

Mayville State University

BIOL 220 – Anatomy and Physiology Lecture

Dr. Anthony Schroeder

Summer, 2022

3 credits

*****Before starting this online course, students need to check with their current and future programs to determine if this course will be accepted for credit in their programs/universities*****

Contact Information: Primary: Anthony Schroeder, Ph.D., anthony.schroeder@ndus.edu, 218.281.8252

Hours of Availability: 11am-noon; MWF

Instruction Mode: Online Asynchronous

Time Zone: All times indicated throughout the syllabus and course materials reflect Central Standard Time. All deadlines are set at 5pm CST on all due dates, NOT MIDNIGHT.

How to address your instructor: Dr. Schroeder; Professor Schroeder

Meeting Times and Location: Online/Email

Course Description

Three lecture hours per week. The study of anatomy and physiology of the human body will be studied as an integrated topic. This is the first course of a two-course sequence. Topics covered in this course will include organization from atomic structure to organ level structure, the integumentary system, skeletal, muscular, respiratory and cardiac systems.

Pre-/Co-requisites: Most students will also need BIOL 220L. This is dependent upon student need.

Purpose of the Course

This course will provide content in the areas related to maintenance of homeostasis within the human body. We will start by covering basic biological concepts such as cell structures and functions and reviewing terminology. The second and third chapters will cover cell organelles and cell chemistry. Chapter four material will be based on histology and study of tissues and the identification of those tissues. Chapter five will discuss the epidermis and accessory organs in addition to their functions. We will also cover bone development, maintenance, and articulations. Muscles will be discussed in terms of physical structure and mode of operation. Production and function of blood cells will be discussed in correlation to immunity. The course will finish by discussing the cardiovascular

system to include vessels and path of blood through the body including the pulmonary circuit. There are various versions of the textbook being used by students. It is the responsibility of the student to determine which chapter content is being drawn from (example the chapter on the lymphatic system will depend on which version of the text is being used.)

Course Objectives

- Understand the organization of the human body and anatomical terminology
- Understand the chemical basis of life, cell structure and organization
- Understand the characteristics of the four tissue types.
- Understand the organization and function of the skeletal system.
- Be able to explain the composition and physiology of osseous tissue.
- Be able to explain the organization and physiology of muscle/muscle contraction.
- Understand the organization and function of the circulatory system, including tracing the path of blood through the heart and body.
- Understand the organization and function of the lymphatic system and its role in the immune system.
- Understand the inner workings of the immune system and the function of the different cell types.
- Understand the organization and function of the respiratory system in conjunction with cardiovascular system.

Program Student Learning Outcomes (SLOs) Addressed in This Course (required)

The Academic Program Student Learning Outcomes document can be found in your course shell. It contains all learning outcomes pertaining to Essential Studies courses and all majors and minors. The document has an index, so you can quickly find the degree you are pursuing.

As part of Mayville State’s effort to demonstrate continuous improvement in achieving student learning outcomes, this course:

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As part of Mayville State’s effort to demonstrate continuous improvement in achieving Essential Studies Learning Outcomes, this course will assess

ELO # 1 2 3 4

as part of the Essential Studies and Capstone Courses. As part of Mayville State University’s Essential Studies curriculum, this course seeks to prepare students for twenty-first century challenges by gaining: 1) Knowledge of human cultures; 2) Intellectual and practical skills; 3) Personal and social responsibility; 4) Integrative and applied learning.

Course Improvements Based on Most Recent Assessment Findings

During previous offerings of this course, students have done well. Even though students have met expectations in the course, I will be spending more time explaining diagrams that are pertinent to the education of students. I would prefer to see structure identification and function scores to be higher. In addition, oral communication skills of students were assessed for content knowledge, vocabulary, presentation skills and preparation. Students excelled in oral communication if they took the time to use their own words to explain terminology.

This course will be assessed in the future (based on the 2019-2025 assessment curriculum map) and the findings will be reported in this syllabus.

Required/Recommended Materials

Visual Anatomy and Physiology 3rd ed. Martini & Ober Pearson Publishing, Printer, Webcam, 24/7 internet access, computer that meets the university standards (Mac users may have issues, this is a PC campus), and Microsoft Office (Mac programs such as Pages cannot be opened by instructor, MS Office is required and a free copy can be downloaded through the MSU Technology website <http://www.mayvillestate.edu/msu-online/msu-online/getting-started>). Students may be using alternative versions of the text, and this is ok, but just keep in mind that if page numbers are referenced, they may be different. The content is the same in all versions of the text, students just need to locate the material in the text pertinent to the chapter/context discussed. The textbook for this course as well as lab kits for this course must be purchased from the MSU Bookstore online (<http://www.mayvillestatebookstore.com/home>), and in hand by the first day of the course. **Not having course materials is NOT an acceptable reason for not completing the assignments and no credit will be awarded.** Late enrolling students may miss points that WILL NOT be made up and could negatively affect their grade. If you enroll after the first date of the course you accept these terms.

Instructional Strategies

We will use the following methods to assist you in your learning anatomy and physiology. (INTASC 1, 2, 3, 4, 8)

- Direct instruction
- Indirect instruction
- Interactive instruction
- Experimental learning
- Guided and independent study
- Cooperative learning activities
- Class Discussions
- Chapter Exams
- Application
- Inquiry approach
- Simulations
- Questioning skills
- Case Studies
- Instructional strategies

Learning Experiences

- All work in this course is to be completed by the individual student. No group/partnered work is accepted. Study guides, activity assignments, quizzes, and exams are all independent works.
- Read all chapters prior to watching lecture videos, including chapters as noted, research articles, etc.
- Activity assignments will be given in Blackboard.
- Chapter reviews, activities, quizzes and tests in Blackboard are required to be completed on or before designated due dates.

- There will be 5 exams during this course. Exam 1 will cover chapters 1-2, exam 2 will cover chapters 3-4, exam 3 will cover chapters 5-6, and exam 4 will cover chapters 8-9 and exam 5 will cover chapters 17, 18, & 19/20 (dependent upon which version of the book students are using, students need to look at content, not chapter numbers). Exam 5 may also contain information from previous chapters, potentially being semi-cumulative. Missed exams will not be made up unless a university excused absence has been granted and documentation provided in INITIAL email request for extension. This needs to be communicated with the instructor BEFORE missing the exam.
- PowerPoint lectures have been composed from the text that you can use to help you through the reading. These lectures will allow you to focus on main points in the chapters.
- There will be video lectures as well that are recordings of me giving the lectures during the course. These videos will help students who want to cover the material but are audio/visual learners. You are required to utilize the lectures and the lecture videos. They will help when you are filling out the bonus study guides and questions from the lectures and videos will appear on exams. Lecture videos are found in Yuja.
- Activity assignments will be found within each unit. Each chapter has 2 activities, and those activities vary in the number of points within each. Activities must be completed when they are opened. Activities must be completed AND submitted by their due dates. **Activities may take some time to complete, so do not try completing the activities, quizzes (exams), and study guides all in the same day.**
- Chapter reviews are required assignments. Chapter reviews must be completed by their deadlines.
- Study guides are due at the same date/time as the activities and quizzes for each chapter. **NO STUDY GUIDES WILL BE ACCEPTED AFTER THE DUE DATE.** These are bonus items worth minimal points (2points each, based off successful completion). If any items are blank or filled in with answers that are not correct, no points will be awarded. **There is no partial credit.** By continuing the course, you recognize and accept this policy.
- We will utilize the Blackboard website (<http://blackboard.ndus.edu/>) to distribute Powerpoint slides, study guides, activity assignments, and other materials. It will also be used to administer quizzes in addition to exams. All assignments will be submitted through Blackboard. Emailed study guides/activities will not be accepted unless requested by the instructor.
- It is important for you to check your grades in Blackboard. If you find that the instructor has made a mistake while entering your grade, you have one week to bring it to the attention of the instructor. After a ONE WEEK PERIOD, grades will be locked in Blackboard.
- **Please refrain from requesting extensions as they will not be granted unless documentation is sent in the first email requesting an extension.** Please note this before starting the course and refrain from leaving negative feedback in you miss a deadline and are not granted an extension. Please do not feel disrespected if your request does not receive a reply, by continuing in the course, you accept this rule. This is your formal notification about requests for extensions.

Instructional Technologies Utilized in this Course

- Blackboard Ally
- Blackboard Collaborate Ultra
- Blackboard Learn
- Hoonuit
- Skype for Business
- Zoom
- MS Office Suite
- Yuja

Expectations/Protocols

Activity Assignments: Activity assignments are required assignments that are in place to help students retain and absorb content information. Each student needs to complete their own activities by themselves, no group/partner

work is accepted. Each activity will vary in terms of what needs to be done to complete the assignment. Some activities focus on vocabulary, others may focus on concept maps or even structure/function identification. Each assignment will have varying numbers of points based upon depth of the activity. For these activities, students may use their book or (when addressed) online resources. Students must complete all these activities before the due dates. After the due dates, the activities will disappear from Blackboard and access will be terminated. NO late work is accepted.

Chapter Reviews: Chapter reviews are required assignments in this course. You may use your book, lecture PowerPoints, and the textbook to complete. The question types vary for each review. These are due at their predetermined due dates and will NOT be accepted late unless a student provides a UNIVERSITY EXCUSED ABSENCE AND DOCUMENTATION BEFORE THE DUE DATE. These will contain helpful information to prepare for exams, but are NOT the only thing that should be used to prepare for exams. The bonus study guides provide additional test information, but anything covered in the lecture videos and textbook could appear on exams. These are only tools to help you prepare. Answers for chapter reviews will only be provided AFTER the due date to eliminate potential academic dishonesty.

Bonus Study Guides: Study guides should be completed after you have read the chapter. What I'd like from each of you is to fill out the study guide and submit them for credit. Each study guide will be worth up to 2 bonus points. Explain to me what each section means. When the study guide says "Understand..." or "Explain..." you are expected to describe that concept in full, complete sentences. Unless specifically asked to list something, you should not list anything. I am not looking for a 10 page paper, only the basics from the chapter/lecture video for each idea on the study guide. Tell me what you have read from the textbook (of course in your own words). I have read the textbook, so I want you to let me know you comprehend the material. Each student is REQUIRED to produce their own study guides (making sure to use the template provided, any materials used from a previous students or current student will earn zero points). Do not delete or manipulate the format of the study guide except to enter your answers and change the font color of your responses. No study guides should be the exact same from any other student in the course as this would be plagiarism. Plagiarism will result in a zero score. Any content found to be copied from the internet, textbook, or another student is also plagiarism. EVERYTHING IN YOUR OWN WORDS. You will need to put that information into examples that make sense TO YOU. This will make your study guides unique to you and help YOU study for the exams. You paid for the information in the text, you did not pay to take those words as your own. Partial credit for incomplete study guides may be given at the discretion of the instructor. Study guides contain a large amount of test information/ideas/concepts. It is at the student's discretion if they want to take the time to complete them. Study guides need to be submitted by the deadline. Dropboxes for study guides will be removed after the due date. NO late work is accepted. Even if students do not earn the bonus points, these study guides are a HUGE benefit when completed. Because they are bonus points, not completing a study guide does not negatively affect your overall grade, doing them can only improve your grade.

Quizzes: Each quiz (one for each chapter) will be posted and available for you in Blackboard when released by the instructor at their discretion (online: these are available as you finish content). You should fill out the 5 question quiz after you have filled out the study guide for each chapter. Quizzes are worth 5 points each. The questions on each of these quizzes are from the content in the chapter specified and lecture videos. You may use your books to fill out these quizzes. They are NOT timed so take your time to look up the answers. Quizzes not completed by the deadline given in the classroom or schedule will not be reopened.

Exams: Exams will be open to each of you as you complete and submit both the activity assignments for each chapter and each of the quizzes from the unit. You should NOT take the exam before submitting each of these components for each chapter. So you will need to submit quizzes for chapters 1 & 2 before the exam for unit one will open for you. You can take exams early if you have submitted the previous items. Exams will be administered online. You HAVE to use the Yuja tool during the exam which will require you to use a webcam. You will have to

show a photo ID to the camera that shows your image as well as your name at the beginning of the exam as proof of identity. Please see the Yuja file in Blackboard for exam instructions.

Instructor/Student Communication

- Students are accountable for all academic communications sent to their Mayville State University e-mail address. **Students should not use outside email.** Instructor is not responsible for emails not received (by instructor themselves or by students) if outside email is used.
- Faculty response time can be up to 72 hours during the work week if a specific question is asked (most emails are answered within 24 hours during the week). If no questions is explicitly asked, a response may not be deemed necessary. Emails will not be checked on the weekends. An email sent on a Friday afternoon may not be responded to until the following Tuesday (or longer if there is a holiday). Please plan accordingly. Any request for an extension **REQUIRES** a university excused absence and documentation in the initial email. Do not email asking for an extension without including your documentation.

Method of Evaluation/Grading

1) Grades for activity assignments, chapter reviews, study guides, quizzes, exams and in-class assignments (on campus only) can be anticipated within 2 weeks of the due date (unless assignments/study guides contain most of the text). Turning an assignment in early does not mean grading will be done early. Sometimes, a set of assignments will take longer to grade, especially if the assignment is heavy in text (study guides may fall into this category) and may take an additional week.

2) In regards to late submissions, they are not accepted. Make-up exams, missed assignments/study guides/quizzes are **ONLY** permitted if there is a **UNIVERSITY EXCUSED ABSENCE AND THERE IS DOCUMENTATION**. Being busy, over sleeping, taking an extra shift at work, moving, travel, or general issues are **NOT** university excused absences. Please do not ask for extensions based upon these issues. If a university excused absence is in place with documentation, the student has 1 (one) week to complete the activity. This is one week from the day of the due date, **NOT** a week from when the student returns to contacts the instructor. After 1 (one) week, no points will be awarded. Determination of a university excused absence is based upon being sick and having gone to a medical professional (who can provide documentation), death in the immediate family (grand parent, parent, sibling, child, aunt/uncle for which you can provide documentation), military deployment (which documentation can be provided for), or legal (such as a court date that documentation can be provided for). Moving or travel is **NOT** a university excused absence.

The final grade for the semester will be tentatively (which means this can change) composed of the following:

Exams (5)	500 points (may not be evenly distributed)
Chapter Reviews (10)	200 points
Activities/assignments (20)	200 points (approximately)
<u>Quizzes (10)</u>	<u>50 points</u>
Total	950 points (tentatively)

Grades (%):	90-100	A
	80-89	B
	70-79	C
	60-69	D
	< 60	F

Lecture and lab for BIOL 220 are NOT combined. They are two unique courses. These limits are hereby preset and by continuing in the course, you recognize these limits and will abide by these limits. Please refrain from sending emails about submitting late work or “redoing” or “reopening” assignments/quizzes/study guides/exams in order to get extra points at the end of the semester. Those requests will be denied and may not warrant a response by the instructor.

Enrollment Verification

The U.S. Department of Education requires instructors of online courses to provide an activity which will validate student enrollment in this course. The only way to verify that a student has been in this course is if he or she takes an action in the LMS, such as completing an assignment or a taking a quiz. Logging into the LMS is **NOT** considered attendance. Please see the enrollment verification activities and complete them by the date indicated. If it is not complete your enrollment in this course will be at risk.

Proctor Notification

This course does NOT use proctors as the instructor is the proctor. Students must record their computer screen, audio and themselves using the Yuja program found in Blackboard. A working webcam is required and it will record the student, audio, visual, as well as the desktop of the computer. If an exam is taken without using Yuja there will be an automatic zero given and no make-up will be granted.

Late Arrivals

The grading system for students adding this course after the first day of instruction will not be modified. The student will be graded on the activities that transpired from the beginning of the course. Students will be penalized for missed assignments and the student is still responsible for learning the course material that was covered during their initial absence.

Important Student Information

Navigate to Blackboard > MaSU tab > Student Resources tab to find a document entitled, “Important Student Information,” which includes information about:

- ✓ Academic Grievance Concerns and Instructor English Proficiency
- ✓ Starfish - Student Success System
- ✓ Students with Documented Disabilities
- ✓ Academic Honesty
- ✓ Emergency Notification
- ✓ Continuity of Academic Instruction for a Pandemic or Emergency
- ✓ Family Educational Rights and Privacy Act of 1974 (FERPA)
- ✓ Diversity Statement

Course Timeline/Schedule

TIMES FOR ALL DUE DATES ARE 5PM CST ON THE LAST DAY SPECIFIED FOR A TOPIC/UNIT. FOR INSTANCE, CHAPTER 1 STUDY GUIDE, ACTIVITY ASSIGNMENTS, CHAPTER REVIEW, AND QUIZ ARE DUE AT 5PM CST ON May 29th. Exams are due by 5pm CST on dates listed below. Exams will be closed 2 days AFTER the due date for the materials covered on the exam or as specified in the schedule. For example, Exam 1 is due on or before June 5th, while chapter 2 materials are due June 3rd. Do NOT wait until the last minute to access/submit your materials. If you wait until the last minute and run into submission issues, you will be given credit for what is or is not submitted, even if there are technology issues. It is best to try finish the assignment/quiz/exam at least 1 day before the due dates to ensure you do not have any issues. LATE WORK WILL NOT BE ACCEPTED. Because of the 2 week turnaround time, study guide assignments may not be graded before the exam due date, by continuing this course, you acknowledge and accept these conditions. Students are permitted to work ahead, but cannot fall behind.

DUE DATE **Tentative Course Schedule**

May 25th : **All enrollment verification items, pre-content items**

May 29th: **Introduction to Anatomy and Physiology (Chapter 1)**

Activity 1

Activity 2

Introduction to Anatomy and Physiology Chapter Review

Study Guide for Introduction to Anatomy and Physiology

Quiz for Introduction to Anatomy and Physiology

June 3rd: **Chemical Level of Organization (Chapter 2)**

Activity 3

Activity 4

Chemical Level of Organization Review

Study Guide for Chemical Level of Organization

Quiz for Chemical Level of Organization

Exam 1 Introduction to Anatomy and Physiology & Chemical Level of Organization

(Chapters 1 & 2) Open until June 5th 5pm CST

June 8th: Cellular Level of Organization (Chapter 3)

Activity 5

Activity 6

Cellular Level of Organization Review

Study Guide for Cellular Level of Organization

Quiz for Cellular Level of Organization

June 13th: Tissue Level Organization (Chapter 4)

Activity 7

Activity 8

Tissue Level Organization Review

Study Guide for Tissue Level Organization

Quiz for Tissue Level Organization

Exam 2 Cellular Level of Organization & Tissue Level of Organization (Chapters 3 & 4)

Open until June 15th 5pm CST

June 18th: Integumentary System (Chapter 5)

Activity 9

Activity 10

Integumentary System Review

Study Guide for Integumentary System

Quiz for Integumentary System

June 22nd: Bones and Bone Structure (Chapter 6)

Activity 11

Activity 12

Bones and Bone Structure Review

Study Guide for Bones and Bone Structure

Quiz for Bones and Bone Structure

Exam 3 Integumentary System and Bone and Bone Structures (Chapters 5 & 6)

Open until June 24th 5pm CST

June 27th: Joints and Articulations (Chapter 8)

Activity 13

Activity 14

Joints and Articulations Review

Study Guide for Joints and Articulations

Quiz for Joints and Articulations

July 1st: Skeletal Muscle Tissue (Chapter 9)

Activity 15

Activity 16

Skeletal Muscle Tissue Review

Study Guide for Skeletal Muscle Tissue

Quiz for Skeletal Muscle Tissue

Exam 4 Joints and Articulations & Skeletal Muscle Tissue (Chapters 8 & 9)

Open until July 3rd 5pm

July 7th: Blood, Heart & Cardiovascular Function & Blood Vessels & Circulation (Chapters 17 & 18)

Activity 17

Activity 18

Blood, Heart & Cardiovascular Function & Blood Vessels & Circulation Review

Study Guide for Blood, Heart & Cardiovascular Function & Blood Vessels & Circulation

Quiz for Blood, Heart & Cardiovascular Function & Blood Vessels & Circulation

July 12th: Lymphatic System and Immunity (Chapter 20)***

Activity 19

Activity 20

Lymphatic System and Immunity Review

Study guide for Lymphatic System and Immunity ***

Quiz for Lymphatic System and Immunity ***

*****Semi Cumulative Exam 5 Blood, Heart & Cardiovascular Function & Blood Vessels & Circulation and Lymphatic System and Immunity (Chapters 17, 18 & 20 differs depending upon which text is being used, students need to check content and version of text used) Open until July 14th 5pm. This exam may contain information (not questions from previous exams) from previous chapters.**

The best way to work your way through this course is to follow this setup/line up for each unit:

- 1) Read the chapter**
- 2) Watch the lecture video/fill out study guide and submit for bonus points before due date**
- 3) Complete Activities and Chapter Review using your required textbook**
- 4) Make sure to take each chapter quiz and use your book**
- 5) Do the above steps for each chapter in the unit.**
- 6) Before the exam reread and rewatch lecture videos especially for difficult topics/concepts**
- 7) Take the exam (with Yuja recording you) in a quiet, distraction free space.**

Additional Information

This classroom is a place where you will be treated with mutual respect, and the course instructors welcome individuals of all ages, backgrounds, beliefs, ethnicities, genders, gender identities, gender expressions, national origins, religious affiliations, sexual orientations, ability – and other visible or nonvisible differences. All members of this class are expected to contribute to a respectful, welcoming and inclusive environment for every other member of the class. MSU is committed to providing a safe learning environment, free of harassment and discrimination as articulated in our university policies located on our website at <http://www.mayvillestate.edu/about-msu/consumer-information/title-ix/>. MSU's policies require me as a faculty member to share information about incidents of gender-based discrimination and harassment with MSU's Title IX coordinator, regardless of whether the incidents are stated to me in person or shared by students as part of their coursework.

Starfish Statement:

This class will participate in Starfish Early Alert and Connect, which promotes student success through coordination and communication among students, instructors, advisors, and campus support service departments. If I observe that you are experiencing difficulties in the course (attendance concerns, low test scores or participation, in danger of failing, etc.), I may send an email to your mayvillestate.edu email account through the Starfish system. My message will tell you about my concerns and the next steps to take to resolve the issue. Your advisor, the Director of Student Success, and/or I will work with you to create success strategies to address any difficulties you are having. In addition, if I observe that you are doing well in my course, you may also receive “kudos” from me acknowledging your efforts.

Starfish may involve taking advantage of various campus support services, such as academic tutoring or advising. If I recommend that you use campus support services, I, your advisor, or the Director of Student Success will redirect you to that support office so they will be better prepared to assist you. Starfish provides essential notices by email, so please check your mayvillestate.edu account frequently and respond quickly if you receive an email from Starfish.

Please see the Starfish webpage for additional details: <https://mayvillestate.edu/academics/starfish/>.