MAYVILLE STATE UNIVERSITY

Human Anatomy and Physiology 2 Lab
BIOL 221L 1 Credit
Spring 2013 Syllabus

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You are welcome to call us any time if there is a situation requiring an immediate solution. If it is possible, please call during the office hours shown on the course home page. Also check the home page for our location as we will be available at different locations at different times. We do not have or use voicemail since we are available extended hours. If you cannot reach us by phone because of the hour or our availability, please email us, including a phone number and when you can be reached and we'll reach you as soon as we can.

It is important that we communicate about the course, and about the life situations which have an impact on your participation in it. 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. If you find that you receive frequent emails which do not pertain to you, there are steps shown in the MASU DSO 100 - Distance Student Orientation course Outline Page accessed under "My Courses" in Moodle, which can help to eliminate some of the incoming messages and manage those that you do in fact want to receive.

I. Course Description:

BIOL 221L ANATOMY AND PHYSIOLOGY II LAB (CCN) 1 S.H.
Catalog description: Two hours of lab per week. Laboratory topics to be covered are designed to complement the materials studied in BIOL 221. Possible materials include activities related to the endocrine, cardiovascular, lymphatic, digestive, respiratory, urinary, and reproductive systems. Microscopic specimens will be examined as appropriate. Animal specimens will be dissected, and activities related to the study of human physiology are also included. Fall on campus; Fall, Spring, Summer online.

II. Purpose/Detailed Description of the Course:

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. Dissections or "wet" Labs may require Lab Reports, Lab Quizzes, or both. Where required, Lab Reports must be completed and turned in with accompanying photos to the digital drop box. There may also be long-answer questions which you should complete and then copy-and-paste into the online report. Some labs will use materials found within the home, and there will be a sheep heart, a sheep kidney, a fetal pig and a pregnant white rat which will be dissected. For labs which normally would involve microscopy, the digital images will be provided, with procedures modified to concentrate on interpretation of the visual information. If a lab quiz is part of the assignment, you may take it twice, with the highest score being recorded.

List of Submitted (graded) Lab Activities (INTASC 1-5, 7, 8)(see addendum 1 at end of syllabus)
All work should be submitted by the due dates found on the course home page under the lab schedule link on the course home page.
1. Endocrine Glands and Hormones Lab Quiz (13)

2. Cardiovascular System and Heart Dissection (15)
   a. Heart Lab Photo Report.
   b. Online Cardiovascular System Lab Quiz
3. Lymphatic and Immune System Lab Quiz (16)
4. Digestive System Lab Quiz (17)
5. Respiratory Lab Quiz and Report (19)
6. Urinary System (20)
   a.) Kidney Dissection Photo Lab Report
   b.) Urinary System Lab Quiz
7. Reproductive Systems
   a. Reproductive Lab Quiz (22A)
   b. Dissection of Pregnant White Rat Photo Lab Report (22B)
8. Fetal Pig Dissection (23)
   a. Photo Lab Report
   b. Fetal Pig Lab Quiz
9. Introduction to Human Genetics Lab Quiz (24A)
10. DNA Lab Extraction Photo Lab Report (24B)

III. Goals and Objectives (Student Learning Outcomes):

To successfully complete this lab course, you must be able to

A. identify the organs found primarily but not only within the abdominopelvic cavity, the systems to which they belong, and their functions.
B. explain the overall homeostatic functions of the organs and their systems within our bodies.
C. apply your knowledge of general chemical procedures and reactions to the specific activities carried out by the organs and organ systems studied
D. compare the similarities and differences of the animal specimens dissected with those found within the human body.

IV. Student Learning Outcomes

The entire Academic 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.

V. Materials Required:

- **Text :** Hole's Human Anatomy and Physiology 12th or 13th Ed.; Shier, Butler, & Lewis, McGraw-Hill Publishing. The text is not required for the lab course alone, but having this text available is highly recommended by us and by previous students, who have done the course without it.
- **Interactive physiology CD:** The A.D.A.M. 10-module interactive physiology CD is available from the University Bookstore and will be shown in the Course Materials area of the bookstore's site. It is not required if you are taking only the labs, but is very highly recommended. Its approach to explaining how many of the body's systems function will greatly improve your overall understanding of human physiology and likely your performance in this course! It is required if you are also taking the lecture portion of the course, and will provide the basis for a number of questions in the examinations

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- **If you choose to purchase the text and /or Interactive Physiology CD, you should order it/them text and interactive physiology CD as soon as you register for the course.**

(www.mayvillestatebookstore.com, 800-437-4104 ext 34823)

- **Camera:** A digital camera is **required** to record lab activities including dissections. **The photo documentation and illustration is required in order for you to receive credit for any part of "wet" lab activities as stated above.**
- **Lab Materials: Specimens and other materials needed for lab activities must be purchased from the MSU Book Store in the A&P 2 Lab kit** and will be shipped to you at the beginning of the semester along with the text book and the Interactive Physiology if you've purchased it from our bookstore. If you have obtained the book from some other source**, you will still need to contact the bookstore for the required lab materials.**

Lab procedures, which you will download from the Moodle website, have primarily been written using Microsoft Word. We will utilize the Moodle learning management system accessed through http://lms.ndus.edu/ or https://lms.ndus.edu/course/view.php?id=2314 to distribute lab procedures and other printed materials. It will also be used to administer exams and the lab quizzes. Lab procedures, which you will download from the Moodle website, have primarily been written using Microsoft Word. ***Note***: If you have Word on your computer, you should be able to work on the documents with no difficulty. If you use another word-processing program which does not have the translator for Word documents, the instructor will attempt to provide you with the documents in a form which you can use. As a student, you are eligible to purchase the Microsoft Office Suite (Educational Version) for approximately $150. It's REALLY worth the price! We will utilize Moodle to electronically distribute laboratory procedures and other printed materials. One other option is to download the OpenOffice suite (http://www.openoffice.org) , which is **free** and very similar to Office.

VI. Instructional Strategies: The following instructional strategies will be employed to help you learn the material.

A. Direct instruction
B. Indirect instruction
C. Interactive instruction
D. Experimental learning
E. Guided and independent study
F. Lab Quizzes
G. Practice Quizzes
H. Inquiry approach
I. Simulations
J. Questioning skills
K. Downloaded animations
L. Application
M. Crossword puzzles

VII. Learning Experiences:

Integrated Laboratory Activities.

A series of lab activities have been designed which will allow you to experience some of the activities available to on-campus students. Some of the materials needed for dissections or other activities will be sent from the bookstore (lab kit). Other materials will be things commonly found in your kitchen. We'll provide specific instructions in their use in the content area of MOODLE, so there'll be no need to purchase a lab manual. For a few lab activities, we will send photomicrographs taken in our lab for you to interpret.

Read lab procedures thoroughly before performing the dissection. Make sure that you take all required photos and that each photo is clear before moving on with your dissection. **Keep your specimen until your report has been graded and you are sure you will not need it again.** All "wet" labs where a dissection or other lab procedure is completed by you require the submission of digital photos taken during the lab procedure. The photos will include "portraits" of you with your lab specimen at the beginning of the lab and later during the lab process as directed in the lab procedure. **These portraits are to be full face photos of you, of such clarity that you and the specimen with the structure requested are clearly identifiable.** No credit for any part of a "wet" lab will be given without the submission of the required photos. Depending on the specific lab, there will be either written lab reports or lab quizzes to be completed, and some labs contain both activities. Lab reports and photos for the activities should be completed and returned to us through the submission boxes (i.e. Lab Activity 15 Photo Lab Report and Dropbox Heart Lab). Lab quizzes are completed online using the quizzing tools in Moodle and must be completed individually. See below for information about completing labs with a partner.

The preparatory materials and activities should give you an understanding of what would be a normally expected result in a lab activity. After completing the lab activities, look at the lab directions and at your recorded results You can be expected to explain what happened and why. It is important to state what your actual results are. This will tell us a great deal, including whether our instructions are clear**. If you do not think that your results are what they should be, state that in the report. Explain what you think should have happened and why**. **Problem solve and attempt to understand and explain what may have happened to cause your results to differ from the expected results.** If you are unable to find a requested structure, explain why you think you could not find it, where you would expect to find it, and what you would expect it to look like etc. It is possible to get the wrong result and still receive full credit if you provide this information. Complete assignments in the order in which they are listed in the course schedule whenever possible. Submit coursework including exams as soon as completed and no later than the designated due dates. After you have submitted coursework that they have been uploaded to the Moodle course site where they are available to the instructors. If you have difficulty in submitting coursework, please contact an instructor or instructional technology services. Complete at least one attempt with a passing grade for each required assignment before taking the exam covering that material and verify that you have submitted all required assignments.

Lab Partners: "Wet" lab (dissection) activities may be completed with a partner (fellow class member in your area) and a lab kit may be shared. If you plan to do this, **you MUST email your name, your lab partner's name, the date that you order your lab kit from the bookstore and the name that it is ordered in, to** john.lankow@mayvillestate.edu **and to** nancy.lankow@mayvillestate.edu. The dissection tasks must be shared. If a Lab Report is required, **the reports must be individually written and submitted;** the objective data would be the same while the questions would be individually answered, showing your individual understanding and interpretation of the data. You will certainly want to discuss results and their interpretation with your coworker, but the write-up is part of the learning process for each of you. You may wish to include a brief discussion of any differences of opinion and the reasoning involved. A photo must be taken of both students together holding the specimen at the beginning of the lab, prior to any dissection, and together again in the second required portrait for each lab, indicating with a probe the location of the structure as required by the lab procedure. All other required pictures for the lab must also be taken and submitted for each person according to the directions for the lab.

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 the respiratory system, 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 as well as applications associated with the structures and systems studied.

VIII. As a student you are expected to:

- Begin the lab course when the semester begins.
- Check your lab kit for all enclosed items when it arrives. Contact the MSU Bookstore immediately if all items are not present and intact. Lab specimens do not require refrigeration if they can be stored in a relatively cool area. If you live in a warm climate and don't have another cool area to store the specimens in, they should be refrigerated to prevent deterioration and to make your dissection experiences more pleasant and successful.
- 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.
- Check your Mayvillle State email and **Latest News and ANNOUNCEMENTS** on the course home page a minimum of twice weekly. It is recommended to check daily to remain current on course information and changes.
- Contact course instructors by phone or email about course questions or concerns, using the contact information found in the "Where we are …" section of the course home page.

- **Contact an instructor promptly about an unexpected and unpreventable event, which significantly affects your participation in the course, preventing the submission of coursework, including exams, by scheduled due dates.**

IX. As a student you can expect that:

- Items needing to be manually graded will routinely be graded within one workweek excluding holidays. Comment areas of corrected coursework, and emails will be used to provide additional feedback on some assignments. Students may be requested to contact an instructor by email or phone to improve student learning or to clear up instructor questions, assuring that the student will receive appropriate credit for work completed and knowledge learned on an assignment.
- Instructors will use the ANNOUNCEMENTS forum and the Latest News feature near the top of the course home page to communicate course information, problems encountered and changes or corrections required.
- You can reach the instructors by phone or email as stated in the "Where we are … " section of the course home page for a response on course questions and concerns, or to set up a phone appointment.

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X. Schedule of completion:

A list of required course activities is provided, with due dates for each exam and its prerequisite activities. You are encouraged to save this schedule on your computer and schedule your own target dates for the prerequisite assignments based on your personal schedule; work, home obligations, available study time, learning style, etc. It is recommended that you complete the chapters in sequence as shown on the course schedule where possible.

XI. Evaluation/grading:

Your individual scores will be visible in the grades area. The lab reports and lab quizzes will make up 60% of your total grade, with the two exams each constituting 20% of your grade. In order to get an A, you should achieve an overall percentage of 85%, a B, 75%, a C 65%, and a D 55% of the available points.

Grades are available as an unofficial transcript after being entered by the Office of Academic Records after submission at the end of the semester. Current and former students with Campus Connection access (includes all students who attended Mayville State University from Fall 2003 to present) may view and print an "unofficial" transcript free of charge by logging into Campus Connection and clicking on Self Service, Academic Records and then View Unofficial Transcript. To order a transcript, log into National Student Clearinghouse and follow the step-by-step instructions. To request a transcript if you do not have a credit/debit card and/or valid e-mail address, complete the Transcript Request Form and send it along with payment to:

Mayville State University
Office of Academic Records
330 Third St. NE
Mayville, ND 58257

XI. 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)

I. **Addendum 1, Biology 221 Lab Syllabus, INTASC Principles**

	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.