

## Biology 201

## Anatomy & Physiology I Syllabus

Fall 2024

**Prerequisites** - None

**Instructor** - Dr. Engle

Office - 211 Pierce Hall

Phone - 886-6552

Email - JEngle@mtaloy.edu

Office hours - MWF 11-1; TR 12-1

**Credit Hours** - 4 (Lecture 3 hrs/wk, Lab 2 hrs/wk)

Lecture - T R 1:00 - 2:15, Room 003 Pierce Hall

Lab - T 9:00 - 10:50, Room 116 Pierce Hall

Final - R Day 4 11:00 - 1:00

Web page - <http://DrEngle.net>

**Course description** - An introduction to the organization of the human body at its molecular, cellular, and tissue levels. The structure and functioning of the integumentary, skeletal, central, peripheral, and autonomic nervous systems and the endocrine system are examined.

### Course Requirements:

Textbook - Human Anatomy & Physiology Textbook Free on OpenStax. It is required reading. You can read it free online and/or download it. If you prefer a hardcopy, one is available for purchase at the bookstore. link = <https://openstax.org/details/books/anatomy-and-physiology-2e>

Online Homework - this is part of OpenStax, and is a graded requirement. It is found through Canvas.

Lab Manual - Marieb, E. N. and S. J. Mitchell. Human Anatomy & Physiology Laboratory Manual cat version (13<sup>th</sup> Ed.). Benjamin/Cummings Publ. Co. Redwood City CA. 2011. ISBN:9780134632339

### Grading Policy:

Eight exams and a comprehensive final will be given in lecture and one additional exam will be given in lab (skeletal exam). Exams will consist of multiple choice, matching, and short written answers. Exams will be based primarily on lecture notes. On exams consisting of identification of body parts, spelling will count. Exams are about 50 questions in length. The final exam will be cumulative and about 150 - 175 questions in length.

In addition, there are 13 online homework assignments located in Canvas. Each is worth ten points.

They must be completed by the due date (which is normally Sunday at midnight) posted for each.

Your grade you receive will be based solely on your performance on the exams and homework.

### Grading Scale:

A=100-92% B+=91-88% B=87-83% C+=82-79% C=78-74% D=73-65% F=64-0%

Grades are NOT curved and there is no extra credit available. Grades are based on the total amount of points accumulated. To calculate your grade add the number of questions you answered correctly and divide by the number of total points possible. Multiply by 100 to obtain your percent score. Other grades (E, W) will be assigned as described in the College Catalog.

### Tutoring Help:

Professional and Peer tutoring is available through the Learning Commons located in the library.

Schedule tutoring sessions or view drop in hours at the learning commons website:

<https://www.mtaloy.edu/library/peer-professional-tutors/>

### Additional Resources:

Library Resources: There is a box of bones on reserve in the library for personal study.

Cohen, B.J. 2005 Memmler's the structure and function of the human body. QP36.M542005

McLaughlin, D.P. 2007 Instant notes in human physiology. QP34.5 .I5742007

Scanlon, V.C. 2007 Essentials of anatomy and physiology. QP34.5.S2882007

Shier, D. 2006 Hole's essentials of human anatomy and physiology 9<sup>th</sup> ed. QP34.5.S492006

Tortora G.J. and Derrickson, BH. 2005. Principles of Anatomy and Physiology 11<sup>th</sup> ed. Wiley Publ.

Van De Graaff, K.M. 2003 A photographic atlas for the anatomy and physiology laboratory 5<sup>th</sup> ed.

QM25.V362003

Internet Resources:

Crosset, B. 2008-12 Anatomy Arcade Games. <http://www.anatomyarcade.com/games/games.html>

MAC Library LibGuide of materials - <https://libguides.mtaloy.edu/anatomy>

## Course Outline:

<u>Topics and Learning Objectives</u>	<u>Chapters</u>	<u>Lab</u>
Introduction Characteristics of life & Body architecture Describe the levels of organization of the human body and functional processes common to all living organisms.	1 <b>Exam 1</b>	Review Sheet Exercise 1
Chemistry Describe the atomic basis of matter and relate the concepts to physiological processes. Relate the properties of chemical bonding. Biochemistry I Define acid and base. Explain the pH scale.	2 <b>Exam 2</b>	Review Sheet Exercise 2  Review Sheet Exercise 3
Biochemistry II Describe the structure/function of organic molecules important to the human body. Cell Membrane State the structure and mechanisms used by cells to transport materials through their membranes.	2  3 <b>Exam 3</b>	Disaccharides  Dialysis Experiment
Cell Organelles Identify the structure and organelles of the human cell. Explain the function of each cellular organelle. Cell Reproduction Describe the mechanism of cell division. Identify each phase of mitosis.	3  <b>Exam 4</b>	Review Sheet Exercise 4  Mitosis phases
Tissues of the body Detail the organization of the body at the tissue level.	4 <b>Exam 5</b>	Review Sheet Exercise 6A
The Integumentary system Describe the structure and function of skin. Describe the structure of glands.	5 <b>Exam 6</b>	Review Sheet Exercise 7 Review Sheet Exercise 8
Bone Structure & Development Describe the structure and development of bone tissue. Joints & Movement Relate the structures of the articulations and their movements.	6  8 <b>Exam 7</b>	Review Sheet Exercise 9  Review Sheet Exercise 13
Skeleton (bone identification) will be covered in lab over several lab sessions. Identify the bones of the skeleton and selected markings.	7	Lab Lecture  <b>Skeleton Exam</b>
The Muscular system Describe the structure and function of muscle tissue. Detail the cell signaling required for muscle contraction.	9 <b>Exam 8</b>	Review Sheet Exercise 14
The Nervous system Detail the organization of the nervous system and the role of the neuron. Central Nervous System Identify the major structural components of the central nervous system and their function. Peripheral Nervous System Identify the major structural components of the peripheral nervous system.	11  12  13 <b>Final Exam</b>	Review Sheet Exercise 17  Review Sheet Exercise 19  Review Sheet Exercise 21

In addition to the above policies and procedures, the instructor reserves the right to alter, augment, or delete from existing policies if in so doing the proper atmosphere for teaching and learning is maintained. All such policy changes will be announced.

## MAC Policies

### Weather Delays and Compressed Schedule

In the event of a delayed opening, MAC will follow a compressed schedule. This will provide students with the opportunity to attend all scheduled classes on delay days with each class meeting for a shorter than usual session. For the Compressed Schedule for delay days, go to the following link: <http://www.mtaloy.edu/delays-cancelations>

### Technology and Communication Assistance Statement

All students are expected to regularly log in to the Canvas course website. The site contains the syllabus and assignments, and supplementary materials will be placed there on a regular basis. Furthermore, important announcements will be posted on the site (especially if a class period is canceled due to weather, illness, etc.). For assistance in using Canvas, please contact the Canvas administrator at ([Canvas@mtaloy.edu](mailto:Canvas@mtaloy.edu)).

College offices and instructors often communicate important information through the MAC email system. Students should check their school email account regularly. For technical or log-in credential questions, please contact the help desk at ([helpdesk@mtaloy.edu](mailto:helpdesk@mtaloy.edu) or 814-886-6502).

### College Academic Integrity Statement

Mount Aloysius College is committed to the academic integrity of the entire community. All share responsibility for maintaining high standards of academic integrity, and no forms of academic dishonesty are tolerated. Forms of academic dishonesty include but are not restricted to: giving or receiving unauthorized assistance on an examination, project, or assignment; using unauthorized forms of assistance such as crib notes or cell phones on an examination; falsification of data or plagiarism (using another person's ideas or words as your own); and lying or falsifying reasons for missing examinations or class.

A student found guilty of lying, cheating, or plagiarism, depending on the nature of the offense and the history of the student, is usually subject to one or both of the following: a grade of zero on the assignment, project, or examination or a grade of F in the course. All cases of lying, cheating, or plagiarism where a punishment is incurred are reported to the Senior Vice President of Academic Affairs, who maintains a record of all offenses. Serial offenders may be subject to suspension or dismissal.

### College Accommodations Statement

Mount Aloysius College is committed to providing reasonable accommodations to students with disabilities. Students with disabilities who wish to request an accommodation are required to contact Michele Leamer, Office Manager, Student Health and Wellness Center ([MLeamer@mtaloy.edu](mailto:MLeamer@mtaloy.edu) or 814-886-6515) to formally request accommodations and provide supporting documentation. If you receive approval for accommodations, it is important that you stop in at the start of the semester so necessary arrangements can be made.

### Attendance Policy

Attendance at all lecture and lab sessions is mandatory. It is your responsibility to notify the instructor **prior** to missing an exam or laboratory and you must have a valid reason. The instructor reserves the right to judge the validity of the excuse. If you miss an exam, you are responsible for taking the exam within one week of your return. There are no makeup labs unless you are able to come to another section during the same week and obtain instructor permission.

**Failure of the student to follow the steps outlined above will result in a grade of "0" for the missed exam or lab!**

### Conflict Resolution

Should a student encounter difficulty with course content or other aspects of the course, the first action should be to make an appointment to speak with the instructor. The instructor may suggest resources on campus or other tips to assist student learning. If a student has concerns with their instructor, then the best course of action is to seek out a meeting with the Science and Math Department Chair, Dr. John Whitlock, 814-886-6536, [JWhitlock@mtaloy.edu](mailto:JWhitlock@mtaloy.edu). to discuss the difficulties. If an agreeable decision is not reached, the student should then request a meeting with the Dean, Dr. Chris Lovett, 814-886-6458, [CLovett@mtaloy.edu](mailto:CLovett@mtaloy.edu). The Faculty, Department Chairs, and Deans are committed to treating all students with respect and fairness. Additional information is outlined in the academic grievance policy in the College catalog.

### Title IX: Confidentiality and Responsible Employee Statement

Mount Aloysius College faculty are committed to creating a safe learning environment for all members of our community, free from gender and sex-based discrimination, including sexual harassment, domestic and dating violence, sexual assault, and stalking, in accordance with Title IX of the Education Amendments of 1972.

Please note that the Title IX and Sexual Misconduct Policy designates all faculty members, including teaching assistants, as "Responsible Employees". Under Mount Aloysius College's policy, all "Responsible Employees" must report all disclosures of sex or gender-based discrimination or violence to Mount Aloysius' Title IX Coordinator, Ms. Tonia Gordon, Vice President for People & Mission Integration/Chief Human Resource Officer, [tgordon@mtaloy.edu](mailto:tgordon@mtaloy.edu) or 814-886-6390. The Title IX Coordinator will reach out to provide resources, support, and information after receiving a report, but community members are not required to respond to such outreach. Reported information will remain private. If you have (or someone you know has) experienced any form of sex or gender-based discrimination or violence and wish to speak with someone confidentially, please contact one of our counselors at [counseling@mtaloy.edu](mailto:counseling@mtaloy.edu) or call 814-886-6515. For more information regarding Mount Aloysius College's Title IX procedures, reporting, or support measures, please visit [sites.google.com/mtaloy.edu/titleix/home](https://sites.google.com/mtaloy.edu/titleix/home).

Disclosures of gender and sex-based discrimination or violence made in relation to an assignment and/or educational prompt will not result in a referral to Mount Aloysius College's Title IX Coordinator unless requested otherwise.

## Laboratory Safety Contract

Every laboratory user should observe the following rules:

1. Know the potential hazards and appropriate safety precautions before beginning work.
2. Know the location and use of emergency equipment, including safety showers, eyewash stations and safety kits.
3. Know the types of personal protective equipment available and how to use it for each procedure. Goggles must be used when there is a risk of splash, when working with Bunsen burners or when doing dissections. Disposable gloves must be used when doing dissections and must be supplied by the student. **Closed-toed shoes** should be worn at all times when using any Pierce Hall laboratory. Loose and torn clothing may pose a hazard in the laboratory. For your protection you must use clothing that is at least knee length when seated during laboratories. Wear clothing that, if damaged, would not be a serious loss, or use aprons or laboratory coats because chemicals may damage fabric.
4. Never block safety equipment or doors and keep aisles clear and free from tripping hazards.
5. Familiarize yourself with the emergency response procedures, alarms and building evacuation routes.
6. Familiarize yourself with the equipment you will be using. Pay extra care when working with glass and when using dissecting equipment, whether cutting or assisting. Take good care of equipment and report any damage to your instructor.
7. Prevent pollution by following waste disposal procedures. Chemical reactions may require traps to prevent the release of toxic substances to the laboratory or to the environment. Use fume hoods if necessary.
8. Combine reagents in the appropriate order and avoid adding solids to hot liquids.
9. Do not prepare, store or consume food or beverages in any Pierce Hall laboratory. Microwaves and refrigerators are for laboratory use only, not to heat or store food.
10. Do not smoke in any Pierce Hall laboratory.
11. Do not apply cosmetics when in the laboratory.
12. Use a pipette bulb or a mechanical pipetting device to provide a vacuum. Never use mouth suction to pipette chemicals or to start a siphon.
13. Be alert to unsafe conditions and actions and bring them to the attention of your supervisor or lab manager immediately so that corrections can be made as soon as possible. Report any injury to your instructor immediately. After dealing with the incident, instructors should fill out an incident report.

### Microscope return procedure

1. Remove the microscope slide from the stage
2. Rotate the nose piece so the lowest power objective is in place
3. Turn the head so the ocular lenses are over the arm
4. Replace the dust cover
5. Return the microscope to the correct cubicle with the back (cord) facing you

For additional information you can consult Mount Aloysius College Laboratory Chemical Hygiene Plan and the Science and Mathematics Department Safety Manual