



BIOL 1407 General Biology II

Course Syllabus: Spring 2024

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

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Office Hours	Monday	Tuesday	Wednesday	Thursday
	11 – 12:20	8 – 9:50 11 – 12:20	11 – 12:20	8 – 9:50 11 – 12:20 1:30 – 3

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. Lecture meets 2X/week; Lab meets 1X/week.

Required Textbook(s):

McGraw-Hill: Biology, Volume 2 Text with Connect

ISBN 1308806051

Required Lab Manual:

Hearron & Ward, Exploring Biology 2 Lab Manual

NTCC Bookstore

Recommended Reading(s):

Chapters 20-23, 27-35 in lecture textbook; Units 1-12 in lab manual

Other Course Requirements:

- Notebook along with pens/pencils for note taking during class. Tests must be taken with #2 pencils.
- 7 scantrons (2 lab practicals, 4 lecture exams, 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. Describe modern evolutionary synthesis, natural selection, population genetics, micro and macroevolution, and speciation.
5. Describe phylogenetic relationships and classification schemes.
6. Identify the major phyla of life with an emphasis on plants and animals, including the basis for 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:

CH 20 – Genes within Populations

CH 21 – Evidence of Evolution

CH 22 – Origin of Species

CH 23 – Systematics, Phylogenies, and Comparative Biology

EXAM 1 (CH 20-23)

CH 26 – Viruses

CH 27 – Prokaryotes

CH 28 – Protists

CH 31 – Fungi

EXAM 2 (CH 27-29)

CH 29 – Seedless Plants

CH 30 – Seed Plants

CH 32 – Animal Diversity & Body Plans

CH 33 – Protostomes

CH 34 – Deuterostomes

EXAM 3 (CH 29 - 34)

Ch. 41 – The Animal Body and Principles of Regulation
Topics from Ch. 42 – 51 – Comparative anatomy of animal systems

EXAM 4 (CH 41 - 51)

Final Exam Review

FINAL EXAM (Comprehensive)

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:

LECTURE: 50%

10% – Connect Online

40% – 4 Lecture Exams

LABORATORY: 30%

15% – Weekly Lab Grades (quiz, prelab, report)

5% – 1 Scientific Project

10% – 2 Lab Practicals

FINAL EXAM: 20%

Grade Assignment:

A = 90-100%

B = 80-89%

C = 70-79%

D = 60-69%

F = 0-59%

Lecture Assignments:

Weekly quizzes and/or homework will be assigned to check your understanding of classrooms discussions and reading assignments. These are completed online in Connect. You will need to access Connect the first week of the semester and register your keycode to complete your assignments. Each assignment has a posted due date for completion. Due dates in Connect are firm – no makeups for missed homework.

Lecture Tests/Exams:

The lecture exams may include both objective questions (multiple choice, matching, etc.) over classroom discussions, notes, text materials, and readings as well as descriptive questions requiring detailed explanations over broad themes. Success on the exams is a function of anxiety regulation, test prep, study strategies, and studying for retention. Retention requires repetitions, which requires time! Scantrons will be required for the major exams. Tests will not be made up for any reason without prior communication to your instructor. Late arrivals must complete exam by end of class time.

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 questions associated with a visual from lab. Visuals may include images, specimens, lab equipment, data tables, graphs, experimental results, etc. A scantron is required for both lab practicals. Lab practicals will start 30 minutes after scheduled lab start time.

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 questions from the previous lab week based on terminology, experimental procedures, and experimental results. Quizzes will also consist of questions from the current week topic. Students should read ahead and complete the PreLab Quiz to be prepared for lab as well as these final 3 questions. Quizzes will not be made up for late arrivals.

Lab Reports/Lab Project:

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. In addition to the lab reports, students will complete a Lab Project. This project will be due prior to lab on the due date.

Lecture Final Exam:

A comprehensive final exam will be given during the time set forth by the college Final Exam Schedule. The final exam will consist of 100 objective questions (multiple choice, matching, etc.) from all chapters listed above. A scantron is required for the final exam.

Withdraw Date

The last day to withdraw from the course is **Thursday, April 18th**. 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.

Statement Regarding the Use of Artificial Intelligence (AI) Technology:

Absent a clear statement from a course instructor, use of or consultation with generative AI shall be treated analogously to assistance from another person (collusion). Generative AI is a subset of AI that utilizes machine learning models to create new, original content, such as images, text, or music, based on patterns and structures learned from existing data (Cornell, Center for Teaching Innovation). Unauthorized use of generative AI tools to complete an assignment or exam is not permitted. Students should acknowledge the use of generative AI and default to disclosing such assistance when in doubt. Individual course instructors may set their own policies regulating the use of generative AI tools in their courses, including allowing or disallowing some or all uses of such tools. Students who are unsure of policies regarding generative AI tools are encouraged to ask their instructors for clarification. **(Adapted from the Stanford University Office of Community Standards-- accessed August 31, 2023)**

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.

**Biology 1407
SPRING 2024 Tentative Schedule**

Wk	Lecture	LABS	TESTS
1	Orientation CH 20 Genes within Population	Orientation Lab Safety	
2	CH 21 Evidence for Evolution	Lab Topic 1 Scientific Research	
3	CH 22 The Origin of Species	Lab Topic 2 Evolutionary Mechanisms	
4	CH 23	Lab Topic 3 Evolutionary Studies	EXAM 1 (CH 20-23)

	Systematics, Phylogenies and Comparative Biology			Feb 7
5	CH 26 Viruses	Lab Topic 4 Bacteria and Viruses		
6	CH 27 Prokaryotes	Lab Topic 5 Protista		
7	Ch. 28 Protists	Lab Topic 6 Fungi		
8	CH 31 Fungi	Lab Practical I		EXAM 2 (CH 26-28, 31) March 6
	Spring Break	Spring Break		Spring Break
9	CH 29 Seedless Plants	Lab Topic 7 Seedless Plants		
10	CH 30 Seed Plants Ch. 33 Animal Diversity	Lab Topic 8 Seed Plants		
11	CH 32/33 Animal Diversity / Protostomes	Lab Topic 9 Animals: Introduction		
12	CH 34 Deuterostomes	Lab Topic 10 Animals: Protostomes		EXAM 3 (CH 29-30, 32-34) April 10
13	CH 41: The Animal Body, Principles and Regulation	Lab Topic 11 Animals: Deuterostomes		
14	Comparative Anatomy of Systems	Lab Topic 12 Fetal Pig and Human Anatomy		
15	Comparative Anatomy of Systems	Lab Practical II		EXAM 4 (CH 41, 42-51 selections) May 1
16		FINAL EXAM WEEK – Comprehensive Final – May 6 - 9		