BIOL 1407 General Biology II

Course Syllabus: Spring 2023

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

Professor Jim Ward

Office: UHS 160 & MS 128
Phone: 903.434.8286
Email: jward@ntcc.edu

Office Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Online
	8:30-9:30	8:30-12:30	8:30-9:30	8:30-12:30		

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 an introduction to the biological sciences for students who plan to major or minor in biology or pre-professional studies or to fulfill the laboratory science requirement of other majors. This course emphasizes the unity and diversity of life through the study of evolutionary phenomena, the origin of life, biodiversity, plant and animal evolution, the dynamics of ecosystems and the biosphere. Three hours of lecture and three hours of lab each week (animal dissection required) Pre-requisite: BIOL 1406

3 Hours of Lecture plus 3 Hours of Lab course work per week.

Required Textbook

Raven: "Biology" 13th ed with McGraw-Hill Connect (Inclusive Access) NTCC Bookstore

Required Lab Manual

Hearron & Ward: "Exploring Biology 2" Lab Manual NTCC Bookstore

Recommended Reading(s):

Chapters 20-23, 26-34 in lecture textbook; Units 1-12 in lab manual

Other Course Requirements:

- Notebook along with pens/pencils for note taking during class. Exams must be taken with #2 pencils.
- 3 scantrons (2 lab practicals, 1 final exam)

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. Demonstrate knowledge of modern evolutionary synthesis, natural selection, population genetics, micro and macroevolution, and speciation.
5. Distinguish between phylogenetic relationships and classification schemes.
6. Identify the major phyla of life with an emphasis on plants and animals, including classification, structural and physiological adaptations, evolutionary history, and ecological significance.
7. Describe basic animal physiology and homeostasis as maintained by organ systems.
8. Compare different sexual and asexual life cycles noting their adaptive advantages.
9. Illustrate the relationship between major geologic change, extinctions, and evolutionary trends.

Lectures & Discussions:

UNIT 1
- CH 20 – Genes within Populations
- CH 21 – Evidence of Evolution
- CH 22 – Origin of Species
- CH 23 – Systematics, Phylogenies, and Comparative Biology

UNIT 2
- CH 27 – Viruses
- CH 28 – Prokaryotes
- CH 29 – Protists

UNIT 3
- CH 32 – Fungi
- CH 30 – Seedless Plants
- CH 31 – Seed Plants

UNIT 4
- CH 33 – Animal Diversity & Body Plans
- CH 34 – Protostomes
- CH 35 – Deuterostomes

FINAL EXAM (CH 20-23, 27-35)

Lab Units and Exercises:

UNIT 1 – Scientific Research
UNIT 2 – Evolution Mechanisms
UNIT 3 – Evidence for Evolution
UNIT 4 – Bacteria & Viruses
UNIT 5 – Protista
UNIT 6 – Fungi
LAB PRACTICAL 1 (UNITS 1-6)
UNIT 7 – Seedless Plants
UNIT 8 – Seed Plants
UNIT 9 – Intro to Animals
UNIT 10 – Protostome Animals
UNIT 11 – Deuterostome Animals
UNIT 12 – Fetal Pig & Human Anatomy
LAB PRACTICAL 2 (UNITS 7-12)

Evaluation/Grading Policy (1000 points):

LECTURE: 500 points
100 pts – Book Review Project
400 pts – 4 Unit Projects
LABORATORY: 300 points
100 pts – Lab Manual
100 pts – 2 Lab Practicals
100 pts – 1 Service Learning Project
FINAL EXAM: 200 points

Grade Assignment:

A = 900 - 1000 pts (90-100%)
B = 800 - 999 pts (80-89%)
C = 700 - 799 pts (70-79%)
D = 600 - 699 pts (60-69%)
F = 0 - 599 pts (0-59%)

Lab Manual

Weekly pre-labs are to be completed prior to the lab session. Weekly lab reports from the lab manual are to be completed during lab. When data is collected, proper data tables and graphs will be developed. The weekly labs are designed to help you prepare for the Lab Practical Exams.

Lab Practicals (2)

A lab practical will be given twice during the semester. It is a live exam with stations. Students will rotate through and answer questions associated with visuals from lab. Visuals may include images, specimens, lab equipment, data tables, graphs, experimental results, etc. Scantrons are required for the lab practicals.

Course Project Portfolio

Students will develop four Biology unit projects throughout the semester, a service learning project, and a book review project. Project portfolios will include a combination of papers, power point presentations, research posters, etc. Project portfolios will include a combination of individual and partner-based projects. Guidelines, requirements, and grading rubrics for all projects are found in the portfolio project folder in blackboard.

Final Exam Post-Test

Students will complete a Pre-Test at the beginning of the semester and a Post-Test during final exam week to determine both the students overall understanding of Biology and the students improved understanding of Biology within the semester.

Withdraw Date

The last day to withdraw from the course in **Thursday, April 20th**. 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 the Academic Advisor/Coordinator of Special Populations located in the College Connection. Office 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.

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.

COVID Statement
Students, science majors in particular, are expected to exhibit personal responsibility in response to COVID related illnesses and the statistical COVID data at the time. Students are not allowed to attend class if experiencing COVID symptoms, have tested positive, or have recently been exposed to someone who was symptomatic or tested positive. If this occurs, email your instructor for timetable to return to class.

Students should adhere to current CDC guidelines in regards to social distancing and mask usage when indoors to prevent transmission. If gathering indoors, students should be vaccinated to prevent serious reactions if infected. If viral infection rates are above 1.0 and if viral positivity rates are above 5%, students should exercise extreme caution and following CDC mask guidelines at all times when indoors. Visit **covidactnow.org** for current statistical data and risk levels for Titus County and the NTCC service area.

Telehealth Virtual Care
All NTCC students have access to Telehealth Virtual Care for medical needs, mental health needs, and life coaching. This is an invaluable service provided to students for no cost. Enroll at thevirtualcaregroup.com/ntcc

Eagle ASSIST:
At Northeast Texas Community College, we understand that students often need support that extends beyond the classroom. "Eagle Assist" is the place to start when looking for that type of assistance. Our support system is here to help you succeed in both your academic and personal growth.

Services provided at https://www.ntcc.edu/student-services/eagle-assist

- Mental Health Counseling (visit www.thevirtualcaregroup.com/ntcc to activate your account)
- Classroom Accommodations
- NTCC Care Center Food Pantry
- NTCC Care Center Hygiene Closet
- NTCC Care Center Cook Nook
- Financial Literacy
- Child Care Assistance
- Emergency Aid

Send us a message at eagleassist@ntcc.edu