MAYVILLE STATE UNIVERSITY
Human Anatomy and Physiology 2
BIOL 221 3 Credits
Spring 2014 Syllabus

Human Anatomy and Physiology II, BIOL 221, 3 Credits (January 13 - May 16)
https://lms.ndus.edu/course/view.php?id=6137
Instructors: John Lankow, Nancy Lankow
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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, please email us, including a phone number/s and times 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. Use of your Mayville State email account guarantees the confidentiality of communication and your information.

I.Course Description:
BIOL 221 ANATOMY AND Physiology II (CCN) 3 S.H.
Equivalent to: Three hours lecture per week. The study of the anatomy and physiology of the human body will be studied as an integrated topic. This is the second course of a two-course sequence. Topics, which will be considered, include the endocrine system, blood and the cardiovascular system, the lymphatic and digestive systems, nutrition and the respiratory and urinary systems, electrolytes, and the reproductive system. Elements of development and growth, and human genetics will also be considered. Prerequisites: BIOL 220 required. BIOL 111 or BIOL 150 or equivalent recommended. CHEM 121 is recommended. Fall on campus; Fall, Spring, Summer online.

II. Purpose/Detailed Description of the Course:
During this semester, we will study the types of control of the body that are provided by the endocrine system. We will also study the transport systems, and the energy absorption and related systems. We will conclude with an introduction to human reproduction, growth and development, and genetics. The topics covered by the course are listed below. The required assignments are listed, but there are also other optional activities such as practice quizzes of terminology and identification and crossword puzzles.

Course Content:
Ch 13 Endocrine System (INTASC 1, 6, 9)
General Characteristics, Hormone Action, Hormone Control, Pituitary Gland, Thyroid Gland, Parathyroid Glands, Adrenal Glands, Pancreas, Other Endocrine Glands, Effects of Stress, Life-Span Changes
Study Guide, Chapter Mastery Quiz, **(INTASC 3, 4)**

Ch 14 Blood (INTASC 1, 6, 9)
Blood and Blood Cells, Blood Plasma, Hemostasis, Blood Groups and Transfusions
Study Guide, Chapter Mastery Quiz **(INTASC 3, 4)**

Ch 15 Cardiovascular System (INTASC 1-6, 9)
Structure of the Heart, Heart Actions, Blood Vessels, Blood Pressure, Paths of Circulation, Arterial System, Venous system, Life-Span Changes
Study Guide, Chapter Mastery Quiz **(INTASC 3, 4)**

First Exam Chapters 13, 14, 15 (INTASC 8)

Ch 16 Lymphatic System and Immunity (INTASC 1, 6, 9)
Lymphatic Pathways, Tissue Fluid and Lymph, Lymph Movement, Lymph Nodes, Thymus and Spleen, Body Defenses, Life-Span Changes
Study Guide, Chapter Mastery Quiz, **(INTASC 3, 4)**

Ch 17 Digestive System (INTASC 1, 6, 9)
General Characteristics, Mouth, Salivary Glands, Pharynx and Esophagus, Stomach, Pancreas, Liver, Small Intestine, Large Intestine, Life-Span Changes
Study Guide, Chapter Mastery Quiz **(INTASC 3, 4)**

Ch 18 Nutrition and Metabolism (INTASC 1-6, 9)
Why We Eat, Carbohydrates, Lipids, Proteins, Energy, Vitamins, Minerals, Healthy Eating, Life-Span Changes
Study Guide, Chapter Mastery Quiz **(INTASC 3, 4)**

Second Exam Chapters 16, 17, 18 (INTASC 8)

Ch 19 Respiration (INTASC 1-6, 9)
Why We Breath, Organs, Breathing, Control, Gas Exchanges, Gas Transport, Life-Span Changes
Study Guide, Chapter Mastery Quiz **(INTASC 3, 4)**

Ch 20 Urinary System (INTASC 1, 6, 9)
Kidneys, Urine Formation, Elimination, Life-Span Changes
Study Guide, Chapter Mastery Quiz **(INTASC 3, 4)**

Ch 21 Body Balances (INTASC 1, 6, 9)
Distribution of Body Fluids, Water Balance, Electrolyte Balance, Acid-Base Balance
Study Guide, Chapter Mastery Quiz **(INTASC 3, 4)**

Third Exam Chapters 19, 20, 21 (INTASC 8)

Ch 22 Reproductive System (INTASC 1, 6, 9)
Organs of the Male Reproductive System, Organs of the Female Reproductive system, Birth Control, STD's
Study Guide, Chapter Mastery Quiz **(INTASC 3, 4)**

Ch 23 Pregnancy: Growth and Development (INTASC 1, 6, 9)
Pregnancy, Prenatal Period, Postnatal Period, Aging
Study Guide, Chapter Mastery Quiz **(INTASC 3, 4)**

Ch 24 Genetics and Genomics (INTASC 1-6, 9)
Use in Medicine, Modes of Inheritance, Gene Expression, Complex Traits, Matters of Sex, Chromosome Disorders, Gene Therapy
Study Guide, Chapter Mastery Quiz **(INTASC 3, 4)**

Comprehensive Final Exam: : Approximately 50% of the exam covers Chapters 11-21 and approximately 50% of the exam covers Chapters 22-24 **(INTASC 8)**

III. <u>Goals and Objectives (Student Learning Outcomes):</u>
Text Unit 3 Integration and coordination Chapter 13: Students who have completed this unit should be able to:

- explain the general characteristics of the endocrine system.
- describe the chemistry and actions of hormones and explain the control of hormonal secretions.
- identify the endocrine glands, their locations and their primary functions.

Text Unit 4 Transport Chapters14-16: Students who have completed this unit should be able to:

- explain the origin of blood cells, explain their characteristics, and functions.
- discuss hemostasis and mechanisms involved in its operation.
- describe the anatomy of the heart and the systemic and pulmonary systems, the path of circulation through them, and the cardiac cycle.
- explain the purpose, pathways and organs of the lymphatic system
- discuss the body's defenses against infection, innate or nonspecific defenses and adaptive or specific defenses.

Text Unit 5 Chapters 17-21: Students who have completed this unit should be able to:

- describe the regions of the alimentary canal and their functions.
- name the structures of the alimentary canal and their primary functions related to the digestive process.
- discuss macro and micro nutrients, energy balance, and the concept of healthy eating as represented in the U.S. Recommended Daily Allowance and the USDA "My Plate".
- describe the structures of the respiratory system and their functions.
- discuss the control of breathing and factors affecting it
- name the structures of the urinary system and explain how its components accomplish the maintenance of composition, pH and volume of body fluids within normal ranges, in their homeostatic functioning.
- explain intracellular and extracellular fluid, water balance, electrolyte balance and acid-base balance related to the maintenance of a state of equilibrium.

Text Unit 6 Chapters 22-24: Students who have completed this unit should be able to:

- name the organs of the male and female reproductive systems and their primary functions, and discuss hormonal control of the reproductive functions.
- explain the process of meiosis, period of cleavage, embryonic and fetal stages and adaptation of a woman's body during pregnancy
- discuss the postnatal period and characteristics of each stage, related to growth, development, tissue changes and efficiency..
- explain how the inheritance of characteristics is affected by dominant and recessive inheritance, different dominance relationships, factors that affect single gene expression, multifactorial traits and chromosome disorders.

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
- **Interactive physiology CD: The A.D.A.M. 10-module interactive physiology CD is required** and is available from the University Bookstore as well as other sources. It will be shown in the Course Materials area in the bookstore website. It will provide the basis for a number of questions in the examinations. **You should order the text and interactive physiology CD as soon as you register for the course.** www.mayvillestatebookstore.com, 800-437-4104 ext 34823.

We will utilize the Moodle learning management system to distribute study guides and other printed materials. Moodle will also be used to administer chapter mastery quizzes, exams, and practice quizzes. **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 a MacIntosh or a PC for approximately $150. (It's REALLY worth the price!). Microsoft Works can also be used. One other good 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.

- Direct instruction
- Indirect instruction
- Interactive instruction
- Experimental learning
- Guided and independent study
- Chapter Exams
- Practice Exams
- Inquiry approach
- Simulations
- Questioning skills
- Downloaded animations
- Application
- Crossword puzzles

VII. Learning Experiences:

Our study of Human Anatomy and Physiology involves a number of different types of learning activities including required study guides and chapter mastery quizzes, which are done at your computer wherever you are able to work and submitted online, and exams. Please note however, that you are not allowed to take your exams in your home or your proctor's private home or residence. You must take your exam at a professional office; school, college or university, library; or other business or public institution. There are no requirements for on-campus visits. Recommended supplementary activities including practice quizzes and crossword puzzles, which you are able to complete an unlimited number of times, are also provided.

The course material is divided into four segments or quarters; Chapters 13-15, 16-18, 19-21, and 22-24. All assignments and quizzes are due on the exam dates for each course quarter except for Chapters 22-24, which is due on May 14thth. If you are taking one Anatomy and Physiology lecture course during the semester, your goal should be to complete an average of approximately one chapter per week. This will mean completion of the study guides and chapter mastery quizzes, the appropriate exam, and if you are also taking the lab course, the lab activities associated with each chapter. Some chapters are relatively short and can be mastered in a shorter time, while others will present some significant challenges so the time to complete a particular chapter may vary. You'll also need to allow for review time prior to completing the examinations. It is important to work on the material for shorter periods on a daily basis rather than to do a single "cramming" session. You will learn much more of the material, do better on the exams, and retain more of the material for use in your career and in your personal life

All Study Guides and Chapter Mastery Quizzes must be completed by the scheduled due dates as listed on the course schedule posted on the course Moodle site. Activities will be turned off as of 11:55 pm 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 us immediately. Be prepared to provide proof. Being busy is not an emergency. For the purposes of this course an emergency situation is an unexpected, unpreventable and significant occurrence, which realistically prevents you from completing required coursework by its due date. 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**.**

Read each chapter prior to completion of the assignments for that chapter. Complete assignments in the order in which they are listed in the course schedule whenever possible, i.e. complete SG 13 and CMQ 13 prior to starting Chapter 14 activities, and take each exam as soon as possible after completing its prerequisite activities. View the animations referenced in study guides and found in the topics area of each chapter on the course home page. Use that information to help complete the pertinent questions in the study guide. Submit coursework including exams as soon as completed and no later than the designated due dates. **After those dates that coursework will be unavailable**.

Open coursework may be completed prior to its due date. Exams may also be taken earlier than their scheduled due dates if you have completed the prerequisite materials and course activities. Before taking an exam verify that you have submitted all required assignments and that they have been successfully 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 at 701-788-4645. Contact your

proctor early to schedule each exam appointment, assuring that you can take each exam by its due date

Study Guides
The first activity in each chapter to be completed is a written study guide (SG) in a Microsoft Word format, which is downloaded from the course home page. This is an open-book activity, in which you may use any resources available to determine the correct answers. Remember however that the SGs as well as the CMQs are based on the materials required for the course: the text, the quick links found in course materials, and the Interactive Physiology CD. There are a few assignments when other resources, such as a web search, are specifically required for an assignment. There are a number of activities associated with the SG intended to assist you in your understanding of the material. The study guides consist of three different areas. They are:

- A short summary or introduction to the chapters in the text.
- A list of the major learning objectives for the chapter.
- A series of questions that will help you learn essential materials and will give you the opportunity to demonstrate your understanding of concepts or principles addressed in the chapter.

When you've completed the study guide, submit it to the appropriate submission box. (i.e. SG1 Drop box, etc.) in the Moodle course shell. The Study Guides are to be completed as individual work and may be revised based on instructor comments or scores and resubmitted. Before resubmitting a study guide file, change the file name to include RESUBMITTED in capital letters
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Chapter Mastery Quizzes: When you've submitted the study guide, complete the chapter mastery quiz (CMQ), also an open book activity. When the CMQ is submitted, the computer will grade the objective quiz and give you a score. You may research questions answered incorrectly and retake the quiz. A total of three attempts may be made on each quiz. All components of the CMQs are to be completed as individual work

You are not required to complete all available attempts of every chapter mastery quiz, but completing as many of them as you are able to will help you learn the material, review for exams, provide the highest score possible towards your course grade and apply the material to your educational or career purpose. You will receive the highest grade earned on an attempt for a particular chapter mastery quiz

Proctored Objective Examinations:
Four proctored examinations are required in this course.
Prerequisites: Successfully complete at least one attempt of every required course activity found in the pertinent chapter topic areas before taking an exam. You are encouraged to do as well as possible in all course activities, but students must achieve a passing grade of 55% at a minimum in the three-chapter mastery quizzes required for an exam. The exams will not be available until you have recorded 55% or higher on each pertinent chapter mastery quiz. If you have difficulty in achieving this percentage in a specific activity, please contact an instructor for assistance**.**

Exams are **not** open-book/open notes exams. They are monitored, closed book exams and are intended to be taken in the same way as any normal "on-campus" exams, where your only resource is your personal knowledge. The computer server will send the exam to your location for you to complete and submit online. It will grade the exam and allow you to view your score immediately. The exams are not however available to view after completion. You will take each exam after you have submitted the prerequisite coursework and by its scheduled due date. **After that date the exam will no longer be available to be taken.**

Note: You will need to arrange for a proctor for your exams. Your proctor information needs to be submitted to the Office of Extended Learning at MSU, within the first week of class, so that your proctor is in place when you need to take your first exam. It takes time to locate and establish a qualified proctor so start this process immediately. Information about proctors and proctored exams is available on the Outline page of the MASU DSO 100 - Distance Student Orientation course, referenced in the second paragraph of this syllabus. Proctors must be present for the entire duration of all Exams**.** Passwords will **not** be provided to a student outside of the monitored exam setting. All questions about proctors, passwords, and exam locations should be addressed to Office of Extended Learning at 1-800-437-4104 ext: 34667**.**

VIII. As a student you are expected to:

- Begin immediately to locate a qualified individual willing and able to proctor your exams and establish this proctor with the Office of Extended Learning as above.
- Answer questions appropriately: Some study guides answers may be given without full sentence structure where appropriate to the questions asked, but are expected to clearly answer the question, contain correct spelling and display appropriate grammar and word usage. Answers to other questions, such as essay questions, which ask students to "explain", "compare" or "describe", should display appropriate sentence structure and logical development of thought.
- Check your Mayville State email, the course home page and its **ANNOUNCEMENTS** section frequently**,** at a minimum of three times weekly, to remain current on course information and changes.
- Contact course instructors by phone or email as needed, 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.

IX. As a student you can expect that:

- Study guides needing will routinely be graded within two work-weeks excluding holiday breaks. 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..
- Instructors will use the ANNOUNCEMENTS section near the top of the course home page to communicate course information, problems encountered, and changes or corrections required.
- You can contact 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.

X. Schedule of completion:

A list of required course activities is accessed near the top of the course home page, with due dates for each exam and its prerequisite activities. You are encouraged to save this schedule on your computer and to schedule your own target dates for the coursework based on your personal schedules, work, home obligations, available study time, learning style, etc., to assure all assignments are completed before their due dates. . **Course activities will not be available after their due dates.**

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XI. Evaluation/grading:

Your grades will be based upon the following four types of activities. Each type of activity is worth a distinct percentage of the total grade for the course (see C below). The values of each activity are shown in the grade book of the website.

A. Study Guides and Chapter Mastery Quizzes:

Study guides will be reviewed for completion and grades entered in the study guide portion of the grade book. They are the primary tools, which you will use to learn the material. These study guides make up 20% of your course grade.

When you've completed the study guide, you may then proceed to the Chapter Mastery Quiz (CMQ). You may take the chapter mastery quiz up to three times, with the best score being recorded. The answers to any short answer or essay questions must be "manually" graded by an instructor and your score will not reflect any of the points earned in the quiz until these questions have been graded. Chapter Mastery Quizzes count as 20% of the total grade.

B. Exams and Final Exam

Proctored Examinations:

Four examinations will be given during the course. These objective exams will consist of multiple-choice questions, matching, drop-down lists, or fill-in-the-blank questions, which will be available through the course Moodle website. Be aware that any fill in the blank question must be completely accurate in spelling and spacing to receive credit. Some of the matching questions will include images where you will demonstrate your

acquired knowledge of human anatomical structure. The questions will be based upon material found within the text, and on materials found in the study guides, chapter mastery quizzes, and interactive physiology CD.

Passwords which will allow you access to the exams will be sent to the proctor you have established through the Office of Extended Learning. All exams will be cumulative and will contain questions related to material previously covered in the course. Prior to taking an exam, students are to submit at least one valid attempt for all assignments which are scheduled for completion before the exam.

Final Exam:
The final exam will consist of questions covering all material studied during the semester. Approximately half of the material in the final will be devoted to topics related to Chapters 22-24. The remainder will be taken from all other materials examined during the course in Chapters 13-21 It will have approximately 150 points.

Exams 1-3 each make up 23% of the exam category grade and the final exam makes up 31% of the exam category grade. The exam category grade makes up 60% of your total grade.

Final Grade: Final Grade: Final course grades will be assigned based upon qualitative and quantitative work. Qualitative: the amount of effort you put forth (see Instructional Strategies). You must satisfactorily complete study guides as indicated. Quantitative: the number of points, which you earn compared to the number possible. Your grades will be based upon the study guides (20%) and chapter mastery quizzes (20%), and examinations (60%). Your individual scores will be visible in the grades area. 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 5825

XII. 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 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.