BIOL 121 - Human Anatomy and Physiology I Course Syllabus - Fall 2017

COURSE NUMBER: BIOL OX 121, 3934 Human Anatomy and Physiology I

CLASS SECTION: 10J

PRE/CO-REQUISITES: MUST BE ENROLLED IN L-B3 TUESDAY LAB

CREDIT ALLOCATION: Lecture: 3 credits (150 minutes or 3 contact hours weekly)

Lecture is Tuesdays & Thursdays 10:00 am - 11:40 am

Lab: 1 credit (180 minutes or 3 contact hours weekly)

Lab is Tuesday 1:40pm to 4:40pm

TOTAL 4 credits

PLACEMENT: FALL 2017

CLASS LOCATION: Science Building ROOM 101

FACULTY: Dr. Cristy Tower-Gilchrist, PhD

Instructor

cristy.tower-gilchrist@emory.edu

Office: HUM 107

Office hours: Tuesdays 12:40pm to 1:40pm or by appointment

COURSE DESCRIPTION

This course, the first in a 2-course sequence, is an introduction to the structure and function of the human body. The course begins with cell structure, function, and biochemistry, characteristics of tissues, and control systems and homeostasis. In-depth study of skeletal, muscle, and nervous systems is emphasized. Upon completion of the course, the successful student will be able to demonstrate understanding of structure, function and integration of these physiological systems.

COURSE OBJECTIVES

The student should be able to:

- 1. Identify the components of homeostatic mechanisms in physiological processes and distinguish between positive and negative feedback; describe why disruption of homeostatic mechanisms results in dysfunction or disease.
- 2. Describe the roles of inorganic and organic molecules underlying physiological processes, with emphasis on acids, bases, and buffers.

- 3. Describe the cellular composition, functions, and locations of major tissue types in the human body.
- 4. Describe the structure and functions of the skin and skin appendages, and their importance in protection and homeostasis.
- Identify the cellular and histological composition found in the musculoskeletal system; and describe the gross and microscopic features, the locations, and functions of each in maintaining homeostasis.
- 6. Identify the cellular, anatomical, and physiological characteristics of nervous tissue; describe the control functions of the divisions of the nervous system as they regulate other organ systems in the human body and maintains homeostasis.

POLICIES RELATED TO THE NELL HODGSON WOODRUFF SCHOOL OF NURSING

The current <u>BSN Handbook</u> is available. It address multiple topics pertinent to preparing undergraduate nurse leaders such as:

- 1. University Student Services
- 2. Academic Policies and Procedures
- 3. ADA and Students with Disabilities
- 4. Academic Grievance and Appeal Procedures
- 5. NHWSN Grading Scale
- 6. Inclement weather
- 7. Communication with faculty

The <u>Undergraduate Student Handbook</u> can be accessed at the following link: http://www.nursing.emory.edu/ includes/documents/site-wide/handbooks/bsn-handbook-2016-2017.pdf

The below are some specifics of certain policies that are addressed in more detail in the Undergraduate Student Handbook.

Grading Scale: Please see p. 16 of the Undergraduate Student Handbook (link above) for information about the grading scale used in the School of Nursing.

Communication with Faculty: Emory University's policy for student-faculty communication states that email is the primary medium for official communication. "Students are expected to maintain their accounts and check their email regularly so that new mail will be properly received and read. Certain communications may be time-critical. While students may redirect email from their official University email address to another address (e.g., @hotmail.com, @aol.com), the University is not responsible for the delivery of email by other service providers". (Emory University Council of Deans and President's Cabinet, 2004)

Americans with Disabilities Act

Oxford College of Emory University and Nell Hodgson Woodruff School of Nursing both comply with Section 504 of the Rehabilitation Act and the Americans with Disabilities Act. Students with disabilities who seek academic accommodations must first take appropriate documentation to the Office of Accessibility Services (OAS), located on the main campus, University Administration Building, Suite110 (www.ods.emory.edu) OR 105 W. Moore Street, Murdy Hall Room 134 on the Oxford College campus. It is the responsibility of OAS to assess the documentation of each student requesting academic accommodations based on disability.

The Office of Accessibility Services Access (OAS) works with students who have disabilities to provide reasonable accommodations. In order to receive consideration for reasonable accommodations, students

must contact OAS and complete the registration process. Faculty may not provide disability accommodations until an accommodation letter has been processed; accommodations are not retroactive. Students registered with OAS who receive a letter outlining specific academic accommodations are strongly encouraged to coordinate a meeting time with their professor to discuss a protocol to implement the accommodations as needed throughout the semester. This meeting should occur as early in the semester as possible. Contact OAS for more information at (770) 784-4690 or oas oxford@emory.edu. Additional information is available at the OAS website at http://equityandinclusion.emory.edu/access/students/index.html.

If you believe that you possess a disability for which reasonable accommodation must be made, you must consult with the instructor before the close of the second class meeting. Should a disability requiring **accommodation arise after the second class meeting**, you must present documentation to the OAS for assessment as quickly as is possible.

Academic Integrity

Dishonesty in the classroom will not be tolerated. The (abridged) policy regarding student dishonesty at **Oxford College of Emory University** can be found in "Honor Code," under Oxford College Code of Conduct, pages 112-116 of the 2014-2015 Catalog. An electronic version of the complete policy regarding academic integrity and conduct can be found at http://oxford.emory.edu/academics/student-services/student-honor-code/

Violations of the Student Code of Conduct will receive a grade of 0 for the assignment and a report of the incident will be forwarded to the Honor Council.

When appropriate, students may collaborate on experiments or assignments, however students will generally be expected to turn in their own work. Instructions regarding the nature of each assignment will be provided.

Course Withdrawal Policy: Please see p. 21 in the <u>Undergraduate Student Handbook</u> for specific information about withdrawing from a class.

Registration may be cancelled by the student until the last day of the drop/add period and no entry for that semester will be made on the student's transcript.

Please see cancellation and withdrawal policy for Oxford College: Link provided below http://oxford.emory.edu/academics/courses/c

*Determination of academic standing in a course will be based on the points accumulated at the time of withdrawal. For instance, if a course grade is based on 4 tests worth 25 points each but only 3 tests were available to the student at the point of withdrawal, academic standing will be determined based on the performance of the 3 available tests. The student must have an average score of 70% or above based on the 3 available tests to receive a grade of "W" for the course. An average score on the 3 available tests of less than 70% will result in the assignment of a grade of "WF" for the course.

Midterm Deficiencies

Please read the terms of midterm deficiencies using the link below. (http://oxford.emory.edu/academics/courses/course-catalog/academic-regulations/grading-system/)

IMPORTANT REMINDER: The last day to withdraw without academic penalty is Friday, Septembr 13, 2017.

Inclement Weather: Please see p. 7 of the <u>Undergraduate Student Handbook</u> (link above) for information about inclement weather procedures. http://policies.emory.edu/4.42

Student Health Center: Please see p. 18 of the <u>Undergraduate Student Handbook</u> (link above) for information about the Student Health Center.

INFORMATION SPECIFIC TO THIS COURSE

REQUIRED MATERIALS

<u>TEXT:</u> **Principles of Anatomy and Physiology** (14th ed). Tortora, Gerard J., and Derrickson, B. New York: John Wiley and Sons (2014)

<u>Lab Manual</u>: Allen, C., and Harper, V. Laboratory Manual for Anatomy and Physiology (5thed.) Hoboken: John Wiley and Sons (2014)

Bundled with WileyPLUS ISBN 9781118946466

Bookstore has is bundled as package with Prin of Anatomy+Physiology (text) with both lab manual and access WileyPlus

GRADING SCHEME:

GRADING SCHEME:	POINTS
GRADING Grades will be determined based on the following:	POINTS
Exams: There will be 4 hour-long, in-class exams during the semester, totaling 375 points. <i>There will be no make-up exams allowed</i> . Exams may include multiple choice, short answer, true-false, matching or essay questions.	375
Quizzes: Weekly quizzes (either announced or "pop") will be given throughout the semester. The <i>10 best quiz grades will be included</i> in the final grade.	100
Discussions: The discussions provide an opportunity to apply what you are learning to the "real world" of health care. There will be 5 during the semester and you will be asked to briefly answer a question about the topic of the week, and respond to two classmates' posts. Posts and responses should contribute to the discussion. Weekly discussion participation is expected to take no more than 30 minutes each week.	100
Comprehensive Final Exam (OPTIONAL): The final exam will include material from the entire semester. Students missing one regularly scheduled exam during the semester, or students wishing to replace a low exam score, may take the comprehensive final exam. (Students must take some combination of 4 of the 5 scheduled exams).	125
Laboratory: Periodic practical laboratory exams will be given.	300
OPPORTUNITIES FOR MAKE-UP LABORATORY EXAMS ARE EXTREMELY LIMITED AND MUST HAVE THE APPROVAL OF THE LAB COORDINATOR.	

GRADING SCALE:

The overall point score will determine your final letter grade according to the following:

LETTER GRADE	NUMERICAL GRADE
	(TOTAL POINTS)
A+	970-1000 points
Α	930-969
A-	900-929
B+	870-899
В	830-869
B-	800-829
C+	770-799
С	730-769
C-	700-729
D+	670-699
D	630-669
D-	600-629
F	Below 599

Lecture Schedule - Fall 2017 OverView

Date	Lecture Topics and Readings	Laboratory Exercises
8/24/2017 (Thursday)	Introduction to the course/Review of syllabus and policies CH1 – Introduction to the Human Body: Homeostasis	NO LAB THIS WEEK
8/29/2017 (Tuesday)	CH 1- continued CH2 – The Chemical Level of Organization: Biochemistry - properties of water; acids, bases and salts; pH and buffers, organic molecules (carbohydrates, proteins, lipids, nucleic acids)	Lab1: Exercise 1, 2, 4
8/31/2017 (Thursday)	CH3 – The Cellular Level of Organization: Structure and composition of the plasma membrane; transport across the plasma membrane; structure and function of receptors	

		Lecture Syllab
9/5/2017 (Tuesday)	CH3 - The Cellular Level of Organization: Transport across the plasma membrane; structure and function of receptors; protein synthesis; cell division (mitosis and meiosis overview) CH4 - The Tissue Level of Organization: Review of tissue types	Lab2: Exercises 6,7
9/7/2017 (Thursday)	CH4 – The Tissue Level of Organization: Review of tissue types	
9/10/2017 (Sunday)	Discussion: Health Patterns Due by 11:59pm on canvas	
9/12/2017 (Tuesday)	LECTURE EXAM 1 (Chapters 1, 2, 3, 4)	Lab 3: PowerPhys Experiment 1; Exercise 5
9/14/2017 (Thursday)	CH5 – The Integumentary System: Structure; cells, organization and functions of the epidermis and dermis; glands and appendages; growth and repair of the skin	
9/19/2017 (Tuesday)	CH5 Integumentary System continued	Lab 4: Exercise 6,7 (continued)
9/21/2017 (Thursday)	CH6 – The Skeletal System – Bone Tissue: Structure and organization of compact vs. spongy bone; cells of bone tissue	
9/24/17 (Sunday)	Discussion: Bone Broth Due by 11:59pm on canvas	
9/26/2017 (Tuesday)	CH6 – The Skeletal System – Bone Tissue: role of bones in calcium homeostasis	LAB EXAM 1(Labs 1-4)
9/28/2017 (Thursday)	CH9 – Joints: Structural and functional classification of joints; movements allowed at joints; accessory structures	
10/3/2017 (Tuesday)	CH10 – Muscular Tissue: Comparison of skeletal, smooth and cardiac muscle; organization of skeletal muscle and connective tissue coverings; microanatomy of skeletal muscle cells; organization of sarcomeres	Lab 5: Exercises 8,9
10/5/2017 (Thursday)	CH10 – Muscular Tissue: Structural protein organization of muscle fibers; sliding filament theory; Neuromuscular junction; action potential initiation and propagation; excitation-contraction coupling	

10/8/2017 (Sunday)	Discussion: Muscles do that Due by 11:59pm on canvas	
10/10/2017	FALL BREAK – No Class TUESDAY	Labs do not meet
(Tuesday)		
(**************************************	(Midterm Deficiency Report Due- 10/11/2017)	
	(
10/12/2017	CH10 – Muscular Tissue:	
(Thursday)	Neuromuscular junction; action potential initiation and	
(**************************************	propagation; excitation-contraction coupling, energy	
	utilization in muscle fibers; control of muscle contraction	
	Midterm withdrawal deadline without penalty Friday,	
	10/13/2017	
10/17/2017	LECTURE EXAM 2 (Chapters 5, 6, 9, 10)	Lab 6: Exercise 10
(Tuesday)		
10/19/2017	CH12 – Nervous Tissue:	
(Thursday)	Cell types in the nervous system; generation and	
	propagation of action potentials; signal transduction at	
	synaptic terminals	
10/22/2017	Discussion: Higher Mental Functions and Patient	
(Sunday)	Education Due by 11:59pm on canvas	

Date	Lecture Topics and Readings	Laboratory Exercises
10/24/2017 (Tuesday)	CH12 – Nervous Tissue: Signal transduction at synaptic terminals	Lab 7: Exercises 11,12,14 (muscles of head and neck, back, thorax, and
10/26/2017 (Thursday)	CH13 – The Spinal Cord and Spinal Nerves: Organization of the spinal cord; information flow in the spinal cord	abdomen.)
10/31/2017 (Tuesday)	CH13- The Spinal Cord Continued (11/01/2017- One time Freshmen Withdrawal	Lab 8: Continue Exercise 14 (muscles of arms, legs,
11/02/2017 (Thursday)	Deadline) CH14 – The Brain and Cranial Nerves: organization of the brain vs. spinal cord; overview of structures and functions	pectoral and pelvic girdles, (muscles moving wrist, fingers, lower leg))

		Lecture Syllar
11/7/2017 (Tuesday)	CH15 – The Autonomic Nervous System: Organization of the ANS; structural and functional characteristics of sympathetic and parasympathetic divisions	LAB EXAM 2 (Labs 5-8)
11/09/2017 (Thursday)	CH15 – The Autonomic Nervous System: Organization of the ANS; structural and functional characteristics of sympathetic and parasympathetic divisions	
11/12/2017 (Sunday)	<u>Discussion: Checking your Reflexes Due by 11:59pm</u> <u>on canvas</u>	
11/14/2017 (Monday)	Lecture Exam 3 (Ch 12, 13, 14, 15)	Lab 9: Exercise 16,17
11/16/2017 (Thursday)	CH17 – The Special Senses: Structures of the eye; image formation; retinal microanatomy; mechanism of action of photoreceptors;	
11/21/2017 (Tuesday)	CH17 – The Special Senses: Mechanism of action of photoreceptors; Structures of the ear; sound conduction through the ear; microanatomy of basilar membrane; mechanism of action of receptors for hearing	Lab 10: Exercises 19-21
11/23/2017 (Thursday)	THANKSGIVING HOLIDAY (Thursday, Nov. 23 through Friday, Nov.24)	
11/26/2017 (Sunday)	Discussion: Optical Illusion due by 11:59pm canvas	
11/28/2017 (Tuesday)	CH18 – The Endocrine System: Pituitary structure and function; regulation of endocrine systems by hypothalamus	Lab 11: Exercises 22-24
11/30/2017 (Thursday)	LECTURE EXAM 4 –	

12/05/2017 (Tuesday)	CH18 The Endocrine System Review for Final	LAB EXAM 3
12/07/2017 (Thursday)	FINAL EXAM 9 a.m. SC Bld 115	

^{*}This schedule is tentative. I reserve the right to make changes as deemed necessary, included but not limited to occasional guest and/or on-line lectures*

Student work submitted as part of this course may be reviewed by Oxford College, Emory College or School of Nursing faculty and staff for the purposes of improving instruction and enhancing Emory education.

POLICIES RELATED TO THIS COURSE

Attendance and Enrollment

You, as a student, are responsible for managing your enrollment in this class. Students should add/drop/withdraw using OPUS. You may drop this class during the regularly scheduled registration period without academic or financial penalty. Students who need to withdraw from the class after the registration period (generally, the first two weeks of the semester) but before the midpoint will receive a grade of W.

You, as a student, are responsible for all information and material presented in class. Attendance at lecture is strongly encouraged by the Biology department at Oxford College. Students are allowed 4 absences from lecture, for any reason, during the semester.

Attendance in lab is mandatory. Students who miss more than two labs without contacting the instructor and without making up the exercise will receive a failing grade for the course. See the Absence Policy later in this document for details related to class and laboratory attendance.

Make-up work

- There will be no make-up quizzes.
- There are no make-up exams. If you miss an exam, for any reason, you may be allowed to take the optional comprehensive final exam at the end of the semester.
- Make-up laboratory classes will be at the discretion of the laboratory instructor and the laboratory coordinator.
- A single, comprehensive make-up laboratory exam will be given at the end of the semester which may replace one missed laboratory exam. Only students who have earned 55% of the possible lab points (ie., 165 points out of 300 points) are eligible to take the comprehensive make-up laboratory exam. Students missing more than one laboratory exam will receive a grade of 0 for the additional missed exams. Students who miss a lab exam and who are not eligible for the comprehensive make up lab exam will receive a grade of 0 for the missed exam. Only students having the express, written permission of the instructor may take the comprehensive make-up laboratory exam.

Grade Challenges

If you receive a grade that you believe is in error, you may challenge the grade in writing. You must submit to me the question, the answer you originally submitted, the answer which received full credit, and brief explanation detailing your reasons for requesting an increase in your score. I will only consider written requests.

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If you believe that you possess a disability for which reasonable accommodation must be made, you must consult with the instructor before the close of the second class meeting. Should a disability requiring **accommodation arise after the second class meeting**, you must present documentation to the ADSR for assessment as quickly as is possible.

Religious Holidays Arrangements

Instructors are encouraged, not required, to accommodate students' academic needs related to religious holidays. Please make every effort to negotiate your religious holiday needs within the first two weeks of the semester; waiting longer may compromise your instructor's ability to extend satisfactory arrangements. If you need guidance negotiating your needs related to a religious holiday, the College Chaplain, Rev. Lyn Pace, ppace@emory.edu, Candler Hall 202, is willing and available to help. **Please be aware that Rev. Pace is not tasked with excusing students from classes or writing excuses for students to take to their professors. Emory's official list of religious holidays may be found at http://www.religiouslife.emory.edu/faith_traditions/holidays.html.

Students are expected to behave toward me and fellow students with courtesy and consideration. This means that talking and disruptive behavior will be kept to a minimum. Students who must arrive late to class should enter quietly and be prepared for class (ie, not fumbling with calculators, backpacks, papers, etc...) Students who need to leave a class early should sit near an exit, then leave quietly. Cell phones, pagers, and other electronic devices should be silenced in the classroom.

I reserve the right to end a class at any time, for any reason, including the disruptive or rude behavior of anyone in the classroom. Questions, comments or concerns may be addressed to me outside class, during office hours, via voicemail or email, as well as during class.

E-mail policy:

Emails are highly welcomed as I love to receive emails from my students. However, to ensure that I can address your issue in a timely manner; the following requirements should be included in your email:

- 1. **The problem** (which should also be included in subject line) that requires a decision or action
- 2. **The background** why are you making this request? What is the policy outlined in the syllabus?
- 3. Options available to you first choice, second choice, and why each is an option.
- 4. **Your specific request** (which might also be included in the subject line; so that I can tell that it is not spam or a virus)
- 5. The deadline if applicable by which your request must be met

The subject line should include LAST NAME, COURSE and CRN, and the problem or request stated very succinctly. Keep in mind that emails that do not meet these requirements may not receive a response. (Messages sent through Canvas will have this information included automatically.)

Absence Policy - Biology Department, Oxford College

All students are expected to attend all lecture and laboratory sessions. However, emergencies may arise which will necessitate absences from class. Students are allowed 4 cuts in lecture and **NO CUTS** in lab. Students may only miss lab without penalty in cases of illness, family emergency or a school-sponsored event **which is cleared with the professor in advance**. Students are responsible for all material which is covered in laboratory and lecture. When possible, students will be allowed to "make-up" laboratory material missed due to an excused absence; however, because of the nature of the laboratory material, actual "make-up" of missed activities is usually impossible.

PENALTIES

Students who exceed the "4-cut" limit in lecture, for whatever reason, or have an unacceptable absence from laboratory will have their final grade reduced 5 points per absence. Students who miss 2 labs without acceptable reasons will fail the course (see below).

LECTURE ABSENCES

THERE ARE NO EXCUSED ABSENCES FOR LECTURE. Each student may be absent four (4) times without penalty. These four (4) cuts may be used for any reason: illness, studying, travel, family emergency, etc. However, ANY additional cuts will result in grade reduction. **USE YOUR CUTS JUDICIOUSLY**, e.g., for sick leave only.

ACCEPTABLE LABORATORY ABSENCES

Although no discretionary absences, ie, "cuts," are allowed regarding laboratory exercises, on rare occasions, illness, family emergencies or certain school sponsored events may make it necessary for a student to miss a laboratory session. The instructor MUST be notified prior to the day of the absence in all but the most extreme emergencies.

In all cases, the final decision regarding whether or not an absence is acceptable will be made by the instructor.

AN UNACCEPTABLE ABSENCE FROM LABORATORY RESULTS IN A FIVE-POINT REDUCTION IN THE FINAL GRADE. TWO UNACCEPTABLE LABORATORY ABSENCES RESULT IN FAILURE OF THE COURSE.

MISSED TESTS

Ordinarily, tests cannot be made up, however, this is up to the instructor. If a student misses a test, and the absence is acceptable, the missed test will not count either for or against the student. If the absence is not excused, the grade will be a zero. Students are cautioned that any excuse for missing an exam will come under sever scrutiny by the instructor. THE INSTRUCTOR MUST BE NOTIFIED PRIOR TO THE TIME OF THE EXAM, AND THE INSTRUCTOR MAKES THE

FINAL DECISION REGARDING WHETHER OR NOT AN ABSENCE IS ACCEPTABLE.

Laboratory tests which are missed for a reason that is excused MUST be made up. The instructor must be notified prior to the time of the test.

RELIGIOUS HOLIDAYS

Students must notify the instructor one week in advance if they intend to be absent for a religious holiday.

TARDINESS

Being late to class is rude and distracting. Continued tardiness by any student will result in the assignment of absences and ultimately a reduction in the student's grade. Three tardiness equal an absence. The tardy student is responsible for notifying the instructor that s/he entered the classroom late and therefore was not absent. The instructor reserves the option of excluding a person from further classroom or laboratory participation if the student is continuously tardy.

<u>Falsification of information regarding absences from class or laboratory will be considered a</u> breach of academic integrity.

PLEASE NOTE that changes or additions to this syllabus, including specified readings, exam dates, grading, and course policies can be made at the discretion of the instructor at any time.

IMPORTANT REMINDER: The last day to withdraw without academic penalty is Friday, October 13, 2017.

Last Updated: 8/22/2017