



Biology 220L: Anatomy and Physiology I Lab (Online) Spring 2017

Dr. Joseph Mehus

Details: Online - 1 Credit

Instructor: Dr. Joseph Mehus **Office:** SB132
Phone: (701) 788-4802 **Email:** joseph.mehus@mayvillestate.edu
Hours of Availability: 10-11am MWF CST or by
appointment/arrangement, if you foresee an upcoming emergency please
plan ahead of time.
Preferred Method of Contact Email
Instruction Mode: Online asynchronous

Greetings Everyone!!! Please take your time while working through the material in this course, but remember that this is a semi-structured course. This means you can work ahead of deadlines, but once a deadline has passed, a dropbox, quiz, or practical will not be reopened.

This class will test your ability to be responsible. Instructor will not send individual reminders to students to finish labs, take quizzes, or complete lab practicals. If an emergency occurs and you miss a practical (emergencies count as accidents requiring hospitalization, death of IMMEDIATE (grandparent, parent, spouse, sibling, child) family member, sickness that requires hospitalization, military deployment, legal (court appointments)), it is possible to make up ONE exam. Documentation for all excused absences is **REQUIRED**. Instructor reserves the right to change the format of the make-up test. **You are 100% responsible for fitting in the course material and meeting deadlines all while maintaining your personal obligations.** Please plan this course accordingly for your successful completion. Failure to notify instructor of missing assignments (quizzes, study guides, exams) may result in missed work in the future. It is the responsibility of the student to notify the instructor if an activity was missed, not the responsibility of the instructor to watch submissions for all students.

Required Texts:

Lab Protocols will be provided to students through Moodle. **Lab kits need to be purchased from Mayville State University Bookstore. It is VERY beneficial to have the textbook (Visual Anatomy and Physiology, Martini, Ober, Nath 2nd ed) when filling out lab materials, worksheets, and quizzes.** Online sources may be used to fill out lab assignments.

Instructor/Student Communication

- Students are accountable for all academic communications sent to their Mayville State University e-mail address. It is recommended that you use the email account

provided to you as an online Mayville State University student, rather than changing that communication tool in your personal profile in the Moodle learning management system. Mayville State University does not recommend the use of another email address or the forwarding of email to a personal email account, as this practice may compromise the security of your identity and personal information.

- Faculty response time will be between 24-72 hours based on whether contact was made during the work week or on weekends.
- **Students are REQUIRED to have internet access through the duration of the course and “not having internet access” will not be used as an excuse for late material.**

Course Description:

BIOL 220L ANATOMY AND PHYSIOLOGY I LAB (CCN) 1 S.H.

The equivalent of two hours of lab per week. Laboratory topics to be covered are designed to complement the materials studied in BIOL 220. Possible activities include those related to cell structure and metabolism, micro- and macroscopic observations and interpretations of cellular, tissue, integument, skeletal, muscular, cardiac systems, and dissections of animal specimens. Activities related to the study of physiology are also included. Spring on campus; Fall, Spring, Summer online

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 labs will cover cell organelles and cell chemistry. Material will also include histology and study of tissues and the identification of those tissues. Structures of the epidermis and accessory organs will be covered 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. An exploratory lab will give dissection experience to students based off of a rat model. Production and function of blood cells will be discussed in correlation to immunity. The course will finish by covering the cardiovascular system to include vessels and path of blood through the body including the pulmonary circuit. This is a course developed as a co-req for the lecture. If this lab is taken independent of the lecture, it is the students responsibility to review content. It is essential that you follow procedures carefully, submit all required photograph in which all required structures are clearly visible, and answer all parts of all questions.

Course Objectives and intent of the course are that successful students should be able to:

- Explain the organization of the human body and anatomical terminology
- Explain the chemical basis of life, cell structure and organization.
- Explain the processes of osmosis and diffusion.
- Explain the integumentary system.
- Explain the characteristics of the four tissue types

- Explain the organization and function of the skeletal system.
- Be able to identify the bones of the axial body.
- Be able to identify the bones of the appendicular body.
- Perform an exploratory dissection and locate various structures within the rat model
- Understand the organization and function of the circulatory system, including tracing the path of blood through the heart.

Purpose/Detailed Description of the Course:

A printer is required for the labs. Labs will vary. Some will consist primarily of material intended to introduce you to the structure and function of organs and/or organ systems. These will be “dry” labs, written exercises in which you will complete online quiz-like activities that will be computer-graded. Quizzes may also include “essay-type” questions. Dissections or “wet” Labs may require Lab Reports, Lab Quizzes, or both. Where required, Lab Reports must be completed and submitted with required photos to the digital drop box. There may also be long-answer questions or data tables, which you will complete and include in the online report. Some labs will use materials found within the home, and there will be a white rat, pig heart included in the lab kit you must purchase, which will be dissected. For labs, which would normally involve microscopy, the digital images will be provided, with procedures modified to concentrate on interpretation of the visual information. **Lab quizzes may be part of some labs, and when labs are completed, the quiz must be taken. Both labs and lab quizzes have the same due dates/times. So waiting until the last minute will NOT work for you!!! You will need to finish the lab early so that you can take the lab quiz that may follow.** A scoring guide or rubric may be provided for each wet lab, which will help you to understand what is expected in the lab report, and to do well in the lab. The rubric should be reviewed before completing the lab procedure. It is essential that you follow procedures carefully, submit all required photograph in which all required structures are clearly visible, and answer all parts of all questions.

Lab Policies

- **Labs must be completed.** Missing three (3) or more labs will result in a **failing grade**.
- There will be **no lab make-ups under any circumstances** once the week of the lab is over.
- **You will not be able to make up the missed points.**
- You must submit lab information/materials/photographs/assignments to get credit. Please read the labs carefully to make sure you are submitting everything you need.
- Safety: Dissection tools are sharp. Handle with care. Also, when doing your labs, you should not eat, drink or smoke. Try to minimize contact between your hands and mouth during the lab procedures, especially when working with chemicals or reagents.
- Treat all lab materials and specimens with care and respect. The organs/animal specimen included are to be stored at room temperature. The chemicals used to

preserve specimen are nonhazardous and nontoxic (as described by the BIOCORP company from which they are ordered). Disposal of these specimen will be your normal disposal of trash.

Program Student Learning Outcomes Addressed in This Course

The entire Academic Program Student Learning Outcomes (SLO) document can be found in your Moodle course shell. The document has an index so you can quickly find the degree you are pursuing. **These learning objectives are in support of the institutional student learning objectives, especially SLO#4, which have been established for a biology majors and essential studies.**

- SLO #1: Students will demonstrate knowledge of human cultures and the physical and natural world through study in the sciences and mathematics, social sciences, humanities, histories, languages, and the arts. This is focused by engagement with big questions, both contemporary and enduring.
- SLO #2: Students will demonstrate intellectual and practical skills, practiced extensively across the curriculum, in the context of progressively more challenging problems, projects, and standards for performance.
- SLO #3: Students will demonstrate personal and social responsibility, anchored through active involvement with diverse communities and real-world challenges.
- **SLO #4: Students will demonstrate Integrative and Applied Learning, including synthesis and advanced accomplishment across general and specialized studies. This is demonstrated through the application of knowledge, skills, and responsibilities to new settings and complex problems.**

Moodle Class Material:

We will utilize the Moodle website (<http://lms.ndus.edu/course/view.php?id=6191>) to distribute Powerpoint slides, study guides, and other printed materials. It will also be used to administer quizzes.

Enrollment Verification/Proctor Notification

The enrollment verification for this course will be in two parts. The first will be a syllabus quiz, please use the syllabus to complete the quiz. Students will also be required to submit introductions to confirm their enrollment in the course. This course does NOT use proctors as the instructor is the proctor. Both of these requirements are used to determine if a student is active in the course. Failure to complete one or both of these will result in an administrative withdrawal from the course and student will be unenrolled and a refund will be processed according to the number of days the student was in the course before reporting takes place.

Learning Experiences

Describes the actions students will be taking to interact with the content. For example:

- Read all assignments prior to class, including chapters as noted, research articles, etc.

Assignments will be given on moodle. Submit all assignments during the lab period and grades will be given at that time.

Grading:

Grades will be based on two lab practicals, lab assignments and lab quizzes. ***There will be no make-ups for lab practical exams, except under university excused absences (medical, legal or military). You can only make up one practical during the semester and it must be during the exam week. You must take both lab practicals to pass the course.*** The grading scale is the typical 90% = A, 80%=B, 70%=C, 60%=D, <60%=F.

IT IS IMPORTANT FOR YOU TO CHECK YOUR GRADES ON MOODLE. IF YOU FIND THAT I HAVE MADE A MISTAKE WHILE ENTERING YOUR GRADE YOU WILL HAVE ONE WEEK TO BRING IT TO MY ATTENTION, AFTER THAT GRADES ARE LOCKED IN MOODLE.

Practical Exams	100 (2 worth 50 points)
Lab Quizzes	50 (5 worth 10 points)
<u>Assignments</u>	<u>175 points</u> (5 worth 10 points, 5 worth 25 points)
Total	325 points

INTASC:

INTASC PRINCIPLES	
1	The teacher understands the central concepts, tools of inquiry, and structures of the discipline(s) he/she teaches and can create learning experiences that make these aspects of subject matter meaningful for the student.
2	The teacher understands how children learn and develop, and can provide learning opportunities that support their intellectual, social, and personal development.
3	The teacher understands how students differ in their approaches to learning and creates instructional opportunities that are adapted to the diverse learner.
4	The teacher understands and uses a variety of instructional strategies to encourage students' development of critical thinking problem solving, and performance skills.
5	The teacher uses an understanding of individual and group motivation and behavior to create a learning environment that encourages positive social interaction, active engagement in learning, and self-motivation.
6	The teacher uses knowledge of effective verbal, nonverbal, and media communication techniques to foster active inquiry, collaboration, and supportive interaction in the classroom.
7	The teacher plans instruction based upon knowledge of subject matter, students, the community, and curriculum goals.

8	The teacher understands and uses formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social, and physical development of the learner.
9	The teacher is a reflective practitioner who continually evaluates the effects of his/her choices and actions on others (students, parents, and other professionals in the learning community) and who actively seeks out opportunities to grow professionally.
10	The teacher fosters relationships with school colleagues, parents, and agencies in the larger community to support students' learning and well-being.

Learning Experiences/Instructional Strategies:

Strategies We will use the following methods to assist you in your learning anatomy and physiology. (INTASC 1, 2, 3, 4, 7, 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

Important Student Information

“Important Student Information” can be found in your Moodle course shell.

- ✓ English Proficiency and Other Academic Concerns
- ✓ Students with Disabilities
- ✓ Academic Honesty
- ✓ Emergency Notification
- ✓ Continuity of Academic Instruction for a Pandemic or Emergency
- ✓ Family Educational Rights and Privacy Act of 1974 (FERPA)
- ✓ Starfish

All Lab Reports, Lab Quizzes and Lab Exams must be completed by the scheduled due dates as listed on the course schedule posted on the course Moodle site (and found at the bottom of this syllabus). Activities will be turned off as of 5pm CST on those due dates and no credit will be available for those activities after the due dates.

If an emergency situation occurs, which affects your participation in this course, contact me immediately. If an emergency occurs and you miss a practical or lab (emergencies count as accidents requiring hospitalization, death of IMMEDIATE (grandparent, parent, spouse, sibling, child) family member, sickness that requires hospitalization, military deployment, legal (court appointments)), it is possible to make up ONE exam or lab, not both. Documentation for all excused absences is REQUIRED. Instructor reserves the right to change the format of the make-up test. You are 100% responsible for fitting in the course material and meeting deadlines all while maintaining your personal obligations. Please plan this course accordingly for your successful completion. You are expected to be aware of due dates and manage the required coursework within your personal schedule and obligations. For example, not submitting any coursework for 3 weeks and then not being able to submit it during week 4 because of an emergency that week is not acceptable.

Course Schedule:

This is a tentative schedule and may change. Students are responsible for checking announcements/emails daily. TIMES FOR ALL DUE DATES ARE 5PM ON THE LAST DAY SPECIFIED FOR A TOPIC/UNIT. FOR INSTANCE, LAB 1 IS DUE AT 5PM CST ON January 22nd. 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 at least 1 day before the due dates to ensure you do not have any issues. LATE WORK WILL NOT BE ACCEPTED. Please refrain from asking for extensions.

Lab Topic	Due Dates
Lab 1 - Anatomical Terminology	1/22/17
Lab 2 - Chemistry	2/1/17
Lab 3 - Diffusion/Osmosis	2/12/17
Lab 4 - Cell Structures/Functions	2/22/17
Lab 5 - Tissues	3/5/17
Lab Practical 1 (Due 3/7/17, 5pm CST)	
Lab 6 - Integumentary System	3/15/17
Lab 7 - Axial Skeleton	3/26/17
Lab 8 - Appendicular Skeleton	4/5/17
Lab - 9 Musculature	4/16/17
Rat Dissection	
Lab 10 - Heart	4/26/17
Heart Dissection	
Lab Final (Due 5/3/17, 5pm CST)	

Lab Examinations

Two open-book exams must be completed during the semester. The first will be associated with materials covered in the labs up to and including tissues, and the final exam will cover the remaining labs. Materials to be considered in writing the exams will include both objective materials learned during the labs, and applications associated with the structures and systems studied. Identification of structures in photographs and line art is included in the exams. **You do NOT need to make a Tegrity recording for Lab Exams.**

Expectations and Protocols:

As a student you are expected to

- Begin the lab course when the semester begins.
- Order your lab kits from the MSU Bookstore BEFORE the course starts. Check your lab kit for all enclosed items when it arrives. **Contact the MSU Bookstore immediately if all items are not present and intact**
- Answer questions appropriately: Some lab report answers may be given without full sentence structure where appropriate to the questions asked, but must clearly answer all parts for the question, contain correct spelling and display appropriate grammar and word usage. Answers to other questions, such as essay questions or short answer questions, which ask students to “explain”, “compare” or “describe”, should display appropriate sentence structure and logical development of thought. **Every single answer needs to be put into your own words. Copy and paste is plagiarism and will receive a score of ZERO.**
- Check your Mayville State email and the ANNOUNCEMENTS forum on the course home page a minimum of three times weekly to remain current on course information and changes. Once a day is recommended.

Course Improvements Based on Most Recent Assessment Findings:

Assessment findings are based from lecture content. 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 as long as they took the time to use their own words to explain terminology.

Late Arrivals

The grading system for students adding this course after the first day of instruction will not be modified. The student grade will include activities that transpired while the student was not enrolled. 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.