



Course Syllabus

Course Information

BIO 314

Human anatomy and physiology for Health Professions

4 credit hours

Calendar: [2023-2024](#)

The calendar lists pertinent dates regarding drop and withdrawal dates.

Instructor Information

Office Hours: Fridays at 3:00 pm CST via Zoom

Email Address: clara.fynbueggert@doane.edu

Slack Channel: <https://doaneolacours-ow2451.slack.com>

If you have questions of a personal nature such as relating a personal emergency, questioning a grade on an assignment, or something else that needs to be communicated privately, you are welcome to contact me via Slack direct message. Please allow 24 hours for me to respond to messages Monday-Friday and 48 hours on the weekend.

Communicating With the Instructor

When questions arise throughout the course, please remember to check the following resources for an answer **before** reaching out to me:

1. Course Syllabus
2. Course Schedule
3. Slack Channel

This policy will help you in potentially identifying answers before I can get back to you and it also helps your instructor from answering similar questions or concerns multiple times.

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If you cannot find an answer to your question, please first post your question to the course-specific Slack channel. Here your question can be answered to the benefit of all students by either your fellow students who know the answer to your question or the instructor. You are encouraged to answer questions from other students in the discussion forum when you know the answer to a question in order to help provide timely assistance.

Please do not use the Canvas Inbox feature for communication with me, I will not reply.

I make every attempt to monitor my email inbox, however communications in the email format are often missed due to many emails not relating to course questions. Slack messages are a more efficient way to have your question answered in a timely manner.

Slack Discussion

The Slack Channel for your course is a great place for you to ask questions and get answers from your peers and from me. You are encouraged to post your questions here before reaching out directly to me unless it is a time-sensitive matter. If you have questions of a personal nature such as relating to a personal emergency, questioning a grade on an assignment, or something else that needs to be communicated privately, you are welcome to contact me directly via email or phone.

Response Time

If you need to contact me directly, my preference is that you will send me a Slack message (direct message). Please allow 24 hours for me to respond to messages Monday through Friday and 48 hours on the weekend.

If you have a question about the technology being used in the course, please contact the Doane University Service Center for assistance, their contact information is listed later in the syllabus.

Technology Help

If you have a question about the technology being used in the course, please contact the Doane University Service Center for assistance, their contact information is listed later in the syllabus. If there are third-party tools utilized in the course, please reach out to them directly.

Course Details

Catalog Description

In this system-based, anatomy course, students will examine the foundations of basic human anatomy for every major organ system and the relationships between systems; categorize the major functions and significance of each system, particularly from the perspective of a future

healthcare worker; compare the relevance of organ system features in wellness and pathology; and engage in the study of anatomy from a system-based approach. By the end of this course,

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students will be able to describe the major structures of the human body and their functions as part of the major organ systems.

Course Prerequisites

For successful completion of this course, it is recommended that students are familiar with BIO 125: Biology I, BIO 126: Biology II or their equivalents.

Course Textbook and Materials

Required

Hole's Human Anatomy and Physiology by Welsh and Prentice-Craver, 16th edition
CONNECT Access Code with eBook (ISBN – 9781264262830).

Required Technology (if applicable, otherwise delete)

Reliable computer and internet connection

A web browser (Chrome or Mozilla Firefox)

Adobe Acrobat Reader (free)

Word processing software—Microsoft Word or Google Docs

Webcam and mic

*Course books and materials will be integrated into your Canvas portal

Course Lab (if applicable, otherwise delete)

As this is a 4-credit course, you can expect to complete a module lab to fulfill the course requirements.

Objectives/Topic for each weekly lab:

Unit I: Body plan, anatomical terminology, tissue overview and the Integumentary system

- Describe a person in anatomical position, identify anatomical regions and body cavities using appropriate terminology, and accurately identify right and left on anatomical specimens, drawings, and medical imaging.
- Identify and define the various anatomic planes in which a body might be viewed and be able to describe the appearance of a body presented along various planes
- Describe the

major organs and the location and functions of each organ system.

Unit II: The skeletal system

- Define the two major divisions of the skeletal system and list the bones and types of bones contained in each.

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- Identify individual bones, major bone markings and features, and their location within the body using appropriate directional terms.

Unit III: The muscular system

- Describe the organization of skeletal muscles tissue from cell to whole muscle to groups of muscles including connective tissue layers.
- Identify the location, origin, insertion and action of the major skeletal muscles and demonstrate these muscle actions.

Unit IV: The nervous system

- Differentiate between: the motor (efferent) and sensory (afferent), the somatic motor and autonomic motor, and the somatic and visceral sensory divisions of the nervous system. ● Compare and contrast the structure and function of the central nervous system and the peripheral nervous system
- Describe the gross anatomy and features of the spinal cord, spinal nerve plexuses, and spinal nerves and specify their location relative to the anatomy of the other organ systems.
- Discuss the two divisions of the autonomic nervous system including their anatomic features and the general physiological roles of each.
- Describe the major functions of the nervous system, and explain how the nervous system interacts with other body systems to maintain homeostasis..
- Predict deficits when presented with factors or situations affecting the nervous system.

Unit V: Special senses and the endocrine system

- Identify accessory eye structures, optical components and the neural components of the eye and describe the path of optic nerve impulses from the retina to various parts of the brain.
- Identify the hearing structures and anatomic features of the outer, middle and inner ear. ● Describe how the various structures of the outer, middle and inner ear function in hearing and trace nerve impulses from the spiral organ to various parts of the brain. ● Analyze factors or situations affecting the special sense organs and predict functional impact.

Unit VI: Cardiovascular and lymphatic systems

- On the external heart identify the location of the four chambers as well as the coronary sulcus, anterior interventricular sulcus and posterior interventricular sulcus. ● Identify and describe the function of the primary internal structures of the heart, including chambers, septa, valves, papillary muscles, chordae tendinae and venous and arterial openings.
- Identify the major blood vessels entering and leaving the heart and classify them as either an artery or a vein and as containing either oxygen rich or oxygen poor blood. ● Identify the

major arteries and veins of the body and compare and contrast anatomic features of arteries and veins.

Unit VII: Respiratory and digestive systems

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- Describe and distinguish between: the upper and lower respiratory tracts, and the respiratory and conducting parts of the respiratory tract.
- Identify, describe and state function for each of the following structures of the respiratory system: nasal cavities, sinuses, pharynx, larynx, trachea, bronchi, lungs, pleural membranes, pulmonary blood vessels, and diaphragm.
- Describe the major functions of the respiratory system and explain how the respiratory system relates to other body systems to maintain homeostasis.
- Describe the location, anatomic features, and function of each portion of the alimentary canal.
- Describe the major functions of the digestive system and explain how the digestive system relates to other body systems to maintain homeostasis.

Unit VIII: Urinary and reproductive systems

- Describe the location, anatomic features and function of the organs of the urinary system.
- Identify the major blood vessels associated with the kidney and describe the structures that filtrate must pass through from blood vessel to excretion via the urethra. ● Identify the major internal divisions and structures of the renal tissue. ● Describe the pathway of the ovum from the ovary to the uterus.
- Describe the pathway of sperm from the seminiferous tubules to the external urethral orifice of the penis.

Materials needed to complete labs:

- Modeling clay in 3-4 different colors (“Play doh” may be substituted)
 - A sharp non serrated kitchen knife
 - A newspaper or tablecloth to protect working surface
 - One sheet of newsprint/newspaper
 - Red, blue and green pens
 - Scarf or bandana to use as a blindfold
 - Headphones
 - Red, blue, and purple yarn
 - Scotch tape
 - Scissors
- Estimated time per lab: 1-2 hours
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- A sheet of white poster-board
 - A black sharpie marker
 - Drinking straws, small diameter (3)
 - Small balloon
 - Plain gelatin (available from the grocery store) **alternative activity available for those with religious**

objections/restrictions regarding gelatin

- Four small bowls

- Unseasoned meat tenderizer (available from the grocery store)
- Measuring cup

Learning Objectives and Course Outline

Course Objectives

By the end of the course, you will be able to:

1. Communicate concepts using proper anatomic terminology in written/oral presentations.
2. Compare and contrast tissues and organs in respect to structure and how that impacts function and interaction with other tissues/organs.
3. Identify and describe structures and their locations, including relation to other structures.
4. Describe how the function of each individual organ system contributes to the maintenance of homeostasis.

Course Outline

BIOL 323 Weekly Assignments		
Module	What Description	DUE DATE
Body Plan, Anatomical terminology, Cell and Tissue overview and the Integumentary System		
	Discussion Board Self-introduction	Wednesday
1	Structure List, Suffix and Prefix list APR Cadaver Lab 1 (APR Code wB8LQ)	Thursday
	Journal 1 Concept map Discussion board Describing Bruising Lab Directional Terminology APR Practice Quiz Histology Case Study Burns Quiz Module 1 quiz	Friday Initial Thursday Saturday Friday Saturday Sunday

TextbookHole's 1.2-1.6, 1.8,
5.1-5.6, 6.1-6.5

The Skeletal System

2	Structure List, structure exploration response APR Cadaver Lab 2 (APR Code wB8LQ)	Tuesday
	Journal Concept Mapping	Wednesday
	Discussion Board Bone pairs	Initial Wednesday

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	APR Practice Quiz Skeletal structures	Friday
	Lab Digital lab: skeletal system	Friday
	Case Study Fracture case study	Saturday
	Quiz Module 2 quiz	Sunday
	Textbook Hole's 7.2-7.12, 8.1-8.3	
The Muscular System		
	Structure List, muscle exploration APR Cadaver Lab 3 (APR Code wB8LQ)	Tuesday
	Journal Concept Mapping	Wednesday
	Discussion Board Skeletal muscle action	Initial Wednesday
3	APR Practice Quiz Muscular structures	Thursday
	Lab Digital lab: Muscles Case Study DMD Case study Quiz Module 3 Quiz	Friday Saturday Sunday

Textbook Hole's 9.2-9.8

The Nervous System

Structure List, nerve
(APR Code wB8LQ)
APR Cadaver Lab 4
naming exploration
Tuesday

Journal Concept Mapping Wednesday

4	Discussion Board Divisions of the nervous system	Initial Wednesday
	APR Practice Quiz Nervous structures	Thursday

	Lab Digital lab: Nervous	Friday
	Case Study Spinal fracture case study	Saturday
	Quiz Module 4 quiz	Sun
	TextbookHole's 10.1, 10.2, 11.1-11.7	
Special Senses and the Endocrine System		
5	APR Cadaver Lab 5 Structure List, endocrine gland exploration (APR Code wB8LQ)	Tuesday
	Journal Concept Mapping	Wednesday
	Discussion Board Special senses	Initial Wednesday
	APR Practice Quiz Special senses, Endocrine	Thursday
	Lab Wet lab: Retinal Rod/Cone mapping	Friday
	Case Study Parathyroid case study	Saturday
	Quiz Module 5 quiz	Sunday
	TextbookHole's 12.4, 13.1, 13.3-13.9	
Cardiovascular and Lymphatic Systems		

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APR Practice QuizCardiovascular and lymphatic	
LabWet lab: cardiovascular structures	
Case Study Stroke	
Quiz Module 6 quiz	

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APR Cadaver Lab 6 Structure List, endocrine gland exploration (APR C	TextbookHole's 15.1 - 15.4, 15.6-15.8, 16.1-16.3
Respiratory and Digestive Systems	
Journal Concept Mapping	Structure List, traveling through the systems
Discussion Board Blood tracing	
APR Cadaver Lab 7 exploration	Tuesday (APR Code wB8LQ)

7	Journal Concept Mapping Correlations between Discussion Board respiratory and digestive systems APR Practice Quiz Digestive and respiratory	Wednesday Initial Wednesday Thursday
	Lab Wet lab: Gelatin digestion Case Study Pancreatitis cases study	Friday Saturday
	Quiz Module 7 quiz	Sunday
	TextbookHole's 19.1-19.2, 17.1-17.9	
Urinary and Reproductive Systems		
8	APR Cadaver Lab 8 Structure List, reproductive organ structure exploration (APR Code wB8LQ)	Tuesday
	Journal Concept Mapping	Wednesday
	Discussion Board Invented pathologies	Initial Wednesday
	APR Practice Quiz Urinary and reproductive	Thursday
	Case Study Renal stones	Friday
	LabDigital lab: urinary and reproductive	Friday
	Quiz Module 8 Quiz	Saturday
	Final Exam Cumulative	Saturday
	TextbookHole's 20.1, 20.2, 22.2, 22.4, 22.5-22.7	

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Course Requirements

This is an online course and there will **not be any face-to-face class sessions**. All communications, submissions of assignments, course interactions, and posting of grades will utilize Canvas LMS (<https://doane.instructure.com>). You must have a **reliable internet connection** throughout the duration of the course.

Attendance/Participation

Attendance in an online course means logging into Canvas regularly and participating in all of the activities that are posted in the course. In addition, check your Doane University email account regularly, as I may send important information about the course.

Class Preparation

Preparation for class means reading the assigned readings and reviewing all information required for that module. You should plan to work on this course every day. Regular engagement is expected for online courses.

Netiquette Guidelines

At heart, Netiquette (etiquette for the Internet) is simple, good manners and business courtesy. Some of it may seem basic, but some infringements can result in major problems for others or can create an unintended insult to another user. The guidelines are adapted from The Core Rules of Netiquette by Virginia Shea (1994). For more information, please review the [Netiquette Guidelines](#) in the Student Resource Center.

Computer Requirements

For the successful use of Canvas please refer to Doane University's [minimum computer requirements](#). This also includes:

- Reliable computer and internet connection
- A web browser (Chrome or Mozilla Firefox)
- Adobe Acrobat Reader (free)
- Word processing software—Microsoft Word or Google Docs
- Webcam and mic*

*For privacy purposes, use of a webcam is **optional** during video conferencing and recording.

Campus Network or Canvas Outage

When access to Canvas is not available for an extended period of time (greater than one entire evening - 6 pm until 11 pm) you can reasonably expect that the due date for assignments will be changed to the next day.

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Drop and Add Dates

If you feel it is necessary to withdraw from the course, please contact your advisor for full details on the types of withdrawals that are available and their procedures.

Federal requirements state that students must complete 75% of the coursework to be eligible to receive an incomplete for the course. If students fall more than two weeks behind, they cannot meet this requirement.

Academic Integrity

Fundamental to our mission, our core values, and our reputation, Doane University adheres to high academic standards. Students of Doane University are expected to conduct themselves in a

manner reflecting personal and professional integrity. Disciplinary actions may be taken against students whose academic behavior is not congruent with the expectations of the University. Students are responsible for adhering to the standards detailed in this policy. Not being familiar with these standards does not mean that the students will not be accountable for adherence to them. Additional details on the Academic Integrity policy for violating academic integrity are published in the undergraduate and graduate catalogs. Please review [Doane University's Academic Integrity Policy](#).

Course Specific Academic Integrity (if applicable, otherwise delete)

Describe or list the specifics for this course.

Course Grading

Submitting Assignments

All assignments, unless otherwise communicated to me, must be submitted via Canvas. Each assignment will have a designated place to submit your work. All materials, assignments, and deadlines are subject to change without prior notice. It is your responsibility to stay in touch with me and review the course site, including Announcements, regularly to learn about changes to assignments or due dates.

Grading Scale

Assignment of letter grades is based on a percentage of points earned. The letter grade will correspond with the following percentages achieved. All course requirements must be completed before a grade is assigned.

A+ 97-100

A 93-96

A- 90-92

B+ 87-89

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B 83-86

B- 80-82

C+ 77-79

C 73-76

C- 70-72

D+ 67-69

D 63-66

D- 60-62

F <60

Grading Scheme

The following outlines the weighted breakdown for how grades will be calculated:

Module quizzes: 30%

Homework (labeling exercises, reading comprehension exercises and APR quizzes): 20%

Case study: 15%

Discussion board: 15%

Journal entries: 5%

Structure and terminology list: 5%

Short answer final: 10%

Late or Missed Assignments

All assignment due dates are based in CST. Please adjust your Canvas settings to reflect due dates in your local time zone. If you have any questions about how to do this, please contact your instructor or ask a peer on Slack.

All assignments must be completed and turned in prior to the final day of the course to be eligible for points. All assignments submitted after the due date will be subject to a flat 20% penalty. **Because the penalty is a flat deduction, no extensions for late work are given.**

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ALL assignments must be finished and turned in to complete the course. Unless the instructor is notified BEFORE the assignment is due and provides an opportunity for the student to submit his/her assignment late, points may be taken off for a late assignment.

Assignment & Assessment Feedback

Please allow 1-3 days for feedback on assignments. Be sure to review all of my feedback, as this will help you reflect on what you have learned while receiving suggestions for improvement.

Grade Appeals

Students who believe that their grade was miscalculated due to a mathematical error should contact the instructor within **ten (10) days of the grade posting**. A student is encouraged to talk with their advisor to offer an assessment of the concern and to clarify the steps of the appeal process. More information is published in the [Undergraduate and Graduate Catalogs](#).

Studying and Preparation Time

The course requires you to spend time preparing and completing assignments. A three-credit course requires 144 hours of student work. Therefore expect to spend approximately 9 hours a week preparing for and actively participating in this 16-week course.

Tutor Me

Students will have access to a free tutor me service within their Canvas account. You can connect with a live free tutor or submit a paper to get feedback before submitting.

Examity

Examity is Doane University's proctoring system. It may be used in your course to proctor quizzes and exams. You will be required to complete a quiz through Examity at the beginning of the course to verify your identity. Once you complete this quiz, you may begin your course.

Rewrites

Students may submit their assignments ahead of their due date for review by the instructor as long as the assignment is provided a minimum of three days prior to the course due date. The instructor will provide feedback on the assignment for consideration by the student.

Submitting Assignments

All assignments, unless otherwise announced by the instructor, **MUST** be submitted via Canvas. Each assignment will have a designated place to submit the assignment.

Support and Services

Technical Support

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If you are in need of technical assistance, please access the [Self-Service Portal](#). You may reach the help desk at 402-826-8411 or by email at helpdesk@doane.edu.

Accessibility Statement

In compliance with the Rehabilitation Act of 1973, Section 504, and the Americans with Disabilities Act of 1990, professional disability specialists and support staff at Doane University facilitate a comprehensive range of academic support services and accommodations for qualified

students with disabilities. Doane University staff coordinate student transitions from high schools and community colleges, conduct in-service training for faculty and staff, enable the resolution of accessibility issues, conduct community outreach, and facilitate collaboration among Doane University staff on disability policies, procedures, and accommodations.

Accommodations & Disability Services

[Doane University's Disability Services Office](#) will provide guidance on accommodations and universal access. To request accommodations please complete the [Self-Identification Form](#) and visit the website for additional information as soon as possible.

Academic Support

Doane University offers all of its students access to [Academic Support](#) services.

Title IX Requirements: Mandatory Reporting

At Doane, all university employees, including faculty, are considered Mandatory Reporters. As a Mandatory Reporter, I am required to report incidents of sexual misconduct and relationship violence to the Title IX Coordinator and, thus, cannot guarantee confidentiality. This means that if you tell me about an incident of sexual harassment, sexual assault, domestic violence, dating violence, stalking and/or other forms of prohibited discrimination, I have to share the information with the University's Title IX Coordinator. My report does not mean that you are officially reporting the incident. This process is in place to ensure you have access to and are able to receive the support and resources you need. For additional information, including confidential resources, please visit the [Campus Advocacy, Prevention, and Education \(CAPE\) Project](#).

Anti-Harassment Policy

Doane University, referred to as the "University", is committed to providing a safe and non-discriminatory learning, living, and working environment for all members of the University community. This policy addresses the University's responsibilities under Title IX, the Violence Against Women Reauthorization Act of 2013, and the Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act ("Clery Act"). More information is published in the [Student Handbooks](#).

Instructional Technology Accessibility and Privacy Policies

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[Technology accessibility and privacy policies](#) are available on the Student Resource Center within the Canvas LMS.

Syllabus Addendum & Disclaimer

I (the instructor) view the course syllabus as an educational contract between myself and each student. Every effort will be made to avoid changing the course schedule but the possibility

exists that unforeseen events will make syllabus changes necessary. I reserve the right to make changes to the syllabus as deemed necessary. Students will be notified in a timely manner of any syllabus changes via email or in the course site Announcements. Please remember to check your Doane University email and the course site Announcements often.

Syllabus Changes

The instructor and Doane University reserve the right to make changes as necessary to this course syllabus. All students will be notified of any changes.

Syllabus Addendum

Each student is responsible for being aware of the policies, resources, and expectations as specified in the [Doane Syllabus Addendum](#).

(<https://web.doane.edu/offices-services/registrar/syllabus-addendum>)