

Human Anatomy & Physiology II

BIO 254 04
Winter 2019

Number of Credits: four

Office: JM 110

Days Class Meets: Monday and Wednesday;
Lab 04 – Wed.

Contact Phone: 796-8648

***Contact Email:** bradforjanicel@jccmi.edu

Meeting Times: M. 9-10:50am; W. 8-8:54am
Lab 04 W. 9-10:50am

Office Hours: M. 11-12, 5-5:30; T. 10:30-11am;
W.11-noon; Online office hours Th/F.
Others by appointment.

Location: JM 219; Lab JM 104

Online: Course uses JetNet (Moodle)

Instructor: Jan Bradford, M.S.

Contact Solution Center for technical support.

*Email is the best route to contact me. 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.

Course Description

This is the second course of a 2 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 system, 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(s)

BIO 253 (successful completion)

Course Considerations

This is a lab science course so should be thought of as two courses. The reading level is difficult. **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 are also expected to be considerate of the rights of others and not to interfere with those who are trying to study, work and learn. **Caution:** students earning a final grade of 3.0, or higher, report studying *15- 20 hours per week for this one course*. Please plan accordingly.

Course Objectives (Learning Outcomes) (in brief)

By the end of the semester, students will demonstrate – through both factual lecture exams and laboratory practical identification – their understanding of the following topics (with focus on the human body):

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 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 carbohydrates, 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

The course goals incorporate specific General Education Outcomes (GEOs) established by the JC Board of Trustees, administration, and faculty. These goals are in concert with four-year colleges and universities and reflect input from the professional communities we serve. GEOs guarantee students achieve goals necessary for graduation credit, transferability, and professional skills needed in many certification programs. The GEOs and course objectives addressed in this class include the following: **GEO 4 (Scientific Reasoning)**.

Textbook

PRINCIPLES OF ANATOMY AND PHYSIOLOGY, Tortora & Derrickson; 15th edition; [ISBN: 9781119343738]

[**Text Book Zero!** ...Text available in digital format.]



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

Lab Manual for Anatomy & Physiology II, Visser & Bradford; [from JC Bookstore; also on course-site]

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

Extras

No other purchases are required; safety glasses for dissection are recommended.

Grading Procedure

The grade you earn in this course is based upon total points accumulated on: (approximately 850 pts.)

Chapter Exams (5 @ 80 pts. each; 80 questions in 50 minutes)
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 are expected to keep a record of your grades. Grades will be posted on our course-site.]

GPA	GRADE RANGE
4.0	95-100%
3.5	90-94%
3.0	85-89%
2.5	80-84%
2.0	75-79%
1.5	70-74%
1.0	65-69%
0.5	60-64%
0.0	0-59%

Failure

Use of the human materials and cadaver mandates a requirement to sign the LEARNING CONTRACT prior to participation of any kind. You must read and accept: 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.] Your instructor will give you a learning contract to fill out, sign and return. **It is due before the end of the semester's second week. Failure to complete and return this will result in an instructor initiated withdrawal.**

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.

Note: **Late Assignments** - Instructor reserves the right to award zero or reduced credit for any and/or all late assignments.

Academic Honesty Policy

Academic Honesty is defined as ethical behavior that includes student production of their own work and not representing others' work as their own, by cheating or by helping others to do so.

Plagiarism is defined as the failure to give credit for the use of material from outside sources. Plagiarism includes but is not limited to:

- Submitting other's work as your own
- Using data, illustrations, pictures, quotations, or paraphrases from other sources without adequate documentation
- Reusing significant, identical or nearly identical portions of one's own prior work without acknowledging that one is doing so or without citing this original work (self-plagiarism)

Cheating is defined as obtaining answers/material from an outside source without authorization. Cheating includes, but is not limited to:

- Plagiarizing in any form
- Using notes/books/electronic material without authorization
- Copying
- Submitting others' work as your own or submitting your work for others
- Altering graded work
- Falsifying data
- Exhibiting other behaviors generally considered unethical
- Allowing your work to be submitted by others

Makeup Policy

You are responsible for all assignments, handouts and materials covered in both lecture and lab.

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.** Instructor reserves the right to award zero or reduced credit for any and/or all late assignments.

Help

- * **The text's companion website** is available -- see instructions in your text and/or our JetNet site.
- * 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 should contact the Center for Student Success as soon as possible to ensure that accommodations are implemented in a timely fashion. Accommodations do not automatically carry over to the next semester.

<https://www.jccmi.edu/center-for-student-success/accommodations-for-students-with-disabilities/>

Calendar (Tentative Schedule)

BIO 254: A&P II

[Mon. 5:30-7:20pm Lab Section H1]

[Wed. 9-10:50 pm Lab Section 04]

Week	Date Week of Monday...	Chapter Study & Exams	This Week's Lab [in JM 101]
1	Jan. 14	Ch. 16 Online Pre-Test	Sensory Pathways
2	Jan. 21	Ch. 16, 17 <i>Learning Contract Due</i>	Special Senses <i>[Note for study: models of ear, eye, brain in ATC]. Sensory Pathways Due</i>
3	Jan. 28	Ch. 15, 18 EXAM 1 (Ch. 15 - 17)	Endocrine System I (Endo. Review; 1st case) <i>Special Senses Due</i>
4	Feb. 4	Ch. 18, 19	Endocrine System II & LP review <i>Endocrine System Due</i> Blood Exercise (Due at lab)
5	Feb. 11	Ch. 19, 22	LAB PRACTICAL EXAM 1 (60 pts)
6	Feb. 18	Ch. 20 EXAM 2 (Ch. 18, 19, 22)	Cardiovascular System (Due at lab)
7	Feb. 25	Ch. 20, 21	Thoracic Cavity
8	Mar. 4	Ch. 21, 23	Respiratory System (Due at lab)
	3/11-17	SPRING	BREAK
9	Mar. 18	Ch. 23, 24 EXAM 3 (Ch. 20, 21, 23)	LAB PRACTICAL EXAM 2 (80 pts)
10	Mar. 25	Ch. 24, 25	Abdominal Cavity
11	Apr. 1	Ch. 27, 26	Metabolism (Due at lab)
12	Apr. 8	EXAM 4 (Ch. 24, 25, 27) Ch. 26, 28	Urinary System (Due at lab)
13	Apr. 15	Ch. 28, 29 Research Paper Due! (M)	Reproductive System & Human Specimen Observation
14	Apr. 22	Ch. 29	Review (continue next page)

4. You will return all materials, apparatus, & 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. You are free to leave the lab when you have completed the assigned materials.
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.

Attendance Policy

In compliance with Federal Title IV funding requirements, as well as college initiatives, reporting of student participation in classes will occur at three designated times each semester. Instructors will assign one of three non-transcribed letter symbols to each student during each reporting period (see below). Students identified as no longer participating will be dropped or administratively withdrawn from the class, and students identified as needing academic assistance will be contacted.

Participation/Progress Symbols

- H – The student is not doing acceptable work and needs **Help** to be successful.
- Q – The student has not participated and the instructor believes they have unofficially withdrawn (**Quit**). These students will be dropped/withdrawn from the class.
- V – The instructor **Verifies** that the student is participating and doing acceptable work.

Caveat

It is possible that some revisions will be necessary during the course due to unforeseen school closing policies, instructor illness and other procedural improbabilities.

Miscellaneous

- * ALL electronic correspondence MUST utilize JC supported systems: JC outlook email and/or JetNet messaging. Your instructor will NOT respond to any other electronic correspondence.
- * 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 examinations. 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 if problems 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.