

BIOLOGY 254 - HUMAN ANATOMY & PHYSIOLOGY II SYLLABUS / SCHEDULE – ONLINE/HYBRID

Course Description: This is the second course of a two semester course sequence in which students study the anatomy and physiology of the human body. The course includes the autonomic nervous system, sensory, motor, and integrative systems, special senses, endocrine system, cardiovascular systems, lymphatic system and immunity, respiratory systems, digestive system, metabolism and nutrition, urinary system and reproductive systems. This course includes a laboratory component in which students are responsible for performing dissections and making original observations on dissected material. The laboratory experience culminates with the use of a plastinated human specimen for observation. Because physiological processes are based on the principles of chemistry, prior chemistry coursework is strongly recommended for this course. **Prerequisite: BIOLOGY 253**

On site dates: For this course, you will be required to come to central campus **each week** on designated days and times for labs and/or examinations. On site days are specific dates, listed on **the coursesite**.

A caution from your instructor: Online courses cover the same amount and level of content as "face-to-face" courses. Students taking this course online find that it requires **more time** than when it is taken in the traditional format. Remember that this is a lab science course so should be thought of as two courses. **It is not recommended for students who have not had a previous online course.** Students earning a final grade of 3.0 or higher report studying **at least 20 hours per week for this one course**. Please plan accordingly when considering this course.

Instructor: Jan Bradford Phone (517) 796-8648 Email: jbradford@iccmi.edu (*best to reach me)	Office: JM 110 (or find me in the lab, JM 104) Hours: T. 12:30-1pm; 5:00-5:30pm M/W. Online office hours. Others by appointment.
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Feedback Timeframes: To the best of my ability, email replies to coursework questions will be sent between 8AM on Mondays and noon on Thursdays, within 24 hours of message receipt from a student.

Technical Support: For technical difficulties, try using the Help Forum to get help from classmates. Or you can contact the distance learning / information technology office.

Texts and Materials:

Required:

[Text available in digital format.]



PRINCIPLES OF ANATOMY AND PHYSIOLOGY, Tortora & Derrickson; 14th edition [ISBN: 9781118866306]

– Other A&P textbooks for a full-year class (25-29 chapters) are acceptable (e.g. Martini, Marieb, Patton, Saladin or Seeley). (There is an online A&P text available at www.openstax.com; it is missing some information for the beginning of BIO 254.)

Lab Manual for Anatomy & Physiology I, Visser & Bradford; 1st edition [ISBN: 978-1-4652-7483-0]

Anatomy and Physiology II Coursepack - Bradford sections; from the JC Bookstore

Grade: The grade you earn in this course will be based upon total points accumulated on:

(Approximate total for semester = 860 points)

Chapter Exams (5 @ 80 pts. each; 80 questions in 50 minutes) **Taken at the Testing Center on Scheduled dates**

Online Terminology Quizzes (10 best of 14; @5 pts. each; 50 pts. total)

Lab Practicals (3 @ 60-80 pts. each)

Research Paper (40 pts.)

Take Home Quizzes (5 @ 5 pts. each)

Lab Participation Points (30 pts.) [*See explanation; Lab Procedure below.]

Lab Hand-Ins (8 @ 10 pts. each)

[Possible Minimal Point Assignments; typically 5 – 10 points each]

Grading scale: [You will be expected to keep a record of your grades. Grades will be posted on our course-site.]			
4.0 (A) 95-100%	3.5 (A-/B+) 90-94%	3.0 (B) 85-89%	2.5 (B-/C+) 80-84%
2.0 (C) 75-79%	1.5 (C-/D+) 70-74%	1.0 (D) 65-69%	0.5 (D-) 60-64%

Absence Policy: You are responsible for all assignments, handouts and materials covered in theory and in lab exercises. Make-up opportunities for the exams and/or practicals are extended only in the case of emergencies / hospitalization / funerals and require written documentation verifying the cause of the absence. It is your responsibility to contact your instructor for arrangements. **Second and subsequent make- up exams will be awarded only 80% of the achieved score. Practicals may not be made up unless you can take the practical with another lab section. In the event of a missed practical, you may either take a zero for the score, or take an incomplete for the course, and make up the practical the next semester that BIO 254 is offered.**

General Philosophy: You are an adult and a college student. As such you are expected to be able to work and learn independently, and to be responsible for all assignments and materials. This is a difficult course, and will cover a tremendous amount of material; that will require hard work and discipline. You will need to keep up, as the pace of the class is fast, and it will pick-up as we cover the last few chapters and get into consolidation and review. **There are no quick, easy ways;** what you learn here will be directly proportional to the amount of effort you have expended. You're also expected to be considerate of the rights of others and not to interfere with those who are trying to study, work and learn.

Miscellaneous:

- * **No phone nor camera usage during any class times; no exceptions unless instructor directs use.**
- * No materials will be used during examinations of any kind, except those provided by your instructor. **No electronic devices are allowed during the entire examination period.** You will need a #2 pencil for examinations.
- * An exam score curve (or linear addition) MAY be used for each exam. The curve is a privilege.
- * It is expected that problems that occur because you feel an error has been made, or disagree with what has been done, or feel that you have been treated unfairly, will be brought to my immediate attention so that they can be resolved.
- * There will be no extra credit projects for this course, since it is felt that your time will be better allocated in studying the assigned materials.
- * Supplemental materials may be used at your home or in the JC Computer Labs. **The text's companion website** is available -- see instructions in your text.
- * Tutors and additional free services for academic success are available at the Center for Student Success. CSS will help you with writing, study skills, test anxiety, math and reading.
- * Students with documented disabilities who believe they may need accommodations should contact the Center for Student Success as soon as possible to ensure that accommodations are implemented in a timely fashion.
- * A student found cheating or plagiarizing information will either receive a score of zero on that particular exam or assignment, or a grade of 0.0 in the course. In addition, the Academic Deans will be informed of any such incident. The JC Academic Honesty Policy is at: http://www.jccmi.edu/administration/deans/Policies/Academic_Honesty_Policy.doc

LABORATORY PROCEDURE: The lab period is a time of active learning involving the study of various materials, interactive projects, and other activities to enhance class success. Interaction with, and learning from, other members of the class and the instructor are critical parts of the lab environment. Cooperation with other students and the instructor in keeping the lab orderly and clean is expected. Please observe the following laboratory guidelines, and encourage your partners to do the same.

1. You are expected to read each week's lab write-up before arriving so you can understand what you will be doing. To help "pull things together" you will have 2-3 questions to answer before each lab begins. Completion of these questions will count toward your lab participation points (described below).
2. 30 points of your final grade will be based on your attitude and effort in lab. Any lab missed or not worked on conscientiously, in excess of one, will result in a loss of 2.5 points per lab session. It is your responsibility to make sure that your name is on the sign-in sheet each week. Each week you are expected to thoughtfully respond to that week's assignment if given. Failure to do any of these things will result in a loss of points. Additionally you are expected to post in the help forums when you have questions, read questions posted by your classmates and offer assistance when you know how to help.

3. Specific instructions for each activity will be given at the beginning of each lab period. You will be expected to complete all the assignments that require dissection or lab apparatus during this time.
4. You will return all materials, apparatus, and reference books to their proper place at the end of the lab period. Apparatus that has been used should be washed with tap water and blotted dry with paper towels. Please leave materials neatly arranged; all members of each working group will be held responsible for the condition and return of the lab materials.
5. Consult with other members of the class and the instructor concerning any part of your work. Cooperation and consultation are encouraged: however, make certain that you completely understand everything since you will be held individually accountable for all materials covered. In addition, all answers to lab questions are to be written in your own words – not copied from a lab partner, from the text or from an online resource (all of which are violations of the academic honesty policy).
6. Disruptive behavior and loud conversations will not be permitted. Do not disturb others who are working.
7. Expect to work the entire allotted class period.
8. Any information covered in lab is "fair game" for both the lab practical exams and class/chapter exams. Lab practicals, however, are limited to information on the lab practical lists.
9. Use of the human cadaver mandates a requirement to sign the **LEARNING CONTRACT** prior to participation of any kind. This contract will require reading and acceptance of: the Human Specimen Respect Policy and the "Anatomy and Physiology Lab Rules." These can be found on the course JetNet site. [BIO 254 students will not be dissecting nor working extensively with the human specimen. Instructor demonstration of the specimen will be part of the course.]

Course Design - Online/Hybrid Anatomy and Physiology II

This course has two major components: "theory" (analogous to a traditional class lecture curriculum) and lab exercises (at campus; see the lab manual by Visser and Bradford). For the majority of the semester you will work at your distance learning site (home, etc.); and **EACH WEEK** during the semester you will come to Jackson College - central campus at the designated dates and times. Read the following descriptions for the theory portion, lab exercise portion and central campus visits.

THEORY DESCRIPTION

Preview by: Reading objectives at the start of each section of a chapter in your text book; and completing the assigned terminology quizzes on our course-site.

Learn by: Filling in information on your Anatomy & Physiology Outline using your Tortora & Derrickson text. Compare your notes to the notes provided by your instructor on the course site. Committing that material to memory by rehearsal and repetition. Activities on the companion website and in the text will enhance learning.

Self-assess by: Activities, quizzes and tutorials at the companion website and in the text.

Graded by: Terminology Quizzes, Take Home Quizzes, Paper, possible other Minimal Homework, and **Five** on-campus CHAPTER EXAMINATIONS.

LABORATORY (LAB) EXERCISES DESCRIPTION

Learn by: Assigned lab exercises in the schedule. You can solidify your knowledge at any time using the online images or diagrams in your Tortora/Derrickson text. Pay particular attention to the lab practical lists when preparing for the lab practicals. Study the images loaded onto the course site of lab images. Make use of the screen-casts on your instructor's web page. These images are of the actual materials you will be tested on when coming to central campus for the practicals. It is on these days where you need to come prepared expecting to transfer what you have learned from two-dimensional images to an understanding/knowledge of three-dimensional objects. At times, you can go to external links to find good lab images to study - but remember another instructor's list of items to know may not match ours!

Graded by: On-site PRACTICAL EXAMINATIONS, Lab Hand-In assignments, and Participation Points

CENTRAL CAMPUS VISITS

EACH WEEK in the semester you will be required to come to central campus on the designated days and times to complete: chapter exams, lab activities, lab practicals and clean up.

On-Site Schedule: When a Chapter Examination or Lab Practical Examination is scheduled, these will occur in the first hour. Following, lab study will solidify knowledge of items to learn for the lab portion of the course.

General Education Outcomes (GEOs) & Educational Objectives (Learning Outcomes)

The Board of Trustees has determined that all JC graduates should develop or enhance certain essential skills while enrolled in the college. The General Education Outcome for Bio 254 is: GEO 4 (Scientific Reasoning).

1. Identify the major types of sensory receptors & CNS sensory pathways
2. Differentiate the major motor pathways within the CNS
3. Differentiate the actions of the autonomic nervous system divisions
4. Describe the structures and sensory functions of the nose, taste buds, eye and inner ear
5. Identify source, secretory control, & function of the major hormones produced by the body
6. Identify structures, formation, & functional roles of the elements of blood
7. Describe the structure of the heart, conduction system, cardiac cycle and cardiac output
8. Describe the types of blood vessels, patterns of circulation and mechanisms of vascular exchange
9. Describe blood pressure, hemodynamics, and mechanisms of control
10. Identify the structures and functions of the lymphatic system
11. Identify mechanisms of innate (nonspecific) vs. adaptive (specific) defenses
12. Identify the structures of the respiratory system and relation to control of ventilation
13. Describe mechanisms of gas exchange & transport
14. Identify and structures & functions of the components of the digestive system
15. Describe the mechanisms and regulation of digestive processes
16. Describe the basic mechanisms of cellular respiration & anabolism of carbs, lipids, & proteins
17. Identify the major activities in maintenance of energy balance & thermoregulation
18. Identify the major structures and functions of the urinary system components
19. Describe regulation of urine composition and maintenance of fluid balance in the body
20. Describe mechanisms of maintaining acid/base balance and causes & effects of imbalance
21. Identify the structures, functions and gamete formation in the male & female reproductive systems
22. Describe events in conception, pregnancy, basic embryological development and parturition
23. Identify major terms & mechanisms in genetic inheritance
24. Make predictions related to homeostatic imbalance, including disease states & disorders

Anatomy & Physiology Learning Contract

Your instructor will give you a learning contract to fill out and return.

Due before the end of the semester's second week. **Failure to hand in will result in an instructor initiated withdrawal.**

BIO 254: Anatomy & Physiology II - SPRING 2018 *TENTATIVE* SCHEDULE - [Tue. 1-4:27pm (H50)
5:30-8:57pm (H51)]

Week	Date Week of Wed – Tue.	Chapter Study & Exams	This Week's Lab [at JM 104]
1	5/23-29	16 (Sense Pathways) 17 (Special Senses) Online Pre-Test	Sensory Pathways* Special Senses Anatomy <i>Learning Contract Due</i> <i>[Note for study: models of ear, eye, brain in CSS/library]</i>
2	5/30-6/5	15 (ANS) 18 (Endocrine) EXAM 1** (Ch. 15 - 17)	Special Senses Physiology* Endocrine System*
3	6/6-6/12	19 (Blood) 22 (Lymphatic)	LAB PRACTICAL EXAM 1 (60pts) Blood & Hematology <i>Preview Thoracic Cavity / Heart Anatomy [model in library]</i>
4	6/13-19	EXAM 2** (Ch. 18, 19, 22) 20 (Heart) 21 (Vessels)	Thoracic Cavity Cardiovascular System*
5	6/20-26	23 (Respiratory) 24 (Digestive) EXAM 3** (Ch. 20, 21, 23)	Respiratory System* Review <i>Evaluation Forum Due this week (2 pts)</i>
6	6/27-7/3	25 (Metabolism) 27 (Balance)	LAB PRACTICAL EXAM 2 (80 pts) Abdominal Cavity Metabolism* (take home lab)
7	7/4-10	EXAM 4** (Ch. 24, 25, 27) 26 (Urinary) 28 (Reproductive) Research Paper Due!	Urinary System Anatomy (take home lab – physiology)* Reproductive System Human Specimen Observation Review
8	7/11-17	29 (Development) EXAM 5 (Ch. 26, 28, 29) Post-Test (on JetNet) due Monday by 5PM)	LAB PRACTICAL EXAM 3 (80 pts) – 1 pm/5:30pm in JM 104 EXAM 5 - at 2:00/6:30 pm in JM 104!

- Schedule may be subject to change at the sole discretion of the instructor.
- **Lab Preview Questions** due at the beginning of the lab period.
- Exam / Practical dates subject to change (but not likely)
- Complete your reading/study of the chapters by these exam dates
- **Chapter Vocabulary Quiz** due dates are listed and to be completed on the online course-site. Complete these ahead of schedule to avoid loss of opportunity due to technical difficulty. Plan ahead. No make ups. They close at the due date/time.
- ***Lab Hand-Ins** are due by the end of the lab period of same day; beginning otherwise. (10 pts each)
- **Take Home Quizzes** are due at the start of each Exam. (5 pts each)
- ****Exams 1-4** take place in the Testing Lab in Walker Hall. They will be available Saturday through Tuesday on the weeks scheduled; **BUT are due by 5:00 pm on the Tuesday!** Plan accordingly!!!
 - [You *might* have the option of taking the exams at 4:30pm on the Tuesday, in the lab with me.]
- Labs, and **Lab Practicals** all take place at Central Campus, **JM 104**
- Any remaining lab time may be used for lecturing.