



BIOL 2402 Anatomy & Physiology II

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

Course Syllabus: Spring 2021

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Office Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Online
	4:30pm - 5:00pm	1:30pm - 5:00pm	4:30pm - 5:00pm	1:30pm - 5:00pm	By appointment	kcarter@ntcc.edu

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: Prerequisite(s): BIOL 2401 with a final grade of C or better.

Anatomy and Physiology II is the second part of a two-course sequence. It is a study of the structure and function of the human body including the following systems: endocrine, cardiovascular, immune, lymphatic, respiratory, digestive (including nutrition), urinary (including fluid and electrolyte balance), and reproductive (including human development and genetics). Emphasis is on interrelationships among systems and regulation of physiological functions involved in maintaining homeostasis. The lab provides a hands-on learning experience for exploration of human system components and basic physiology. Systems to be studied include endocrine, cardiovascular, immune, lymphatic, respiratory, digestive (including nutrition), urinary (including fluid and electrolyte balance), and reproductive (including human development and genetics). Animal dissection is a required component of laboratory activity in both face-to-face and online formats.

Course Structure and Overview:

Course Format: Synchronous/Live Remote via Zoom

NTCC Definition Live Remote classes will connect the instructor and the student in a virtual classroom where the student will receive live instruction and be able to interact directly with the faculty member during the course class time.

This course, both lecture and laboratory, will be conducted via Zoom. You are expected to be online in the Zoom classroom interacting with fellow students and the professor during the scheduled lecture and laboratory times. Additional course material will be presented fully online through the course Blackboard page. Most assignments, including lecture exams, laboratory practical exams, and labs will be submitted electronically through Blackboard.

Required Textbook(s): Lecture: BIOL 2401 ACCESS CODE MCKINLEY CONNECT (VIA INCLUSIVE ACCESS W/DIGITAL TEXT & CONNECT) Author: *McKinley* ISBN: 9781260849110 Edition 3 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.
2. **Dissection Tool Kit:** Required for this synchronous course so that you can carry out dissections at home. You can purchase this from the NTCC College Store OR at this link: https://www.homesciencetools.com/product/advanced-dissecting-tools/?gclid=EAIaIQobChMIjaaS1ueT6wIVg5yzCh19EQW0EAQYBCABEgIpN_D_BwE Either way, this will be approximately \$15.

Recommended Reading(s): Chapters 17 through 29 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.

Minimum Technology Requirements:

1. Wireless Internet capable laptop computer or tablet (Chromebooks are not recommended)
2. Video conferencing capability using Zoom through computer or mobile phone.
3. Access to printer for required hand-written assignments.
4. Access to a scanner for electronic submission of hand-written assignments. NOTE: Free mobile phone applications are available that can substitute for a scanner. Hand-written assignments must be submitted in pdf format through Blackboard.

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
4. Functional use of MS Word and pdf for lab reports
5. Ability to print and scan documents for electronic submission of hand-written assignment.

Communications:

1. Primary communication between the instructor and students will be during lecture and lab Zoom meetings. We will meet class via Zoom, rather than “face to face” at the same times we would normally meet in the classroom/laboratory. I require my students to engage in class. You must participate in answering questions posed by me or by other students.
2. You are free to contact me as necessary outside of class. NTCC email is the official form of communication used by the college. Email communications from non-NTCC email addresses will not be answered. **You must check your NTCC email account daily, even on the weekends.** You may reach me at kcarter@ntcc.edu. Please do not hesitate to contact me if you have questions. I check my campus email multiple times a day, every day, so will do my best to get back to you as soon as possible. I am happy to help.
3. I will also use Blackboard’s Announcement function to send out various information to the class. You will receive an email notification when an announcement is put into Blackboard. Students are expected to check Blackboard daily.
4. Lecture Connect LearnSmart and Homework Tutorial Assignments are already listed in Blackboard, along with their due dates. Each week you will have a LearnSmart and Homework Tutorial assignment, which is due each Sunday night by 11:59pm. Laboratory Assessments are due weekly each Saturday night by 11:59pm.
5. Zoom Office Hours: My office hours are listed on the first page of this syllabus. I will hold office hours BY APPOINTMENT, during these times. You must schedule an Office Hours appointment with me via NTCC email so that I can focus specifically on your questions. There will be a ZOOM OFFICE HOURS link in the LEFT toolbar and/or on the Home Page that you can click on to enter my office hours to meet your appointment.

ZOOM Meeting Etiquette:

1. This is a virtual classroom, therefore, appropriate classroom behavior is expected.
2. Log into your class or meeting from a distraction-free, quiet environment.
3. Please keep your audio on mute until you want to speak. This will help to limit background noise.
4. Close unneeded applications on your computer to optimize the video quality.
5. If you would like to speak or answer a question, simply unmute yourself and speak.
6. Keep your class notes out and/or pen and paper to take notes.
7. Make sure your video is on so your teacher and peers can see you.
8. Be mindful of your background lighting. If you are sitting with your back to a window, you may be silhouetted by the light coming through. Your overhead light might also need to be adjusted for the best image quality.
9. Please take care of your personal needs (appropriate dress, basic hygiene, eating, chewing gum, talking to others in your home, etc.) prior to entering a Zoom classroom.
10. Remember to sign out or “leave the meeting” when the session is finished

Student Learning Outcomes:

1. Explain the nature of the endocrine system.
2. Describe the characteristics and functions of blood.
3. Discuss the major structures and functions of the organs of the cardiovascular system.
4. Describe the major structures, functions and interaction of the lymphatic system and immunity.
5. Identify the major structures, functions and interactions of the digestive system.
6. Identify the major structures, functions and interactions of the respiratory system.
7. Identify the major structures, functions and interaction of the urinary system including water and electrolyte balance.
8. Identify the major structures, functions and interactions of the male and female reproductive systems.
9. 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 II; Chapter 17: Endocrinology

Week 2- Chapter 17, continued;

Week 3- Chapter 26: Digestion ; Chapter 26, continued

Week 4- Chapter 26, continued; **LECTURE EXAM 1, FEB 10;**

Week 5- Chapter 18: Cardio/Blood; Chapter 18: Cardio/Blood cont.;

Week 6- Chapter 19: Cardio/Heart; Chapter 19, continued

Week 7- Chapter 20: Cardio/Circulation/Vasculature;

Week 8- Chapter 21 Lymphatics; Chapter 22 Immunity and Body Defenses

Week 9-***** **SPRING BREAK** *****

Week 10- Chapter 22 cont.; **LECTURE EXAM 2, MAR 24;**

Week 11- Chapter 23: Respiratory; Chapter 23, continued;

Week 12- Chapter 24: Urinary; Chapter 24, continued

Week 13- Chapter 24, continued: Chapter 25: Fluids, Electrolytes, & Acid/Base;

Week 14- **LECTURE EXAM 3, APR 19;** Ch 28: Reproductive System;

Week 15- Chapter 28 cont.; Ch 29: Pregnancy & Development

Week 16- Ch 29: cont; **LECTURE EXAM 4, MAY 5th**

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” 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. 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.

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 LearnSmart 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 LearnSmart 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.

LABORATORY ATTIRE:

No shorts, short skirts, sleeveless shirts, loose clothing, bare midriffs, low tops, 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 the Post-Lab assignment. 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

WEEK	DATE	LAB TOPIC
1	JAN 20	LAB ORIENTATION & SAFETY;
2	JAN 25	LAB 39: ENDOCRINE STRUCTURE & FUNCTION Work through entire lab; complete all LAB ASSESSMENT questions
	JAN 27	LAB 39: cont.; LAB 40: DIABETIC PHYSIOLOGY: Video in Lab; Parts A, B, C
3	FEB 1	LAB 54: DIGESTIVE ORGANS: Procedures: A, B, C, D, & E; Parts B, C, & D (in Assessment)
	FEB 3	LAB 54: cont.
4	FEB 8	LAB 66: FETAL PIG DISSECTION Parts C & D
	FEB 10	LAB PRACTICAL EXAM 1
5	FEB 15	LAB 41: BLOOD CELLS Procedures: A & B Parts A, B, & C
	FEB 17	LAB 43: BLOOD TYPING Procedures: A & B Parts A, B, C, & D

6	FEB 22	LAB 44: HEART STRUCTURE Procedure: A Parts A & B
	FEB 24	LAB 44: HEART DISSECTION Procedure: B Parts: ALL
7	MAR 1	LAB 45: CARDIAC CYCLE Procedures: A & B; Parts A, B, C, & D Parts: A, B, C, & D
	MAR 3	LAB 47: BLOOD VESSEL STRUCTURE Procedures: A, B, C, & D Parts A, C, D, E
8	MAR 8	LAB 48: PULSE & BLOOD PRESSURE Procedures: A & B Parts A, B, C
	MAR 10	LAB 49: LYMPHATIC SYSTEM Procedures: A, B, & C Parts: A, B, C, & D
9	***** SPRING BREAK *****	
10	MAR 22	REVIEW
	MAR 24	LAB PRACTICAL EXAM 2
11	MAR 29	LAB 50: RESPIRATORY ORGANS Procedures: A & B Parts A, B, & C
	MAR 31	LAB 51: BREATHING & RESPIRATORY VOLUMES Procedures: A Parts A & C

12 **APR 5** **LAB 53: CONTROL OF BREATHING**
Procedures: A & B
Parts A & B

APR 7 **LAB 57: URINARY ORGANS**
Procedures: A, B, & C
Parts A, B, C, D, & E

AND

KIDNEY DISSECTION

13 **APR 12** **LAB 58: URINALYSIS**
Procedure: A
Part A & Part B - see Dr. Carter for data

APR 14 **LAB: ACID/BASE/BUFFERS**
Procedures: HANDOUT

14 **APR 19** **LAB PRACTICAL EXAM 3**

APR 21 **LAB 59: MALE REPRODUCTIVE SYSTEM**
Procedures: A & B
Parts A & B

15 **APR 26** **LAB 60: FEMALE REPRODUCTIVE SYSTEM**
Procedures: A & B
Parts A, B, & C

APR 28 **LAB 61: MEIOSIS, FERTILIZATION, & EARLY DEVELOPMENT**
Parts A & C; (Don't draw any sea urchin eggs)

16 **MAY 3** **REVIEW**

MAY 5 **LAB PRACTICAL EXAM 4**

FINALS WEEK **NO LABORATORY FINAL**

PLEASE NOTE: [Regular Lab attendance is required to receive a lab grade.](#)

ELECTRONIC LABORATORY ASSESSMENT SUBMISSION

1. Labs performed each week are due the following Saturday night by 11:59pm
2. The “Lab Assessment” can be found at the end of the Laboratory Exercise document in your lab manual. This is the part of each lab that must be scanned and then submitted as a SINGLE pdf DOCUMENT per lab each Saturday night by 11:59pm.
3. First, DOWNLOAD ADOBE SCAN – it’s free and you can get it from the Apple App Store or Microsoft Store. **PLEASE ONLY USE THIS SCANNER!**. Scan each page of the Laboratory Assessment, in order from the first page to the last page (even if there is a page where nothing is assigned), and save the pages **AS A SINGLE PDF DOCUMENT**. **Failure to do so will result in your receiving a zero for the lab. Do NOT upload individual pages of the Laboratory Assessment to Blackboard.** Lab Assessments must be submitted as a pdf file. Lastly, you MUST include your **Driver’s License on each page you scan** – place it in dead space on the page.
4. Next, go to the Course Home Page in Blackboard; scroll down to the LAB folder and open it. Open the **UPLOAD LAB ASSESSMENTS HERE** folder. Click on the lab number you want to upload and follow the directions. (TIP: Before you upload the lab assessment document you just scanned in, send the document to your email account and then look at it to make sure all the pages are there, in order, with your Driver’s License on each page, so that you know the document is ready to be uploaded. NOW, upload it into Blackboard).
5. If you have problems scanning and saving the pages as a single pdf document, please contact the NTCC IT Help Desk ASAP. Inability to submit the document in the correct format is no excuse and will result in a zero for the lab.

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! Exams will be proctored. The instructor may incorporate tools like Zoom to monitor students taking exams, and/or may employ proctoring software to monitor students during lecture and lab practical exams. Cheating on a lecture or lab practical exam may result in a grade of Zero or removal from the course with a grade of F.

Proctorio:

Proctorio is a Learning Integrity resource. The course instructor may use Proctorio, a browser-locking and remote proctoring solution designed to protect the integrity of the course’s assessments, within some or all of your Connect assignments and lecture and lab practical exams. The course instructor may enable Proctorio’s secure assignment and/or exam settings, and only the course instructor will make a judgment as to any potential academic integrity violation. The purpose of using software like Proctorio is to make education more equal by allowing each student to earn the grades they deserve. The US Federal Government also requires that all schools have a process in place for verifying student identity to protect against Federal Student Aid (FSA) fraud.

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.