



## BIOL 2401 Anatomy & Physiology I

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

### Course Syllabus: Fall 2021

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| Office Hours | Monday          | Tuesday                               | Wednesday       | Thursday                               | Friday         | Online   |
|--------------|-----------------|---------------------------------------|-----------------|--|----------------|--|
|              | 4:30pm - 5:00pm | 11:00am - Noon<br><br>1:30pm - 5:00pm | 4:30pm - 5:00pm | 11:00am to Noon<br><br>1:30pm - 5:00pm | By appointment | <a href="mailto:kcarter@ntcc.edu">kcarter@ntcc.edu</a> |

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

**Catalog Course Description:** 4 credit hours. Lecture/Lab/Clinical: Three hours of lecture and three hours of lab each week. Prerequisite(s): TSI complete in reading and writing. Anatomy and Physiology I is intended for students entering a field of study in health sciences or kinesiology. This course is the first semester of a two semester sequence and includes a study of basic cell biology, histology, the integument, skeletal, muscular and nervous systems. Animal dissection is a required component of laboratory activity in both face-to-face and online format. Successful completion of BIOL 2401 with a C or better allows the student to continue on to BIOL 2402.

**Required Textbook(s):** **Lecture:** BIOL 2401 ACCESS CODE MCKINLEY CONNECT (VIA INCLUSIVE ACCESS W/DIGITAL TEXT & CONNECT) Author: *McKinley* Edition 4 McGraw-Hill

**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. 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 (**PRINT UPGRADE: ANATOMY & PHYSIOLOGY: AN INTEGRATIVE APPROACH, McKinley, ISBN: 9781260572148, Edition 3.**) 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.

**Laboratory:** REQUIRED TEXTBOOK AND MATERIALS

1. **BIOL 2401/2402: Laboratory Manual for Human Anatomy & Physiology: (FETAL PIG VERSION)** Author: Terry R. Martin ISBN: 9781260159363 Edition 4

**PLEASE NOTE: Lab Manuals CANNOT be rented from a third party. Each student MUST have a consumable lab book from which pages MUST be torn out and submitted for grading. This means that absolutely NO copies can be submitted as it violates copyright laws.**

**Recommended Reading(s):** Chapters 1 through 16 in the textbook

**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*

EQS2

Analyze numerical data or observable facts.

EQS3

Draw informed conclusions.

*Team Work*

TW2

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

**Required Computer Literacy Skills:**

1. Web browsing skills for working with the online homework system
2. Ability to use Blackboard for access to course information
3. Competent and professional emailing skills

**Student Learning Outcomes:**

1. Define anatomy and physiology, explain the importance of the relationship between structure and function and be able to describe and identify directional terms, anatomical positions, and anatomical structures.

2. Explain the nature of a human cell.
3. Describe the general make-up of a tissue and be able to recognize the primary tissue types and examples of each type.
4. Describe the general structure, function and interaction of the integumentary system.
5. Describe the general structure, function and interaction of the skeletal system inclusive of joints.
6. Summarize the major characteristics and functions of skeletal, smooth and cardiac muscle. Be able to identify the major superficial muscles of the human body.
7. Describe the general structure, function and interaction of the nervous system.
8. Work safely and collaboratively in the laboratory using appropriate equipment and tools to communicate results of scientific investigations, analyze data and formulate conclusions using critical thinking and scientific problem-solving skills.

### Lecture Discussion And Exam Schedule:

**Please NOTE: Lecture and Exam Schedule are subject to change.**

|         |   |
|---------|---|
| Week 1  | Intro to A&P, & Chapters 1&2: Anatomical Terminology & Chemistry                            |
| Week 2  | Chapters 1&2 cont., Chapter 4: Biology of the Cell  |
| Week 3  | Chapter 4, cont.; Chapter 5: Tissue Organization  |
| Week 4  | Chapter 5, cont; Chapter 6: Integumentary System  |
| Week 5  | Chapter 6, cont;  |
| Week 6  | Chapter 7: <b>LECTURE EXAM I: SEPT 27/28</b> ; Skeletal System: Bone Structure & Function;  |
| Week 7  | Chapter 8: Axial & Appendicular Skeleton; Chapter 8, continued                              |
| Week 8  | Ch 8 continued; Chapter 9: Articulations  |
| Week 9  | Chapter 9 cont.; <b>LECTURE EXAM 2: OCT 20/21</b>   |
| Week 10 | Chapter 10: Muscle Tissue;  |
| Week 11 | Chapter 11: Muscular System: Axial & Appendicular Muscles; Chapter 11 continued             |
| Week 12 | Ch 11 cont;; <b>LECTURE EXAM 3: NOV 10/11</b>   |
| Week 13 | Chapter 12: Nervous System: Nervous Tissue; Chapter 13: Nervous System: Brain & Spinal Cord |
| Week 14 | Ch 13 cont.; Chapter 14: Nervous System: Spinal Cord & Spinal Nerves;                       |
| Week 15 | Ch 14 cont; Chapter 15: NS: Autonomic Nervous System; Chapter 16: Nervous System: Senses;   |
| Week 16 | Ch 16 cont; <b>LECTURE EXAM 4: DEC 1/2</b>  |

FINAL EXAM (Comprehensive): Date and Time to be determined

### Evaluation/Grading Policy Overview:

On the first day of lecture and lab I will address the specifics of the grading policy and what constitutes consideration for a make-up exam. Suffice to say that Lecture and Lab Practical Exams are **NOT TO BE MISSED**.

PLEASE NOTE: There is no such thing as “Late Homework,” “Late SmartBook assignment(s)” or “Late Lab Assessments.” You must turn in all assignments/lab assessments by their due date or you will receive a zero. Only in dire scenarios will I consider allowing a late assignment to be turned in after the due date. I drop the 6 lowest lab report grades, which means that the zero you get for a report not turned in on time or not turned in at all, will not hurt you unless you exceed 6 of these. You are going into medicine and being exact and on time is critical to the life of your patient. If you learn to be disciplined in the small things, it will be easier to be disciplined in the big things.

**Also Note: If you don't turn in an assignment, the space in the Blackboard Grade Book for that assignment will remain blank. That assignment, and any other blank spaces for grades of assignments not turned in, will not be calculated into the running total until I take the system off "running total" at the end of the semester. This**

means that your course grade is lower than it shows in Blackboard if you have assignments you have not turned in. Those blanks WILL be counted as zeros at the end of the semester when I take the system off of “running total.” Blackboard will not physically put a zero in a blank even when I take the system off of “running total;” however, it will count each blank as a zero when computing your final grade.

**Course grades** will be determined as follows:

|                |               |
|----------------|---------------|
| 90 --- 100 = A | 60 --- 69 = D |
| 80 --- 89 = B  | 59 and < = F  |
| 70 --- 79 = C  |               |

**Please note:**

- Due to FERPA, student privacy regulations, you will need to provide a written note listing anyone who will be allowed to pick up your work or to whom I may speak with (other than you) regarding your grade(s) or attendance.

OVERALL COURSE GRADE WEIGHTED AS FOLLOWS: Lecture = **75%**; Lab = **25%**

LECTURE GRADE

EXAMS: **60%** of Overall Course Grade

4 Lecture Exams = **40%** of Overall Course Grade

FINAL EXAM (**Comprehensive**) = **20%** of Overall Course Grade

\*You MUST take the Final Exam. Anyone who does not take the Final Exam will automatically receive an F for the course grade, regardless of your average going into the Final Exam.

ASSIGNMENTS: (CONNECT Smart Book and Homework Tutorials) = **15%** of Overall Course Grade **PLEASE NOTE:** YOU are responsible to make sure that your LearnSmart and Homework Tutorial grades show up in Blackboard. Do NOT wait until the last week of class to check and see if a Smart Book or Homework Tutorial grade has been entered by the Connect system into your Blackboard grade book. It will be too late to try and “find” those grades prior to the time your Final Grade must be submitted. YOU must stay up with the Connect system to make sure that your grades are being posted correctly by the software.

LABORATORY GRADE

The laboratory grade is valued at **25%** of the overall course grade and is determined as follows:

Average of Lab Assessments = **20%** of Overall Lab Grade

Lab Practical Exam Avg (4 Exams) = **80%** of Overall Lab Grade

**NOTE: Lab Practical Exams will be “Fill In The Blank.” Spelling correctly is critical.**

### GRADE CALCULATION EXAMPLE:

| CATEGORIES           | YOUR AVG     | VALUE | CALCULATE POINTS           | CURRENT POINTS |
|----------------------|--------------|-------|----------------------------|----------------|
| SB+HW AVG            | 75           | 15%   | 75 x 15%<br>(15% = 0.15)   | 11.25          |
| EXAMS                | 66           | 40%   | 66 x 40%<br>(40% = 0.4)    | 26.4           |
| FINAL EXAM           | 70           | 20%   | 70 x 20%<br>(20% = 0.2)    | 14             |
| OVERALL LAB GRADE*   | <b>61.6*</b> | 25%   | 61.6 x 25%<br>(25% = 0.25) | 15.4           |
| CURRENT COURSE GRADE |              |       | ADD CATEGORY POINTS        | 68.65          |

Now, let's calculate the OVERALL LAB GRADE:

| CATEGORIES        | YOUR AVG | VALUE | CALCULATE POINTS        | CURRENT POINTS |
|-------------------|----------|-------|-------------------------|----------------|
| LAB ASSESSMENTS   | 88       | 20%   | 88 x 20%<br>(20% = 0.2) | 17.6           |
| LAB PRACTICALS    | 55       | 80%   | 55 x 80%<br>(80% = 0.8) | 44             |
| OVERALL LAB GRADE |          |       | 17.6 + 44 =             | <b>61.6</b>    |

**LECTURE ATTIRE:** No shorts, short skirts, bare midriffs, low tops, or Yoga pants are allowed in the Lecture Classroom. If a student doesn't follow this rule they will be asked to leave the classroom.

### LABORATORY ATTIRE:

No shorts, short skirts, sleeveless shirts, loose clothing, bare midriffs, low tops, Yoga pants, open-toed shoes or sandals will be allowed in the laboratory. Proper lab attire is required at all times, which includes clothing that covers upper arms, legs, thorax and abdomen. Long hair should be tied back to avoid getting it into the dissection field. Students not meeting proper laboratory attire will not be allowed to participate in lab and will receive a zero for assignments/quizzes due that day. They will also be dismissed from the class for that day. Please adhere to these requirements when we are dissecting via Zoom.

**LABORATORY ASSIGNMENT AND LAB PRACTICAL EXAM SCHEDULE:**

**PLEASE NOTE: DATES AND TOPICS/EXAMS ARE SUBJECT TO CHANGE**

| <b>WEEK</b> | <b>DATE</b> | <b>LAB TOPIC</b>  |
|-------------|-------------|---|
| 1           | AUG 23/24   | LAB ORIENTATION, SAFETY   |
|             | AUG 25/26   | LAB 2: BODY ORG, MEMBRANES, & TERMINOLOGY<br>PROCEDURES A, B, & C |
| 2           | AUG 30/31   | LAB 4: CARE & USE OF THE MICROSCOPE<br>PROCEDURE A                |
|             | SEPT 1/2    | LAB 5: CELL STRUCTURE & FUNCTION<br><br>&<br>LAB 7: CELL CYCLE    |
| 3           | SEPT 6/7    | LABOR DAY HOLIDAY/TUES NO LAB                                     |
|             | SEPT 8/9    | LAB 6: MOVEMENT THROUGH MEMBRANES<br>PROFESSOR DEMONSTRATION      |
| 4           | SEPT 13/14  | LAB 8: EPITHELIAL TISSUES   |
|             | SEPT 15/16  | LAB 9: CONNECTIVE TISSUES   |
| 5           | SEPT 20/21  | LAB 9: CONNECTIVE TISSUES, CONTINUED                              |
|             | SEPT 22/23  | LAB 11: INTEGUMENTARY SYSTEM                                      |

|    |            |  |
|----|------------|--|
|    | SEPT 27/28 | <b>LAB PRACTICAL EXAM 1</b>  |
| 6  | SEPT 29/30 | LAB 12: BONE STRUCTURE & CLASSIFICATION<br>&<br>LAB 13: ORGANIZATION OF THE SKELETON   |
|    | OCT 4/5    | LAB 14: SKULL  |
| 7  | OCT 6/7    | LAB 15: VERTEBRAL COLUMN & THORACIC CAGE   |
|    | OCT 11/12  | LAB 16: PECTORAL GIRDLE & UPPER LIMB   |
|    | OCT 13/14  | LAB 17: PELVIC GIRDLE & LOWER LIMB<br>&<br>LAB 18: FETAL SKELETON:   |
|    | OCT 18/19  | LAB 19: JOINT STRUCTURE & MOVEMENTS  |
| 9  | OCT 20/21  | <b>LAB PRACTICAL EXAM 2</b>  |
|    | OCT 25/26  | LAB 10: MUSCLE (& NERVOUS) TISSUE – <b>ONLY MUSCLE PART – DON'T TURN IN UNTIL WE GET TO NEUROLOGY)</b><br>LAB 20: SKELETAL MUSCLE STRUCTURE & FUNCTION |
| 10 | OCT 27/28  | LAB 22: MUSCLES OF THE HEAD & NECK   |
|    | NOV 1/2    | LAB 23: MUSCLES OF THE CHEST, SHOULDER, & UPPER LIMB   |
| 11 | NOV 3/4    | LAB 24: MUSCLES OF THE VERTEBRAL COLUMN, ABDOMINAL WALL & PELVIC FLOOR;  |

|    |           |  |
|----|-----------|--|
| 12 | NOV 8/9   | LAB 25: MUSCLES OF THE HIP & LOWER LIMB<br>&<br>LAB 26: SURFACE ANATOMY  |
|    | NOV 10/11 | LAB PRACTICAL EXAM 3   |
| 13 | NOV 15/16 | LAB 10: MUSCLE AND NERVOUS TISSUE (NERVOUS TISSUE ONLY),<br>LAB 27: NERVOUS TISSUE & NERVES, AND<br>LAB 28: MENINGES, SPINAL CORD, & SPINAL NERVES |
|    | NOV 17/18 | LAB 30: BRAIN & CRANIAL NERVES<br>&<br>LAB 32: DISSECTION OF THE SHEEP BRAIN & SPINAL CORD   |
| 14 | NOV 22/23 | LAB 35: EYE STRUCTURE, &<br>LAB 36: VISUAL TESTS, AND<br>EYE DISSECTION  |
|    | NOV 24/25 | THANKSGIVING HOLIDAY   |
| 15 | NOV 29/30 | LAB 37: EAR & HEARING &<br>LAB 38: EAR & EQUILIBRIUM   |
|    | DEC 1/2   | LAB PRACTICAL EXAM 4   |
| 16 |           | NO LABORATORY FINAL  |

PLEASE NOTE: Regular Lab attendance is required to receive a lab grade.



**Scholastic Dishonesty, aka, Cheating:**

As per the NTCC Student Handbook, Scholastic Dishonesty, aka, Cheating, shall include, but shall not be limited to:

1. Copying from another student's test or class work;
2. Using test materials not authorized by the person administering the test;
3. Collaborating with or seeking aid from another student during a test without permission from the test administrator;
4. Knowingly using, buying, selling, stealing, or soliciting, in whole or in part, the contents of an unadministered test, paper, or another assignment;
5. The unauthorized transporting or removal, in whole or in part, of the contents of the unadministered test;
6. Substituting for another student, or permitting another student to substitute for one's self, to take a test;
7. Bribing another person to obtain an unadministered test or information about an unadministered test; or
8. Manipulating a test, assignment, or final course grades.

**CHEATING IN ANY FORM WILL NOT BE TOLERATED!** Cheating on a lecture or lab practical or final exam will result in removal from the course and a course grade of F.

**NTCC Academic Honesty Statement:**

"Students are 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."

**Academic Ethics:**

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 Shannin Garrett, Academic Advisor/Coordinator of Special Populations located in the College Connection. She 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.