

Northeastern Technical College
BIO 101 (day class)
Biological Science I
Fall 2008

Instructor: Miss Mackey; office 801A with hours as posted
921-6971 (local) or 1-800-921-7399 (toll free)
Email: MMackey@netc.edu (no spam please); school's website: www.netc.edu

- Required Materials:**
1. Biology: The Unity & Diversity of Life by Starr & Taggart, 11th edition (2006)
 2. Symbiosis Lab Manual, customized for NETC, 2008
 3. notebooks and writing utensils (small notepads work well for field trips)
 4. E-mail address (needed for Moodle, where announcements & quizzes will be posted)

Description: Biology 101 is a college transfer course in introductory biology. This course is the first of a sequence introducing biology. Topics include the scientific method, basic biochemistry, cell structure and function, cell physiology, cell reproduction and development, Mendelian genetics, population genetics, natural selection, evolution, and ecology.

Attendance Policy: According to college policy, a student may miss 20% of the scheduled class periods. When a student exceeds this limit, he or she will be dropped for excessive absences. If the student initiates the withdrawal before midterm, a grade of W will be used. After midterm, the grade of W will only be used for students who are passing the course; if a student who is not passing initiates a drop after midterm, he or she will receive a WF.

If the instructor initiates the withdrawal due to excessive absenteeism, at any point during the course, a grade of F will be used for students who are dropped. If a student leaves class or lab early, the hours missed will be counted as part of the hours absences.

Three tardies will equal one absence. Please remember this when you are counting your absences. A tardy is when the student comes into class after the roll has been called. You are responsible for material covered in any class or lab you miss. Arriving more than 15 minutes late will result in the time missed being counted as time absent.

Grading Policy: Points will be taken off for spelling/grammatical errors on all graded work, except bonus questions. The following represents the percentage of each category toward the final average:

<u>Final Average</u>		<u>Lab Average</u>		<u>Grading Scale</u>
lecture test average	= 45%	lab report average	= 50%	90 - 100 = A
lab average	= 25%	lab midterm	= 25%	80 - 89 = B
projects	= 10%	lab final	= 25%	70 - 79 = C
cumulative final exam	= 20%			60 - 69 = D
				below 60 = F

Makeup Work: If a student submits any assignment past its due date & time, it will only be accepted if a “No Questions Asked” certificate is attached to the assignment. Any late work must be made up prior to or submitted upon the student’s return to class or lab. Any assignment submitted electronically must be received by the instructor prior to the beginning of class. One lab report grade will be dropped, so missed lab work may not be made up.

Lab & Lab Makeup Work: Lab work cannot be made up, with the exception of the mandatory lab midterm and lab final tests. A zero will be recorded for lab work that is missed for any reason. The lab midterm and lab final are required activities. Students should submit lab data/report sheets as provided in the lab manual or by the instructor. Some labs may be due on class days or require doing some work at home. These will be averaged together for the lab report average.

Homework, Projects, etc.: There will be a library assignment, a scientific method assignment, and a “Science in the News” report required during the semester. In addition, quizzes (posted on the Moodle website) will be required. These quiz scores will be averaged together to count for one grade in the homework/project category.

Learning Outcomes:

1. Name and discuss the steps of the scientific method, and devise an example illustrating each step.
2. Use laboratory equipment for scientific measurement and observation, including, but not limited to, microscopes, balances, and pipettes, as well as other measuring devices.
3. Define biology, and discuss the levels of biological organization and characteristics of organisms.
4. Define parts of prokaryotic and eukaryotic cells, along with the functions of the parts.
5. Solve genetics problems based on Mendelian genetics, and discuss the importance of modern genetics in society.
6. Discuss the history of evolutionary thought, methods by which populations evolve, speciation, and evidences of macroevolution.
7. Name organic molecules used and produced by organisms and the functions of each of molecules.
8. Discuss how cells acquire, use and store energy through metabolic pathways.

Assessment: Tests covering the assigned chapters of study will be given and laboratory reports will be evaluated. A cumulative final will also be given. Outside assignments and reports will be evaluated as outlined in the syllabus or by handouts. A lab midterm and a lab final will be given.

Extra Credit Information: Bonus questions are given on all lecture tests.

General information: There is no eating, drinking, or smoking in any building at NETC as indicated by posted signs; this includes all hallways and restrooms. Students should also familiarize themselves with the safety procedures for emergency situations such as tornadoes and fire drills as posted in classrooms and/or discussed in class. Each student must wear his or her student ID at all times when on campus. Use of cell phones/beepers (including headsets) is not permitted.

Academic dishonesty: As stated in the college catalog, any student that plagiarizes or is caught cheating on any assignment in a course will receive a zero for that assignment. The documentation will be collected and reported to the Vice-President for Student Services.

Classroom Etiquette: An integral part of an education is developing a sense of integrity and responsibility toward faculty and other students. Arriving late to class, being unprepared, inappropriate talking while class is in session, using cell phones, etc. negatively reflects on you and your fellow students. Please be considerate to them and your instructor.

Disabilities Statement: Students with disabilities are encouraged to contact the Vice President for Student Services to discuss needs or concerns as they pursue an academic program and participate in campus life. The Vice President for Student Services will provide guidance regarding official documentation of disabilities and/or accommodation of needs. (See *College Catalog*)

BIO 101 Tentative Lecture Schedule (any necessary date changes will be announced via Moodle, email or in class):

Introduction: Chapter 1–Invitation to Biology

The Cell: Chapter 4–Cell Structure and Function
Chapter 5–A Closer Look at Cell Membranes

Test #1 on Chapters 1, 4, & 5—week of September 22

Cell Division: Chapter 9—How Cells Reproduce
Chapter 10—Meiosis & Sexual Reproduction

Test #2 on Chapters 9 & 10—week of October 6

Mendelian Genetics: Chapter 11–Observing Patterns in Inherited Traits
Chapter 12–Chromosomes & Human Inheritance

Test #3 on Chapters 11 & 12—week of October 20

Molecular Genetics: Chapter 13--DNA Structure and Function
Chapter 14--From DNA to Proteins
Chapter 15--Controls over Genes
Chapter 16--Recombinant DNA & Genetic Engineering

Test #4 on Chapters 13, 14, 15, & 16—week of October 27

Evolution: Chapter 17--Evidence of Evolution
Chapter 18--Microevolutionary Processes
Chapter 19--Evolutionary Patterns, Rates, & Trends (selected topics)

Test #5 on Chapters 17, 18, & 19—week of November 17

Biochemistry: Chapter 2--Life's Chemical Basis (properties of water, hydrogen bonding, pH)
Chapter 3--Molecules of Life

Metabolism: Chapter 6--Ground Rules of Metabolism
Chapter 7--Where It Starts--Photosynthesis
Chapter 8--How Cells Release Chemical Energy

Test #6 on Chapters 2, 3, 6, 7, & 8—week of December 8

Cumulative Final Exam given during scheduled exam time (Wednesday, December 10 – Tuesday, December 16)

BIO 101 Proposed Lab Schedule: Any necessary changes will be announced via email or in class. Unless otherwise indicated, labs may be found in the lab manual.

<u>Lab</u>	<u>Date</u>	<u>Topic</u>
1	August 25	Lab Safety video & contract; Moodle account setup; Introduction to the Scientific Method
	September 1	No lab—College Closed for Labor Day
2	September 8	Library Orientation (handout); Microscopy & Basic Cell Structure
3	September 15	Movements of Molecules Across Cell Membranes
4	September 22	Cell Division
5	September 29	Mendelian Genetics (handout); Heredity
6	October 6	Lab midterm; lecture notes or finish Heredity lab
7	October 13	Gel Electrophoresis & DNA Extraction (handouts)
8	October 20	Molecular & Chromosomal Genetics; lecture notes
9	October 27	Cheraw State Park (weather dependent) (handouts)
10	November 3	Evolution or Evolution of Antibiotic Resistant Bacteria lab (handout)
11	November 10	Chemical Aspects
12	November 17	Enzymes
13	November 24	Photosynthesis & Chromatography (handouts)
14	December 1	Respiration (handouts)
15	December 8	Lab Final

Other Important Dates to Remember:

Monday, September 1: No classes due to Labor Day holiday

Monday, September 15: Library Assignment due by 5 pm

Friday, October 10: college wide midterm (last day to drop with a “W”)

Friday, October 24: Fall Break

Tuesday, November 4: No classes due to Election Day

Monday, November 24: Science in the News report due by 5 pm

Wednesday, November 26 – Friday, November 28: No classes due to Thanksgiving Holiday

Tuesday, December 9: last day of classes

Wednesday, December 10 – Tuesday, December 16: Exam Week

