BIOL 1408.101

Course Syllabus: Summer 2022

"NTCC exists to provide personal, dynamic learning experiences empowering student to succeed."

Dr. Mary Hearron

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Office Hours

Monday	Tuesday	Wednesday	Thursday	Online
12:30-1:00 PM	12:30-1:00 PM	12:30-1:00 PM	12:30-1:00 PM	NTCC email

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.

Course Description:
4 credit hours: Lecture/Lab: Three hours of lecture and three hours of lab each week.
Provides a survey of biological principles with an emphasis on humans, including chemistry of life, cells, structure, function, and reproduction. Lab activities support these topics. Note: Additional course fee(s) required.

Required Textbook and Lab Manual:
Mader: *Essentials of Biology*, 6th ed with Connect Inclusive Access

Hearron: *BIOL 1408 Introduction to Biology Laboratory*; NTCC College Store

Inclusive Access: We have negotiated with the Publisher to obtain a discounted price for your lecture course materials. Your eBook and Connect Access Code are included with your tuition and will be available through Blackboard on the first class day (use the link found on the Bb course homepage). The materials are required for your class and essential in your success. If you also determine that you would like a print copy of your text in addition to your inclusive access loose-leaf copies will be available in the College Store at a discounted price. You may opt out of purchasing your materials from the College Store through the Census Date for the course. If you choose to opt out you will be responsible for purchasing your Connect Access Code from another vendor. You will receive a refund for the Inclusive Access if you opt out.

Optional Instructional Materials: none

Minimum Technology Requirements:
• Internet capable desktop, laptop, or Chromebook (Tablets/iPads/Phones not recommended)

Required Computer Literacy Skills: Blackboard; Microsoft Office
• Web browsing skills for working with the online homework system
• Ability to use Blackboard for access to course information and assignments
• Competent and professional emailing skills: Emails should have the following format in subject line: Last Name, First Name -Course ID: Example: Smith, Jon - BIOL 1408.881

Recommended Reading: Smart Book Chapters 1-13 in Essentials of Biology;

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
TW2. Students will work with others to support and accomplish a shared goal.

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 and scientific problem-solving to make informed decisions in the laboratory.
3. Communicate effectively the results of scientific investigations.
4. Distinguish between prokaryotic, eukaryotic, plant and animal cells, and identify major cell structures.
5. Identify stages of the cell cycle, mitosis (plant and animal), and meiosis.
6. Interpret results from cell physiology experiments involving movement across membranes, enzymes, photosynthesis, and cellular respiration.
7. Apply genetic principles to predict the outcome of genetic crosses and statistically analyze results. Be able to communicate to others the results of various genetic crosses.
8. Identify the importance of karyotypes, pedigrees, and biotechnology. Working within a team or with a partner, investigate and report on a current topic in biotechnology (GMO's, recombinant DNA, stem cells, cloning and/or transgenic bacteria, plants or animals).
9. Identify parts of a DNA molecule, and describe replication, transcription, and translation.
10. Apply scientific reasoning to analyze evidence for evolution and natural selection.

Attendance Policy:
Regular and punctual attendance is expected. In-class quizzes or assignments that are completed as a result of attendance will be recorded as zeros if a student is not present for the entire class period. There

are no exceptions for make-up work on daily attendance grades.

Evaluation/Grading Policy:
Overall course grade is determined as follows:

Tests: 40%
Connect and Assignments 15%
Comprehensive final exam: 15%
Lab Practicals 15%
Lab Exercises 15% (Pre-labs 5%; Lab Reports 10%)

Grading Scale	
A =	100 – 90%
B =	89 – 80%
C =	79 – 70%
D =	69 – 60%
F =	<59

The Blackboard gradebook will be used to record all of your graded work. You will see a category named "CURRENT GRADE". This number represents your current average based on the work that you have submitted at that point in the semester. Any grades that have not been submitted, will not be averaged into the current grade unless a score of "0" has been entered. The current grade is fluent (a running total up to that point) and can change daily based on the work that you submit. If you have any questions about your current grade at any point, you should certainly contact me. A mid-term grade will be submitted to the Academic Success Team based on your Current Grade at that point. Near the end of the semester, the current grade column will be adjusted to include grades of zero for any work that was not submitted.

Assignments:
Assignments will make up 15% of your overall grade and may include in-class quizzes and activities as well as online Smartbook and homework assignments in McGraw-Hill Connect. You will need to access Connect during the first day of the semester and register using your NTCC email address to complete your assignments. Each of the online assignments will have a posted due date for completion. There is no make-up for work missed as a result of absence from class. Participation in class is an important component of this course work.

Exams:
The lecture exams may include both objective (multiple choice, true-false, matching) as well as subjective questions over all covered and assigned reading and exercises. All students will need a #2 pencil and a scantron (available in the NTCC College Store). Exams will be scheduled each week and are not to be missed. The only acceptable reason for missing an exam is either you are seriously ill or the hospitalization/death of a close family member. Proof (a doctor's note) of illness or death may be necessary for you to take a make-up exam. You must contact me at mhearron@ntcc.edu **before** the exam informing me of why you cannot take the exam on time. Otherwise, you may receive a zero for that exam. See *Academic Honesty* below.

Student Responsibilities/Expectations
Like all colleges, Northeast Texas Community College strives to be a "community of scholars." Please remember that you and all of the students in this class are pursuing very important goals in your lives. As human beings and as scholars, I expect every student to be courteous and considerate toward other individuals.

As your instructor, I will attend all classes on time and prepared to teach what you are expected to learn each day. I will make a conscientious effort each class period to teach to the best of my ability and to provide you with clear, well-organized explanations of class material. I care deeply about your learning

experience and your success in this course. However, that ultimate success does depend largely on you. Your success can be maximized and your potential achieved by making a commitment to meet the following classroom expectations:

a) Attend ALL classes – physically and mentally. Wherever you are, be all there.
b) Be on time for class. Attitude is not everything but it is very important. Remain in class for the entire instructional period.
c) Be an active learner – participate in class. Be attentive, answer questions, and ask questions. Smile, be interested, and act as if you care. (OK, I'll admit that occasionally things get a little boring; work through that boredom by participating!)
d) Read ahead. This will help make the next lecture much more effective.
e) A good student acts like a good student, which includes not sleeping in class, not talking in class, and not reading unrelated material or doing other work in class. All cellular phones must be turned off during class time.
f) Realize that I do not GIVE grades. You EARN grades based upon your performance. That performance includes turning all assignments in on time. You shouldn't expect less of me because of my other commitments. I don't expect less of you because of your other commitments.
g) Be respectful of yourself, your classmates, and your instructor.
h) Learning is hard work but it is also invigorating and fun. Work hard and have fun doing so.

Lectures & Discussions:

Week 1- Chapters 1-3 and Test 1
Week 2- Chapters 4-6 and Test 2
Week 3- Chapters 7-9 and Test 3
Week 4- Chapters 10-12
Week 5- Chapter 13 and Test 4 and Final Exam
(See detailed Schedule on last page)

Wednesday June 29, 2022 is the last day to withdraw from the course with a grade of "**W**". If circumstances require you to withdraw from this course, you must do so by that date. It is the **student's responsibility** to initiate the withdrawal with the registrar's office. **Failure to officially withdraw will result in your receiving a grade of F.**

Alternate Operations During Campus Closure and/or Alternate Course Delivery Requirements:

In the event of an emergency or announced campus closure due to a natural disaster or pandemic, it may be necessary for Northeast Texas Community College to move to altered operations. During this time, Northeast Texas Community College may opt to continue delivery of instruction through methods that include, but are not limited to, online through the Blackboard Learning Management System, online conferencing, email messaging, and/or an alternate schedule. It is the responsibility of the student to monitor NTCC's website (http://www.ntcc.edu/) for instructions about continuing courses remotely, Blackboard for each class for course-specific communication, and NTCC email for important general information. Additionally, there may be instances where a course may not be able to be continued in the same delivery format as it originates (face-to-face, fully online, live remote, or hybrid). Should this be the case, every effort will be made to continue instruction in an alternative delivery format. Students will be informed of any changes of this nature through email messaging and/or the Blackboard course site.

NTCC Academic Honesty Statement:

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. Refer to the student handbook for more information on this subject.

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 the Academic Advisor/Coordinator of Special Populations located in the College Connection. The advisor 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.

WEEK	DATE	**BIOL 1408 Summer 2022 LECTURE and LAB SCHEDULE**
	June 6	Chp. 1 The Science of Life Introduction to Biology Lab
	June 7	Chp. 2 Chemical Basis of Life
1		Exercise #1 - The Microscope
	June 8	Chp. 3 The Organic Molecules of LIfe Exercise #2 – Cell Chemistry
	June 9	**Test 1 Chps. 1- 3;** Chp. 4 Inside the Cell
	June 13	Chp. 4 Inside the Cell Exercise #3 - The Cell
	June 14	Chp. 5 The Dynamic Cell Exercise #4 - Diffusion and Osmosis & Exercise # 5 - Enzymes
2		
	June 15	Chp. 6 Energy for Life Exercise # 6 - Photosynthesis
	June 16	**Test 2 Chps. 4- 6;** Chp. 7 Energy for Cells
	June 20	Chp.7 Energy for Cells Exercise # 7 - Anaerobic and Aerobic Respiration
3	June 21	Chp. 8 Cellular Reproduction Exercise # 8 – Mitosis and Meiosis
	June 22	Chp. 9 Meiosis and the Genetic Basis of Sexual Reproduction
	June 23	**Test 3 Chps. 7-9** **Lab Practical 1- Exercises 1-8**
	June 27	Chp. 10 Patterns of Inheritance Exercise # 9 – Genetics I-Mendelian Genetics
	June 28	Chp. 10 Patterns of Inheritance Exercise # 10 - Genetics II – Non-Mendelian Genetics
4	June 29	Chp. 11 DNA Biology Exercise # 11 – Molecular Genetics and DNA Fingerprinting
	June 30	Chp 11 DNA Biology and Chp 12 Biotechnology & Genomics Exercise # 12 – Bacterial Transformation
	July 5	Chp. 13 Mutations and Genetic Testing DNA: The Genetic Material Exercise # 13 Chromosomal Genetics and Bioethics
5	July 6	**Test 4 Chps. 10-13; Final Review**
	July 7	**FINAL EXAM; Final Lab Practical**