information with correct calculations, explicit notations, and appropriate technology.

Team Work

TW.2 Students will work with others to support and accomplish a shared goal.

Course Student Learning Outcomes

1. Apply scientific reasoning to investigate questions and utilize scientific tools such as microscopes and laboratory equipment to collect and analyze data.
2. Use critical thinking, scientific problem-solving, and teamwork to make informed decisions in the laboratory.
3. Communicate effectively the results of scientific investigations.
4. Describe the characteristics of life.
5. Explain the methods of inquiry used by scientist.
6. Identify the basic properties of substances needed for life.
7. Compare and contrast the structures, reproduction, and characteristics of viruses, prokaryotic cells, and eukaryotic cells.
8. Describe the structure of cell membranes and the movement of molecules across a membrane.
9. Identify the substrates, products, and important chemical pathways in metabolism.
10. Identify the principles of inheritance and solve classical genetic problems.
11. Identify the chemical structures, synthesis, and regulation of nucleic acids and proteins.
12. Describe the unity and diversity of life and the evidence for evolution through natural selection.

Withdraw Date

The last day to withdraw from the course is **Tuesday, November 19th**. Discontinuing with the course without officially dropping the course by this date will result in a grade earned, in most instances an "F". A stop in attendance does not equate to dropping the course.

Student Responsibilities & Expectations

Northeast Texas Community College is a "community of scholars". As scholars, you are expected to be respectful and courteous to your peers and instructors in both lecture and lab. Scholars are expected to be on time and remain for the duration of class. Scholars are expected to embrace anxiety and manage stress to be productive and responsible at all times. Scholars understand that they, and others around them, are pursuing very important goals in their life at this time and are proactive, not reactive, in regards to the assignments and grades to ensure they are on track at all times to meet their goals.

As scholars in class, it is critical that you engage yourself in the lecture material and discussions as well as the laboratory exercises. The ability to listen carefully, record information in note form, and follow directions are important skill sets required for success in higher education. Practicing these in class prepares you to study at home where you will take the important steps toward learning the course material. This leads to the ability to retain information and describe processes on major exams. Research shows writing by hand is far more effective in obtaining long term retention than is typing! Electronic devices are allowed on non-testing days as long as they do not prevent engagement. No devices or picture taking is allowed on testing days.

As scholars, your instructor is a valuable resource for your success. I will teach to the best of my ability and provide you with a variety learning formats to help you in your effort to be successful in Biology. I deeply care about you and your academic learning experiences here at Northeast Texas. Office Hours are designed for scholars to have an opportunity to get individual questions answered and engage in learning with the professor outside of class times. Take advantage of office hours as your ultimate success in the course depends solely on YOU!

NTCC Academic Honesty Statement and Academic Ethics:

"Students are expected to complete course work in an honest manner, using their intellects and resources designated as allowable by the course instructor. Students are responsible for addressing questions about allowable resources with the course instructor. NTCC upholds the highest standards of academic integrity. This course will follow the NTCC Academic Honesty policy stated in the Student Handbook." The college expects all students to engage in academic pursuits in a manner that is beyond reproach. Students are expected to maintain complete honesty and integrity in their academic pursuit. Academic dishonesty such as cheating, plagiarism, and collusion is unacceptable and may result in disciplinary action. See Student Handbook.

ADA Statement:

It is the policy of NTCC to provide reasonable accommodations for qualified individuals who are students with disabilities. This College will adhere to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations as required to afford equal educational opportunity. It is the student's responsibility to request accommodations. An appointment can be made with Shannin Garrett, Academic Advisor/Coordinator of Special Populations located in the College Connection. She can be reached at 903-434-8218. For more information and to obtain a copy of the Request for Accommodations, please refer to the [NTCC website - Special Populations](#).

Family Educational Rights And Privacy Act (Ferpa):

The Family Educational Rights and Privacy Act (FERPA) is a federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education. FERPA gives parents certain rights with respect to their children's educational records. These rights transfer to the student when he or she attends a school beyond the high school level. Students to whom the rights have transferred are considered "eligible students." In essence, a parent has no legal right to obtain information concerning the child's college records without the written consent of the student. In compliance

with FERPA, information classified as "directory information" may be released to the general public without the written consent of the student unless the student makes a request in writing. Directory information is defined as: the student's name, permanent address and/or local address, telephone listing, dates of attendance, most recent previous education institution attended, other information including major, field of study, degrees, awards received, and participation in officially recognized activities/sports.

Lab Topics

- 1 –Scientific Inquiry
- 2 –BioChemistry
- 3 – Microscopy
- 4 – Cytology and Cell membranes
- 5 – Passive Transport
- 6 – Enzymes

LAB PRACTICAL 1 (Exercises 1-6) 100 points

- 7 – Respiration
- 8- Photosynthesis
- 9 – Cells Division (Mitosis and Meiosis)
- 10 –Genetics
- 11 – DNA and Biotechnology
- 12 – Bacterial Transformation

LAB PRACTICAL 2 (Exercises 7-14) 100 pts

Evaluation/Grading Policy:

LABORATORY: 40% of lecture grade(600 pts)

- 100 pts- Lab Quiz Average
- 100 pts - PreLabs Average
- 100 pts- Lab Reports Average
- 100 pts –1 Scientific paper
- 200 pts- 2 Lab practicals

Pre-Labs:

Weekly pre-labs are to be completed prior to the lab session. They are due at the **beginning** of the lab session prior to taking the lab quiz. Average of the 12 is 100 points of your grade. **Late pre-labs are not accepted.**

Lab Quizzes:

Weekly lab quizzes will be given the **first 10 minutes** of lab to check your understanding of laboratory discussions, experiments, and reading assignments. Quizzes will consist of 7 questions from the previous lab week based on terminology, experimental procedures, and experimental results. Quizzes will also consist of 3 questions from the current week topic. Students should read the Introduction ahead of lab and complete the pre-lab to be prepared for lab as well as these final 3 questions. **Quizzes will not be made up for late arrivals.**

Lab Reports:

The lab reports from the lab manual are to be completed during lab and submitted at the end of the lab period. These, along with the quizzes, are designed to help you prepare for the Lab Practicals.

Scientific Paper: Students will write a Scientific Paper over one lab experiment. This paper will be in scientific format with an abstract, introduction, hypothesis, methods, results, and conclusion sections. A rough draft will be submitted the week prior to the due date. The final draft is due prior to lab on the due date.

Lab Practicals:

A lab practical will be given twice during the semester. It is a live exam with stations that students will rotate through and answer open ended questions associated with visuals from lab. Visuals may include images, specimens, lab equipment, data tables, graphs, experimental results, etc.

BIOL 1406 LAB - FALL 2019 - 600 Points

<u>DATE</u>	<u>UNIT</u>	<u>TOPIC</u>	<u>QUIZZES (100 pts)</u>	<u>REPORTS (200 pts)</u>	<u>Scientific Paper (100 pts)</u>
AUG 26-30		Lab Safety & Intro to Sci Method			
SEP 2-6	1	Metric System		PreLab & Lab Report	
SEP 9-13	2	Biochemistry	Lab Topic 1 & Intro 2	PreLab & Lab Report	
SEP 16-20	3	Microscopy	Lab Topic 2 & Intro 3	PreLab & Lab Report	
SEP 23-27	4	Cytology & Cell Membranes	Lab Topic 3 & Intro 4	PreLab & Lab Report	
SEP 30-OCT 4	5	Passive Transport	Lab Topic 4 & Intro 5	PreLab & Lab Report	Hypothesis #1 Due
OCT 7-11	6	Enzymes	Lab Topic 5 & Intro 6	PreLab & Lab Report	Hypothesis #2 Due
OCT 14-18	LAB PRACTICAL 1 - Units 1-6 (100 points)				
OCT 21-25	7	Cellular Respiration	Lab Topic 6 & Intro 7	PreLab & Lab Report	Hypothesis #3 Due
OCT 28-NOV 1	8	Photosynthesis	Lab Topic 7 & Intro 8	PreLab & Lab Report	Hypothesis #4 Due
NOV 4-8	9	Cell Division	Lab Topic 8 & Intro 9	PreLab & Lab Report	Rough Draft Due
NOV 11-15	10	Genetics	Lab Topic 9 & Intro 10	PreLab & Lab Report	Scientific Paper Due
NOV 18-21	11+12	DNA Fingerprinting + Bacteria	Lab Topic 10 & Intro 11	PreLab & Lab Report	
NOV 25-28	WEEK of THANKSGIVING - NO LABS THIS WEEK				
DEC 2-6	LAB PRACTICAL 2 - Units 7-12 (100 points)				

***PreLabs are due prior to lab start time. Average of all 12 prelabs = 100 points.**

***Lab Quizzes will be given during first 10 minutes of lab over last week's lab AND this week's lab**

***Lab Quizzes will consist of 7 questions from last week and 3 from this week**

***Average of all 10 quizzes = 100 points**

***Lab Reports are due and the end of the lab (or as assigned by instructor). Average of all 12 lab reports = 100 points**

***Scientific Paper will be due at beginning of lab. 100 points**

***Lab Practicals cover 6 lab units. 100 points each**