BIOL 1406 – General Biology I (Sync Live Remote)

Course Syllabus: Fall 2020

"Northeast Texas Community College exists to provide personal, dynamic learning experiences empowering students to succeed."

Professor James Ward

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	Monday	Tuesday	Wednesday	Thursday	Friday	Online
Office Hours	By Appt	11:00-12:30	8:30-11:00	11:00-12:30 1:30-4:30	11:00-12:30	All Office Hours Online

This syllabus serves as the documentation for all course policies and requirements, assignments, and instructor/student responsibilities.

Information relative to the delivery of the content contained in this syllabus is subject to change. Should that happen, the student will be notified.

Course Description:

4 credit hours. Lecture/Lab: Three hours of lecture and three hours of lab each week.

A study of 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 utilizes an integrated approach and emphasizes the molecular basis of life, cell biology, and bioenergetics. Other topics for discussion include Mendelian and molecular genetics.

Note: Additional course fee(s) required.

Prerequisite(s): None

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 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.

Evaluation/Grading Policy:

Lectures & Discussions

CH 1 – The Science of Biology
CH 2 – The Nature of Molecules and the Properties of Water
CH 3 – The Chemical Building Blocks of Life
EXAM 1 (CH 1-3)
CH 4 – Cell Structure
CH 5 – Membranes (Diffusion/Osmosis)
EXAM 2 (CH 4-5)
CH 6 – Energy and Metabolism (Enzymes)
CH 7 – How Cells Harvest Energy (Respiration)
CH 8 – Photosynthesis
EXAM 3 (CH 6-8)
CH 10 – How Cells Divide (Cell Cycle and Mitosis)
CH 11 – Sexual Reproduction and Meiosis
EXAM 4 (CH 10-11)
CH 12 – Patterns of Inheritance (Mendelian Genetics)
CH 13 – Chromosome Genetics
CH 14 – DNA: The Genetic Material
CH 15 – Genes and How They Work (Transcription and Translation)
EXAM 5 (CH 12-15)
Final Exam Review
FINAL EXAM (CH 1-8, 10-15)

Lab Schedule

Introduction to Scientific Method
Lab Topic 1 – Metric System
Lab Topic 2 – Biochemistry
Lab Topic 3 – Microscopy
Lab Topic 4 – Cytology & Cell Membranes
Lab Topic 5 – Passive Transport
Lab Topic 6 – Enzymes
Lab Topic 7 – Respiration
Lab Topic 8 – Photosynthesis
Lab Topic 9 – Cell Division
Lab Topic 10 – Genetics
Lab Topic 11 – DNA & Biotechnology

Grading Points (1000 points)
LECTURE: 600 points
100 pts – Connect Online (3000 points)
500 pts – 5 Lecture Exams
LABORATORY: 200 points
100 pts – Virtual Lab Average
100 pts – Covid-19 Research Project
FINAL EXAM: 200 points

Grade Assignment
A = 900 - 1000 pts (90-100%)
B = 800 - 899 pts (80-89%)
C = 700 - 799 pts (70-79%)
D = 600 - 699 pts (60-69%)
F = 0 - 599 pts (0-59%)

Lecture Assignments
Weekly online tutorials and quizzes 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 to begin to complete your assignments. Each assignment has a posted due date for completion. Due dates in Connect are firm – no makeups for missed homework.

Connect Online Lecture Assignments:
Each chapter has an assigned Smartbook activity, chapter assignment, and chapter quiz to check your understanding of chapter topics and reading assignments. These are completed online in Connect which is accessed through blackboard. You will need to login to blackboard on the 1st day of the semester. Students will work at their own pace prior to due dates. Activities and Assignments are not timed. The chapter quizzes each consist of 25 questions with a 25 minute timer. Each assignment has a posted due date for completion. Students will need to earn 3,000 connect points out of the 4,200 possible to earn a 100 for their connect grade. Every 100 points over 3,000 will be worth 1 extra credit point for a maximum of 12 extra credit points or a grade of 112. **Connect chapter assignments are always due on Saturdays at 11:59pm. These dates are firm – no makeups for missed online work will be allowed**.

Lecture Tests/Exams:
The lecture exams may include both objective questions (multiple choice, matching, etc.) over 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! The 5 Unit Exams can be access through blackboard. They will be completed **online via Connect monitored by Proctorio**. Exams will not be made up for any reason as multiple days exist for students to complete the exams. Each exam is 100 questions worth 100 points with a 60 minute timer. **Unit Exams 1-4 will open on the Thursday after completing topics and close the following Tuesday at 11:59pm. The Tuesday due dates are firm – no makeups for missed exams will be allowed**. **NOTE: Exam 5 has an extended open period due to Thanksgiving break.**

Connect Virtual Labs:
Virtual Labs are required for the lab portion of the course. These will be posted to blackboard. Each Lab Unit has multiple virtual lab "experiments" to be completed each week. Students will work on lab at their own pace prior to due dates. Your course grade for virtual labs will consist of the average of all virtual lab assignments. **The weekly virtual labs are always due on Sundays at 11:59pm. These dates are firm – no makeups for missed labs will be allowed.**

Proctored Final Exams:
A comprehensive final exam can be accessed through blackboard. It will be given **online via Connect monitored by Proctorio**. The final exam is 200 questions worth 200 points with a 120 minute timer. **The Final Exam will open on Friday December 4th and close on Wednesday, December 9th at 1:59pm. The Wednesday due date is firm – no makeups for missed exams will be allowed**.

Required Instructional Materials: Raven: Biology 12th ed with Connect Inclusive Access
Publisher: McGraw Hill **ISBN Number:** Available through NTCC Bookstore

Required Instructional Materials: Hearron & Ward: Exploring Biology 1 Lab Manual
Publisher: NTCC **ISBN Number:** Available through NTCC Bookstore

Optional Instructional Materials: None

Minimum Technology Requirements:

- Internet capable desktop, laptop, or chromebook (Tablets/ipads//Phones not recommended
- Microsoft Office or Google Suite
- Video conferencing capability with webcam using Zoom app through computer.
- Access to printer if hard copies of assignments are desired

Required Computer Literacy Skills: Blackboard; Microsoft Office or Google Suite

- Web browsing skills for working with the online homework system
- Ability to use Blackboard for access to course information and assignments
- Functional use of Microsoft Office or Google Suite and Zoom app
- Competent and professional emailing skills
    - Emails should have the following format in subject line: Last Name, First Name -Course ID
        - Example: Ward, James BIOL 1406.001

Student Expectations:

- Adhere to Classroom Etiquette including Zoom Virtual Classroom (see addendum in Blackboard)
- Adhere to Proctored Exam Etiquette (see addendum in Blackboard)
    - Proctored exams are monitored by McGraw Hill through Connect with Proctorio
        - Students will be recorded in the following ways during proctored exams:
            - Video, Audio, Screen, and Environment
        - Testing Violations from all recordings will be reported by Proctorio

Communications: Turnaround time for email responses is 24 hours during workweek.
NTCC email is the official form of communication used by the college.

Institutional/Course Policy: Withdraw Date
The last day to withdraw from the course in **Tuesday, November 17th**. Discontinuing with the course without officially dropping the course by this date will result in a grade earned, in most instances an "F". A stoppage in attendance does not equate to dropping the course.

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/Ethics Statement:
NTCC upholds the highest standards of academic integrity. The college expects all students to engage in their academic pursuits in an honest manner that is beyond reproach using their intellect and resources designated as allowable by the course instructor. Students are responsible for addressing questions about allowable resources with the course instructor. Academic dishonesty such as cheating, plagiarism, and collusion is unacceptable and may result in disciplinary action. This course will follow the NTCC Academic Honesty and Academic Ethics policies stated in the Student Handbook. Refer to the student handbook for more information on these subjects.

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 Student Services and can be reached at 903-434-8264. For more information and to obtain a copy of the Request for Accommodations, please refer to the special populations page on the NTCC website.

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.

Tentative Course Timeline:
(*note* instructor reserves the right to make adjustments to this timeline at any point in the term):

Biology 1406 - FALL 2020

Wk	MON/TUE	WED/THUR	VIRTUAL LABS	CONNECT/EXAMS
1	8/24-8/25 Orientation	8/26-8/27 CH 1 Science of Biology	Virtual Lab Safety & Orientation	
2	8/31-9/1 CH 1 Darwin's Idea	9/2-9/3 CH 2 Periodic Table	Introduction to Scientific Method **Due Sun 9/6**	
3	9/7-9/8 **LABOR DAY** Honors Project	9/9-9/10 CH 2 Water & pH	Lab Topic 1 Metric System **Due Sun 9/13**	
4	9/14-9/15 CH 3 Chemistry of Life	9/16-9/17 CH 3 Chemistry of Life	Lab Topic 2 Biochemistry **Due Sun 9/20**	**CH 1-3 DUE 9/19** **EXAM 1 (CH 1-3)** **Thur 9/17-Tue 9/22**
5	9/21-9/22 CH 4 Cell Structure	9/23-9/24 CH 4 Cell Structure	Lab Topic 3 & 4 Microscopy & Cells **Due Sun 9/27**	
6	9/28-9/29 CH 5 Membranes	9/30-10/1 CH 5 Transport	Lab Topic 5 Diffusion & Osmosis **Due Sun 10/4**	**CH 4-5 DUE 10/3** **EXAM 2 (CH 4-5)** **Thur 10/1-Tue 10/6**
7	10/5-10/6 CH 6 Energy	10/7-10/8 CH 6 Enzymes	Lab Topic 6 Enzymes **Due Sun 10/11**	
8	10/12-10/13 CH 7 Respiration	10/14-10/15 CH 7 Respiration	Lab Topic 7 Respiration **Due Sun 10/18**	
9	10/19-10/20 CH 8 Photosynthesis	10/21-10/22 CH 8 Photosynthesis	Lab Topic 8 Photosynthesis **Due Sun 10/25**	**CH 6-8 DUE 10/24** **EXAM 3 (CH 6-8)** **Thur 10/22-Tue 10/27**
10	10/26-10/27 CH 10 Cell Cycle	10/28-10/29 CH 10 Mitosis	Lab Topic 9 Cell Division **Due Sun 11/1**	
11	11/2-11/3 CH 11 Meiosis	11/4-11/5 CH 12 Genetics	Lab Topic 10 Human Genetics **Due Sun 11/8**	**CH 10-11 DUE 11/7** **EXAM 4 (CH 10-11)** **Thur 11/5-Tue 11/10**
12	11/9-11/10 CH 12 Genetics	11/11-11/12 CH 13 Genetics	Lab Topic 10 Mendelian Genetics **Due Sun 11/15**	
13	11/16-11/17 CH 14 DNA	11/18-11/19 CH 14 DNA	Lab Topic 11 DNA/Biotechnology **Due Sun 11/22**	**CH 12-14 DUE 11/21** **TUESDAY, NOV 17** **Last Day to Drop**
14	11/23-11/24 **Special Event**	11/25-11/26 **THANKS** **GIVING**	**NO LABS** **THIS WEEK**	
15	11/30-12/1 CH 15 RNA	12/2-12/3 **Final Exam Review**	**LAB COVID-19** **Project Due**	**CH 15 DUE 12/2** **EXAM 5 (CH 12-15)** **Thur 11/19-Thur 12/3**
16	**FINAL EXAM WEEK – Comprehensive Final CH 1-8,10-15 (Fri, Dec 4-Wed, Dec 9)**			