

## **ANATOMY & PHYSIOLOGY For Medical Assistants**

MDCA 1309. 088 TR

Spring 2026

### **COURSE SYLLABUS**

Instructor: ***Karen Duck, MS, BAAS, AAS, CMA (AAMA)***  
Telephone: 903-738-5399 (TEXT FOR EMERGENCIES; TEAMS PRIMARY!)  
Email: [Kduck@ntcc.edu](mailto:Kduck@ntcc.edu) (Email instructors using your NTCC email only!)  
Classroom: Online  
Office: UHS 102

### **Course Description**

This course is a study of human anatomy and physiology. Students are introduced to the organizational composition of the human body as it relates to the different levels of complexity and the study of the functions of living organisms and their parts. While the human body is considered a singular structure, it is made up of integrating atoms, molecules, cells, tissues, organs, and systems to maintain homeostasis necessary for survival.

#### **Required Text:**

- ***Body Structures and Functions (13<sup>th</sup> ed.). Ann Senisi Scott and Elizabeth Fong, Cengage Learning, 2015. ISBN-13: 9780357022351***
- ***Online access for MindTap: Access card purchased with Textbook***

### **Course Learning Objectives**

Upon successful completion of this course, the student should be able to:

1. Describe the structural levels of organization of the human body (I.C.1)
2. List the major body planes, directional terms, quadrants, cavities, and of the human body (I.C.3.a/b/c/d)
3. Identify and list body systems and the major organs of each body system (I.C.2) (I.C.4)
4. Identify the anatomical location of major organs in each body system (I.C.5)
5. Demonstrate knowledge of the basic principles of anatomy and physiology in relation to the principles of chemistry.
6. Describe normal function of each body system (I.C.7)
7. Define terminology related to anatomy and physiology.
8. Complete objectives related to each chapter of the text.

### **Course Policies:**

To ensure you have all key information available to you off-line, it is highly recommended that you print the student syllabus and course calendar for your reference.

### **Attendance:**

This is an online course – there is no on-campus attendance for this course. Attendance is not recorded for this class. It is recommended that you log-on to your classroom at least twice daily to ensure you are aware of announcements, assignments, discussions, and testing. The course week begins on Monday at 12:01am and ends on Sunday at 12:00 midnight. Days of the week correspond as follows:

Monday – Day 1  
Tuesday – Day 2  
Wednesday – Day 3  
Thursday – Day 4  
Friday – Day 5  
Saturday – Day 6  
Sunday – Day 7

### **Instructional Methods and Tools:**

The instructional methods and tools are tied to the course and chapter learning objectives by allowing the student to research, discover, and perform the differing educational exercises within the MindTap Learning Platform and class discussion forums. This course uses the following tools to aid students in successfully achieving the learning objectives in this course:

1. The MindTap Learning Platform will be used for the majority of assignments in this course. The platform contains different learning tools that include videos, homework assignments, learning labs, tests and quizzes, and simulated claim scenarios.
2. Weekly discussion questions.
3. Additional articles, lectures, and video demonstrations supplied by the instructor.

### **Evaluation and Grading Criteria:**

Exams will be given each week and will cover information contained in your text, class discussions, MindTap learning tools, and any additional materials given by the instructor. If there is an alteration in the class calendar, the change will be announced in the “announcements” section of BlackBoard. There are **NO** make-up exams and I do **NOT** accept late assignments! All assignment due dates are listed in the course calendar and under the description of the actual assignment. If you have a conflict with the date, it is your responsibility to contact me in advance of the due date to make arrangements for alternate submission. Failure to do so will result in a grade of zero for

the assignment. **It is your responsibility to ensure that your assignments are submitted on or before the due date!** I do understand that there are unforeseen circumstances (such as a death in the immediate family and hospitalization) that may not allow you to post assignments by the due date. Please contact me as soon as possible to arrange for an extension if this occurs. **Technology issues are not valid reasons for missing deadlines.** Please ensure that your computers are updated with the correct software. A list is available on the “Home Page” of our classroom of criteria and functionality needed for the MindTap learning platform. Course weeks closes on Day 7 at 11:59pm.

The instructor will **not** drop students from the course rolls for any reason. If the student decides not to complete the course, it is the responsibility of the student to officially drop the course through the Registrar’s office. Failure to do so will result in an “F” being awarded in the course.

### **Grade Policy**

Student Contract, DQ’s	15%
MindTap Chapter Assignments	25%
Chapter Test	30%
Final Comprehensive Exam	30%

### **Grading Scale:**

The grading scale of all graded activities combined will be the following

90% - 100%	=	A
89% - 80%	=	B
79% - 75%	=	C
Below 75%	=	F

**\*\* A minimum of a “C” is required to pass this course.**

**Drop Policy:** The last day to drop with a grade of “W” is Thursday, April 16, 2026.

Grades will be posted online under “**My Grades**” in Blackboard. Grades will be posted no later than day 7 of the following week in which the assignment was due. For example, if your assignment was due in Week 3, you would not receive grades on that assignment until Day 7 of Week 4. MindTap grades will automatically post to your grade book after you have submitted the assignment. If they do not, please let me know so I can manually enter them. I do review tests and worksheet assignments for computer errors and may award credit for answers that I feel are correct.

I will log in to the course at least 4 times during the week to monitor the weekly **Discussion** area. Feedback will be provided in the **Discussion** area and/or in the **Announcements** area. Requests for more specific feedback may be made in the **Discussion** area or in the **Ask the Instructor** area. I will respond to at least one main

post each week but will not usually respond to all posts. If you feel you are not receiving enough personal feedback, you are strongly encouraged to contact me and ask for more specific feedback via email.

### **Academic Dishonesty**

Academic dishonesty is considered an act of cheating. Each student has a responsibility to follow the college policies regarding academic dishonesty which are found on page 86 in the Northeast Texas Community College General Catalog. Please see my letter regarding Academic Integrity found on BlackBoard under “**START HERE**”

**Any student found guilty of academic dishonesty, the issue will be dealt with per NTCC’s policies and may receive a grade of “0” for that assignment. A second violation will result in failure of the course.**

### **Online Communication:**

Since this is online course and we do not interact face-to-face, good communication within the online environment is essential. Please read “The Core Rules of Netiquette” posted under “**START HERE.**”

If you have any questions regarding course content or questions related specifically to the class, please post them in the “**Ask the Instructor Forum**” posted under “**START HERE**” or “**DISCUSSIONS.**” Please take advantage of this forum as all students may benefit from your knowledge. If you have a personal question or situation, please email me directly. I make it a policy to answer all emails within 24 hours of receipt of the email. If I do not respond to you in 24 hours, please text me. As with electronic transfer of information (Internet connection issues), I may not have received your email. I also make it a point to log-on to our classroom frequently each week. If for any reason I will be unavailable during the semester, I will post the information under the “**Announcements**” tab.

It is your responsibility and very important to always check your **NTCC E-mail, the Discussion area, Announcements, Microsoft Teams,** and the **Ask the Instructor** area each time you check into the classroom. One of your classmates may have offered feedback or insight that will be helpful to you or I may have provided information, in general, to assist you in your work.

Private e-mailing between student and instructor via the **Blackboard Course e-mail** should only be used for personal, confidential situations. Any communication regarding a personal matter should be sent directly to the instructor via e-mail. No communications of a private or personal matter should be posted in the public spaces of the classroom.

Please feel free to use the Class Biography forum to initiate and participate in conversations not directly related to the course. This is an excellent opportunity to get to know other students.

**Course Navigation:**

Please ensure that you navigate through the entire course so you are aware of the location of course materials, email, grade book, BlackBoard help, etc. It is your responsibility to ensure your knowledge of the BlackBoard system. If you have any questions, please post in the “**Ask the Instructor Forum**,” or you can contact NTCC’s Tech Support. There are several “tabs” to the left of the course screen that provide additional information for the course.

**Internet Connection Issues:**

Since this course is delivered in an online format, please ensure that you have the proper computer and Internet set-up. There are no excuses for not submitting assignments due to technology issues – in other words, “my dog ate my computer” is not a valid excuse. If you have issues regarding connectivity, please contact NTCC’s Tech Support for help. If you have issues with navigating through the BlackBoard system, please refer to the “**HELP**” tab to the left on the course screen. Since we are using Cengage MindTap learning platform for this course, Information for technology requirements are found under the “**Tech Requirements**” tab. If you have problems with MindTap connectivity, please contact Cengage tech support. Information for Cengage tech support is located on our home page.

**Course Materials and Assignments:**

Along with your text books for this course, additional course materials located within the MindTap program are available as educational resources. You are also expected to use the Internet for additional research to enhance your discussions and assignments. There are several types of assignments that will be required to be completed during this course:

**Discussion Questions (DQs):** You will have one DQ due each week. Your initial post to the DQ is due by Day 2 (minimum word count of 50 words). You are required to respond to at least two of your peers and/or your instructor (by Day 5) as this is an open forum and we often learn from each other’s posts. I expect your posts to be researched, insightful, and add value to the discussion. Please note that I do grade on grammar, spelling, and punctuation as correct use of written communication is important. **Your responses must be in your own words. DO NOT COPY/PASTE from the textbook or the internet as this is considered plagiarism. Please see the section regarding “Academic Dishonesty”.**

**MindTap Assignments:** All of the following assignments are performed through the MindTap Learning Platform and are due by Day 7 of each week. Please check the weekly schedule for the list of MindTap assignments due for the specific week.

**Quick Checks:** Due by Day 7 of each week. These consist of various exercises including Labeling, Matching, Drag & Drops

**Chapter Homework:** Due by Day 7 of each week.

**Learning Labs:** Due by Day 7 of each week.

**Test Yourself:** Due by Day 7 of each week.

**\*\*\*\*There are no make-ups for any activities or assignments and I do not accept late work unless prior arrangements have been made.**

**Final Comprehensive Test:** This test will be administered the last week of class and will not be available before the last week of class. Additional information regarding the final will be posted in week of class. **There is absolutely NO MAKE UP for the final exam.**

**APA (American Psychological Association) Format:** APA is a specific format that is a guideline for every aspect of writing, from determining authorship to constructing a [table](#) to avoiding [plagiarism](#) and constructing accurate reference citations. This format must be adhered to for all writing assignments to avoid plagiarizing your written material including discussion questions and peer responses. If you are unfamiliar with APA formatting, I have provided an Internet link on the “**START HERE**” page for reference.

### **ADA Statement**

It is the policy of Northeast Texas Community College 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 arrange an appointment with a College counselor to obtain a Request for Accommodations form. For more information, please refer to the Northeast Texas Community College Catalog or Student Handbook or you can contact the Coordinator of Special Populations at 903-434-8202, or visit the website:

<http://www.ntcc.edu/index.php?module=Pagesetter&func=viewpub&tid=111&pid=1>

### **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.

## **Tobacco Use**

If you come to NTCC's campus, the use of tobacco products including smokeless tobacco, smoking tobacco, electronic cigarettes, and any legal smoking preparation is prohibited in all College buildings, enclosed facilities, inner campus, and College owned vehicles.

### **Tobacco use is prohibited in:**

1. All enclosed buildings and facilities, including but not limited to classrooms, offices, food service areas, lavatories and residence halls
2. All exterior areas in the inner campus and parking lots.
3. All college owned vehicles.

### **Tobacco use is permitted in:**

1. Personal vehicles
2. Designated smoking huts on the west side of campus.

## **Chapter Objectives**

### **Chapter 1**

1. Define the terms *anatomy* and *physiology*.
2. List and define the principal directional terms and sections (planes) used in describing the body and the relationship of body parts to one another.
3. List the major cavities of the body and the subdivisions found in each.
4. Define key terms related to the chapter

### **Chapter 2**

1. Define key terms related to the chapter
2. Relate the importance of chemistry and biochemistry to healthcare.
3. Describe the difference between organic and inorganic compounds.
4. Explain the importance of water to our body.
5. Discuss the structure and function of the following types of organic compounds: carbohydrate, lipid, protein, and nucleic acid.
6. Explain the difference between an acid, base, and salt.
7. Describe why homeostasis is necessary for good health.

### **Chapter 3**

1. Define the key terms related to the chapter.
2. Identify and discuss the basic structure and function of the major components of a cell.
3. Compare and contrast the major passive and active transport processes that act to move substances through cell membranes.
4. Discuss the relationship between the function of cells and the function of the body.

## **Chapter 4**

1. Define the key terms related to the chapter.
2. List the four main types of tissues.
3. Define the function and location of tissues and membranes.
4. Define an organ and organ system and relate them to the various systems.
5. Describe the processes involved in tissue repair.

## **Chapter 5**

1. Define the key terms related to the chapter.
2. Describe the structure and function of the skin and its appendages.
3. List and discuss the three primary functions of the integumentary system.

## **Chapter 6**

1. Define the key terms related to the chapter.
2. List and discuss the main functions of the skeletal system.
3. Identify the major anatomical structures found in a typical long bone and discuss bone formation.
4. List and compare the major types of joints found in the body and their movement.

## **Chapter 7**

1. Define the key terms related to the chapter.
2. List, locate in the body, and compare the structure and function of the three major types of muscle tissue.
3. Describe how pairs of muscles work together.
4. Identify and give the function of the major skeletal body muscles.
5. Explain origin and insertion of muscles.

## **Chapter 8**

1. Define the key terms related to the chapter.
2. List the organs and divisions of the central nervous system.
3. Identify the major anatomical structures and functions of the brain and spinal cord.
4. Explain how a nerve impulse travels from one neuron to another.

## **Chapter 9**

1. Define the key terms related to the chapter.
2. List the organs and divisions of the sympathetic and parasympathetic nervous systems.
3. Explain the simple reflex arc pattern.
4. Describe common disorders of the peripheral nervous system.

## **Chapter 10**

1. Define the terms related to the chapter.
2. Describe the general sense organs and their functions.
4. Describe the structure of the eye and the functions of its components.
5. Discuss the anatomy of the ear and its sensory function in hearing and equilibrium.
6. Describe the process involved with the sense of smell.

## **Chapter 11**

1. Define the terms related to the chapter.
2. Identify the primary endocrine glands and list the major hormones produced by each gland.
3. Describe negative feedback hormonal control.
4. Describe the role of prostaglandins.

## **Chapter 12**

1. Define the terms related to the chapter.
2. Describe the primary function and components of blood.
3. Describe the process of inflammation.
4. Describe the process in blood clotting.
5. Explain the significance of the various blood types.

## **Chapter 13**

1. Define the terms related to the chapter.
2. Discuss the structures and functions of the structures of the heart.
3. Trace blood circulation through the heart and lungs to the body.
3. Describe the conduction system of the heart.
4. Explain the relationship between blood vessel structure and function.

## **Chapter 14**

1. Define the terms related to the chapter.
2. Trace the path of cardiopulmonary circulation.
3. Name and describe the specialized circulatory systems.
3. List and identify the types of blood vessels and the principal arteries and veins of the body.
4. Trace the blood flow in fetal circulation.

## **Chapter 15**

1. Define the terms related to the chapter.
2. Describe the generalized functions of the lymphatic system and list the primary

lymphatic organs and their functions.

3. Describe immunity and the defense mechanisms of the body.
4. Describe autoimmune diseases.

### **Chapter 16**

1. Define the terms related to the chapter.
2. Describe six types of pathogenic microorganisms.
3. Explain the infectious process and the chain of infection and methods to break the chain of infection.
4. Describe the stages of infection.
5. Explain standard precautions.

### **Chapter 17**

1. Define the terms related to the chapter.
2. Describe the functions of the respiratory system.
3. List the major organs of the respiratory system and describe the function of each.
4. Compare, contrast, and explain the mechanism responsible for the exchange of gases that occurs during internal and external respiration.

### **Chapter 18**

1. Define the terms related to the chapter.
2. Describe the general function of the digestive system and the structures and functions of the digestive system.
3. Describe the action of the enzymes on proteins, fats, and carbohydrates.
4. Define and contrast mechanical and chemical digestion.

### **Chapter 19**

1. Define the terms related to the chapter.
2. Describe the functions of the different types of nutrients.
3. Differentiate between the fat-soluble and water-soluble vitamins.
4. Define BMR and BMI and list some factors that affect it.

### **Chapter 20**

1. Define the terms related to the chapter.
2. Explain the function of the urinary system and identify the major organs of the urinary system and give the generalized function of each.
3. Explain the importance of filtration, tubular reabsorption, and tubular secretion in urine formation.
4. Explain how the kidneys regulate water balance.

## **Chapter 21**

1. Define the terms related to the chapter.
2. Identify the organs of the female and male reproductive system and explain their functions.
3. Compare somatic cell division (mitosis) with germ cell division (meiosis).
4. Explain the process of fertilization.
5. Describe the stages and changes that occur during the menstrual and menopausal cycles.
6. Define and discuss Erikson's Stages of Development theory (V.C.17.b)

## **Chapter 22**

1. Define the terms related to the chapter.
2. Define mutation and differentiate between the two basic types.
3. Name three human genetic disorders and describe the cause and symptoms of each.
4. Explain genetic counseling.

## Course Calendar for Anatomy & Physiology for Medical Assisting (MDCA 1309)

<u>Week</u>	<u>Dates</u>	<u>Assignments</u>
1	January 20 - January 25	Discussion Board, MindTap Assignments listed in Learning Module, Student Contract
2	January 26 - February 1	Discussion Board, MindTap Assignments listed in Learning Module
3	February 2 - February 8	Discussion Board, MindTap Assignments listed in Learning Module
4	February 9 - February 15	Discussion Board, MindTap Assignments listed in Learning Module
5	February 16 - February 22	Discussion Board, MindTap Assignments listed in Learning Module
6	February 23 - March 1	Discussion Board, MindTap Assignments listed in Learning Module
7	March 2 - March 8	Discussion Board, MindTap Assignments listed in Learning Module
8	March 9 - March 15	Discussion Board, MindTap Assignments listed in Learning Module
	<b>March 16 - March 22</b>	<b>SPRING BREAK - COLLEGE CAMPUS CLOSED</b>
9	March 23 - March 29	Discussion Board, MindTap Assignments listed in Learning Module
10	March 30 - April 5	Discussion Board, MindTap Assignments listed in Learning Module
11	April 6 - April 12	Discussion Board, MindTap Assignments listed in Learning Module
12	April 13 - April 19	Discussion Board, MindTap Assignments listed in Learning Module
13	April 20 - April 26	Discussion Board, MindTap Assignments listed in Learning Module
14	April 27 - May 3	Discussion Board, MindTap Assignments listed in Learning Module
15	May 4 - May 10	Final Exam in MindTap
16	May 11-May 14	Instructors Week
<b>**** See Learning Module for Specific Assignment Due Dates</b> <b>Initial Discussion Board Post is DUE on DAY 2; Peer Responses are DUE by DAY 5!!</b> <b>Course Calendar Dates are Tentative and subject to change by Instructor</b>		