

**NATURAL SCIENCES DEPARTMENT
HOSTOS COMMUNITY COLLEGE
OF THE CITY UNIVERSITY OF NEW YORK**

ANATOMY & PHYSIOLOGY I

(LPS) (SW) (Formerly BIO 3906) 4 credits, 3-hrs. lecture/3-hrs. lab

Pre/Co-requisites: MAT 15, MAT 20, MA 20 or equiv., AND ESL 91/93, ENG 91/93 or higher

BIO 230-____ (#____) (Lec) BIO 230-____ (#____) (Lab)

Professor ____ *Generic Pathways Syllabus (In-person + Online, Spring/Fall 2022) v.02n*

Meets:	Lab: BIO 230-____ : 0:00-0:00pm, Lec: BIO 230-____ : 0:00-0:00pm,
Office hours:	Room A-____ : [days and times]. Online: [days and times]. <ul style="list-style-type: none"> • Also by appointment. Obligations may require revision of office time. Online meetings can involve text messaging, emails, video conferencing via Blackboard or other means; details TBA. • If you need to cancel the appointment, notify me by email.
Email:	XXXX@hostos.cuny.edu
Contact Policy:	<ul style="list-style-type: none"> • All e-mails should have a subject matter and be sent from the Hostos e-mail address. I will not respond to e-mails sent from non-Hostos address. Please include your full name as registered, class section, and the details of your message. • E-mails will usually be answered within 48 hours. • All announcements are posted on Blackboard. Announcement will be send to your e-mails as entered in Blackboard. Please check your emails and the course site on a regular basis.
Minimal technical requirements	<ul style="list-style-type: none"> • If class is in-person: To succeed in the in-person laboratory course, use of a mobile device to access online software is strongly recommended. • If class is on-line: To succeed in the on-line lecture course, use of non-mobile device and stable Internet connection is strongly recommended. • Information about software requirements is found in the Blackboard support page in left hand menu https://bbhosted.cuny.edu/webapps/portal/execute/tabs/tabAction?tab_tab_group_id=14_1
Note	<ul style="list-style-type: none"> • The Hostos College Academic Bulletin is incorporated by reference. Please note that elements of this syllabus, particularly dates of exams and deadlines, are tentative and subject to revision.

REQUIRED SOFTWARE:

The only required purchase for this course is:

"Modified Mastering A&P" (Pearson Publishing) keyed to the Frederick Martini "Visual Anatomy and Physiology, 3rd edition" (Fredric H. Martini, William C. Ober, Judi L. Nath, Edwin F. Bartholomew, Kevin Petti. Published by Pearson Education Inc. www.pearsonhighered.com. (July 14th 2021 - Copyright © 2018).

The approx. cost for one-semester access to this software is \$75. Your instructor will give you specific instructions on how to buy the software online from within your Blackboard course page.

This software contains a digital copy (eText) of the Martini "Visual Anatomy & Physiology" 3rd ed. textbook, as well as the graded Homework Assignments that you will submit, and many additional resources. You will NOT need any additional materials (textbook or lab manual). There is an option to buy a loose-leaf (paper) version of the Martini eText for approx. \$45. Additionally, the following study guide, which provides a useful summary and hundreds of sample questions, may be helpful: "*E-Z Anatomy & Physiology*," by Krumhardt & Alcamo. 2010. Barron's E-Z Series. ISBN: 978-0764144684. \$12 or less at Amazon, Barnes&Noble etc. (eText or paper).

COURSE DESCRIPTION

The student will demonstrate knowledge of basic chemistry, body fluids, and the structure and function of the cell. The student will also list and describe the four kinds of animal tissue; list major bones and their function; and describe structure and function of the muscular and circulatory systems.

DISCIPLINE-SPECIFIC LEARNING OUTCOMES

By the end of the course, students will:

1. Interpret scientific observations and delineate conclusions.
2. Comprehend and learn from texts and lectures, take notes, analyze and synthesize the material, and respond with informed questions/reports.
3. Locate, evaluate, and use information in a variety of formats and organize, analyze, evaluate, treat critically and present that information in a cohesive and logical fashion.
4. Acquire important knowledge and information for life-long learning.
5. Learn experimental techniques and laboratory skills such as microscopy and dissection.
6. Enhance their writing ability and critical thinking skills by preparing lab reports.

Anatomy & Physiology 1 (BIO 230)
Required Common Core Learning Outcomes and Assessments
(Life & Physical Sciences)

Pathways Learning Outcomes	Assessments
1. Identify and apply the fundamental concepts and methods of a life or physical science.	Assessment will take place throughout the semester by means of lecture and lab exams, as well as weekly homework, writing assignments, and/or lab reports.
2. Apply the scientific method to explore natural phenomena, including hypothesis development, observation, experimentation, measurement, data analysis, and data presentation.	Assessment will be made by means of specific exam questions and writing assignments, as well as structured lab reports containing sections on hypothesis development, observation, experimentation, measurement, data analysis and presentation.
3. Use the tools of a scientific discipline to carry out collaborative laboratory investigations.	Assessment of weekly collaborative (2-4 students) laboratory investigations will take place by means of submitted lab reports, lab exams, and lab practicals.
4. Gather, analyze, and interpret data and present it in an effective written laboratory or field work report.	Assessment will be done by means of submitted lab reports, as well as follow-up questions in class and on lab exams.
5. Identify and apply research ethics and unbiased assessment in gathering and reporting scientific data.	Assessment of research ethics will be made t by means of submitted lab reports as well as writing assignments based on live or video scientific presentations.

BIO 230 COURSE SPECIFICS

GRADING POLICY:

BIO 230 – Spring 2022

This course has two parts, Lecture and Lab. The Grade Components are as follows:

-Lecture (75%)

- A. 5 Exams (50%):** *Tests 1-4 = 35%, Test 5a (Lecture Final) = 15%. (Online)*
- LecExam 1:** Introduction & Chemistry (Martini Chaps 1-2)
- LecExam 2:** Cell, Tissues, Skin (Martini Chaps 3-5)
- LecExam 3:** Skeleton & Joints (Martini Chaps 6-8)
- LecExam 4:** Muscle (Martini Chaps 9-10)
- LecExam 5:** (*Final Exam*) Cardiovascular (*Cumul?*) (Martini Chaps 17-20)
- B. Mastering A&P Lecture (Martini Chapter) Homework (10%)**

C. Writing Assignments (10%)

There will be 3 Assignments, based on the coursework.

D. Participation: In-Class Activity, Discussion Board, etc. (5%)

This includes activities and performance in the in-person lab as well as the online lecture. Obviously, both types of activities will require your attendance and participation. Particularly in lab, this will also require strict adherence to instructions, lab rules, cleanliness, safety, and decorum.

- E. Extra Credit (?):** Such assignments, *if offered*, may be worth in total no more than 1-2%.

-Laboratory (25%)

A. Lab Exams (10%). Tentatively the plan is to have 6 exams, with Exams 1-5 = 7%, and Exam 6 (*Lab Final*) = 3%. *It is anticipated that the midterm & final will be in-person, with the other exams online. Exams may be subdivided and given in two parts on separate lab dates. The class will be notified in a timely way. There will be no makeups for missed lab exams.*

Lab exams may include several question formats (e.g., diagrams, short answers).

- LabExam 1:** Lab periods 1-2: Introduction & Chemistry.
- LabExam 2:** Lab periods 3-6: Cell, Tissues, & Skin.
- LabExam 3:** Lab periods 1-6: (*In-person Midterm-details TBA*)
- LabExam 4:** Lab periods 7-8: Skeleton & Joints.
- LabExam 5:** Lab periods 9-10: Muscle tissue and Muscles.
- LabExam 6:** Lab periods 11-14 (*In-person Final-details TBA*): Part I : Cardiovascular (+*Cumul?*),
Part II: Lab Practical may be given, based on Lab periods 1-14 (i.e., ‘cumulative’), and may include digital/glass microscope slides, organ specimens, models, etc. *details TBA.*

B. Lab Reports/ Mastering A&P Lab Homework (15%)

NOTE: Due dates for all Exams, HW, Writing Assignments, etc. will be strictly enforced.

Grade	GPA Value	Grade	GPA Value
A	93-100%	4	
A ⁻	90-92%	3.7	
B ⁺	87-89%	3.3	
B	83-86%	3	
B ⁻	80-82%	2.7	
		C ⁺	77-79%
			2.3
		C	70-76%
			2
		D	60-69%
			1
		F	below 60%
			0
		There is no R grade in this course.	

ADDITIONAL INFORMATION ABOUT GRADES:

-Grade estimation during semester: Many factors play significant roles in final numerical/letter course grades, so students should keep track of their exam grades, HW assignments, attendance and class participation. At several intervals during the semester I will estimate student performance and approximate estimated letter grades.

-Class rank: Final letter grades are determined by calculating a raw and a curved numerical score, ranking each student on the class curve, and assigning a letter grade—the higher the student’s rank, the higher their grade.

-Incompletes: The grade of Incomplete (I) is given in regular courses upon request of the student for personal emergencies that are verifiable. The faculty member has the responsibility to provide INC grade only to those students *who are passing the course*. The student has the responsibility to take the initiative in completing the work, and is expected to make up the incomplete during the first semester in residence after receiving the grade of Incomplete. *If the student does not make up the incomplete during the following semester after receiving it, an F grade may be given by the faculty member without further consultation with the student.* If after the end of the first semester the ‘Incomplete’ grade remains on the record it will be designated as an F and will be computed in the student's GPA.

ATTENDANCE:

Course Policy on Attendance, Lateness, Absence, Early Departure in this Course:

Attendance Roll Call: You are urged to come on time for class, and to be in your seat by the start of class. If I take the roll by calling out student names, answer clearly when you hear your name; it might be helpful to raise your hand at the same time. In some cases I may take attendance by consulting the seating chart or by having students sign their names on an attendance sheet. Online class attendance is assessed automatically by Collaborate.

Lateness, Absence: A student who enters the room after the attendance roll call MUST sign (and print) their name on a specific ‘Late Sheet’ during the first hour or so of class: such students will be marked “Late,” and lateness time may be noted. After that time the ‘Attendance/Late Sheet’ will be removed, and later-arriving students will be marked “Absent.”

Early Departure: Attendance may also be taken (or missing students otherwise noted) at end of the class. Students who leave early will be considered equivalent to “late” (or “absent” if they miss a substantial part of the class).

Instructor’s Lateness: Students are expected to wait for the Instructor unless or until notified otherwise by a Representative from the Natural Sciences Department.

Biology Unit Policy on Attendance:

No student under any circumstances will be given a passing grade in this Biology course without taking and passing the laboratory. Four (4) unexcused absences from the laboratory period are

equivalent to an F. Students will NOT be given a passing grade if they are “excessively” absent/late (as defined below), where 4 latenesses = 1 absence.

Hostos College-wide Policy on Attendance:

Students are expected to attend all class meeting in the courses for which they are registered. Classes begin at the times indicated in the official schedule of classes. Arrival in class after the scheduled starting time constitutes lateness.

The maximum number of absences is limited to 15% of the number of scheduled class hours per semester and a student absent more than the indicated 15% is deemed excessively absent.

Attendance is monitored from the first official day of classes. In the case of excessive absences or lateness, the instructor has the right to lower the grade [or]assign a failing grade, or assign additional written work or readings.

Absences due to late registration, change of program, or extenuating circumstances will be considered on an individual basis by the instructor. Each department and program may specify in writing a different attendance policy. Instructors are required to keep an official record of student attendance and inform each class of the College's or department attendance policy.

DISABILITY:

If any student has a disability that requires course accommodations, please talk to me in person, or contact me by phone or email, as soon as possible to discuss your situation. I will be pleased to meet with you to discuss the matter as well. If you have not already done so, you should register with the college's office of **Accessibility Resource Center (ARC)** located in the **Savoy building in Room D101-L**; telephone: **718-518-4454**. The office will assess your eligibility for services and / or accommodations and will work with you to plan and implement appropriate accommodations to assist you to complete requirements for this and other courses.

ACADEMIC INTEGRITY:

Hostos Community College believes that developing student's abilities to think through issues and problems by themselves is central to the educational process. Since the Hostos College degree signifies that the student knows the material s/he has studied, and the practice of academic dishonesty results in grades or scores that do not reflect how much or how well the student has learned, understood, or mastered the material, the College will investigate any form of academic dishonesty brought to its attention. If the charge of academic dishonesty is proved, the College will impose sanctions. The three most common forms of academic dishonesty are cheating, plagiarism, and bribery. In the collegiate setting, cheating is defined as the purposeful misrepresentation of another's work as one's own. Faculty and students alike are responsible for upholding the integrity of this institution by not participating either directly or indirectly in act of cheating and by discouraging others from doing so. Plagiarism is a form of cheating which occurs when persons, even if unintentionally, fail to acknowledge appropriately the sources for the ideas, language, concepts, inventions, etc. referred to in their own work. Thus, any attempt to claim another's intellectual or artistic work as one's own constitutes an act of plagiarism. In the collegiate setting, bribery involves the offering, promising, or giving of items of value, such as money or gifts, to a person in a position of authority, such as a teacher, administrator, or staff member, so as to influence his/her judgment or conduct in favor of the student. The offering of sexual favors in exchange for a grade, Exam score, or other academic favor, shall be considered attempted bribery. The matter of sexual favors, either requested or offered, in exchange for a grade, Exam score or other academic favor, shall also be handled as per the Sexual Harassment procedures of the College.

If you are suspected of plagiarism or cheating or if you attempt to bribe or influence your professor, you will be immediately reported to the college's Academic Integrity Officer. You will be unable to drop the class. The penalties range from an F with a score of 0 for an assignment to Failure for the entire term to expulsion from The City University of New York.

Digital & Electronic Devices:

With the exception of a situation where a digital device is required (and therefore permitted) in order to access an online exam, students must turn off and place out of sight and away from their person ALL digital/electronic devices

(including cell phones, digital watches, computers, tablets, PDA's, iPods, MP3's, earphones, calculators, etc.). Any student found with such devices on their person, or visible to them, will be considered as having cheated, and appropriate action will be taken that will impact the student's grade.

BIO 230 IN-PERSON LAB + ONLINE LECTURE SCHEDULE OF TOPICS (SPRING 2022)

For the best learning outcome, read your textbook, lecture outline and relevant lab materials BEFORE each topic is covered. The Lecture schedule approximates the dates when we cover each topic, while the Lab schedule will more closely match our actual in-class schedule. Stay up-to-date by following my announcements and seeing which topic we've reached in the classroom.

BIO 230 LABORATORY SCHEDULE

<i>Lab Week</i>	<i>Date: (Mon)</i>	<i>Laboratory Topic</i>	<i>Martini Chapter</i>	
1		Lab Orientation (Introduction to Anatomical Terms) Chemistry 1: Atomic Structure	1 2 handout	
2		Chemistry 2: Electrolytes & pH	2 handout	
3		Introduction to the Microscope	3 handout	
4		Cytology: Organelles & Cell Structure Mitosis & the Cell Cycle	3 handout	
5		Diffusion, Osmosis, & Tonicity	3 handout	
6		Histology 1: Epithelial, Muscle, & Nervous Tissues	4	
		<i>Mastering Study Area: see Histology videos, PAL Histology</i>		
7		Histology 2: Connective Tissues Integumentary System	4 5	
		<i>Mastering Study Area: see Histology videos, PAL Histology & Integumentary System.</i>		
8		Skeletal System 1: Bone Tissues & Structure	6	
9		Skeletal System 2: The Skeleton, Articulations (Joints)	7, 8	
		<i>Mastering Study Area: see Bone videos, PAL Skeleton & Joints (models & cadaver).</i>		
10		Muscle Tissue Muscular System	9 10	

		<i>Mastering Study Area: see PAL Muscular System</i>		
11		Blood	17 <i>handout</i>	
12		Cardiovascular System 1: Heart	18 <i>handout</i>	
		<i>Dissection: Sheep Heart</i> <i>Mastering Study Area: Dissection videos</i>		
13		Cardiovascular System 2: Blood Vessel Anatomy Physiology: Pulse Rate and Blood Pressure	19 <i>handout</i>	
14		Lymphatic/Immune System	20	
T		LAB EXAM 5 - LAB FINAL (CUMULATIVE? PRACTICAL?) <i>[Various options TBA]</i>		

	(Lectures & Lecture Exams will be held online on Weds.)	BIO 230 LECTURE SCHEDULE <i>Text: <u>Visual Anatomy & Physiology</u>, 3rd ed. Martini, Ober, et al., 2017.</i>			
<i>Lec Week</i>	<i>Nominal Dates</i>	<i>Lecture Topic</i>	<i>Text Chapter</i>	<i>Text Pages 3rd ed.</i>	<i>Text pages 2nd ed.</i>
1		Orientation Introduction to Human Anatomy & Physiology <i>Emphasize: all</i>	1	2-49	<i>2-41</i>
2		Chemical Level of Organization <i>Emphasize: all</i>	2	50-93	<i>42-85</i>
3		Cellular Level of Organization: Organelles & Cell Cycle <i>Emphasize: all</i>	3	94-108; 129-141	<i>87-100; 121-128</i>
4		Cellular Level of Organization: Nucleus & Diffusion/Osmosis <i>Emphasize: all</i>	3	109-128	<i>101-120</i>
5		Tissue Level of Organization <i>Emphasize: all</i>	4	142-181	<i>134-173</i>
6		Integumentary System <i>Emphasize: all</i>	5	182-209	<i>174-201</i>
7		Bone (Osseous) Tissue and Bone Structure <i>Emphasize: all</i>	6	210-239	<i>202-231</i>
8		The Skeleton (Bones) Articulations (Joints)	7 8	240-287 288-313	<i>232-279</i> <i>280-305</i>

		<i>Emphasize: Chap7 - Bone names, shapes & locations. Chap8 - Sec 1, 'Joint Design & Movement.' Sec 2:cover summarily</i>			
9		Skeletal Muscle Tissue	9	314-349	306-341
		<i>Emphasize: Sec 1. Cover Sec 2 summarily</i>			
10		The Muscular System	10	350-401	342-393
		<i>Emphasize: Sec 1. Cover Secs 2-3 summarily (Know muscle list in lecture outline. Also see Amerman lab manual "Check your recall", pp. 281-286]</i>			
11		Blood	17	630-657	622-649
		<i>Emphasize: all</i>			
12		Heart and Cardiovascular Function	18	658-695	684-739
		<i>Emphasize: Secs 1-2. Cover Sec 3 summarily</i>			
13		Blood Vessels	19	696-749	650-683
		<i>Emphasize: Sec. 1 & Sec. 2. Cover Sec. 3 summarily (See blood vessels described in lecture outline)</i>			
14		Lymphatic System & Immunity	20	750-795	740-785
		<i>Emphasize: all</i>			
T		LECTURE EXAM 5 (LECTURE FINAL): Blood (Chap17), Heart & Cardiovascular Function (Chap18), Blood Vessels & Circ. (Chap 19), Lymphatic System & Immunity (Chap20). There may also be a "Cumulative" component			

EXAM SCHEDULE (subject to revision)

It is anticipated that all Lecture Exams and most Lab Exams will be given online on these dates. Note that the Lab Midterm and the Lab Final will be given in-class (details TBA).

	Topic (Martini Chapter)	Lecture Exam date	Lab Exam date
A	Intro. & Chemistry (Chaps 1-2)		
B	Cells, Tissues, Integument (Chaps 3-5) [Lab: +Microscope]		
C	'Lab Midterm' (Chaps 1-5)		
D	Bone Tissue, Bones, Joints (Chaps 6-8)		
E	Muscle Tissue, Muscles (Chaps 9-10)		
F	Circulatory System Lecture Final (Chaps 17-20) [+ "Cumulative?" TBA]		
G	Circulatory System Lab Final (Chaps 6-10, 17-20) [Various options TBA, including (but not limited to) Lab Practical, Cumulative Exam]		

GENERAL INSTRUCTIONS ABOUT IN-CLASS EXAMS

Exam Frequency & Format:

- (1) **Number of Exams:** We will have XX “regular” exams in Lecture and Lab, plus Lecture & Lab Final exams.
- (2) **Final Exams:** We will have separate Final Exams for Lecture & Lab; these will be given on the days and approximate time that the classes meet (*see syllabus calendar for specific dates*).
- (3) **Exam Details:** Basic information about each exam, including dates and topics, is discussed on earlier pages of this handout. Additional Exam information will usually be provided a week or so prior to each Exam.
- (4) **Online Exams:** These will be administered in Blackboard on dates and times specified above in the syllabus calendar. Make sure that you have a secure internet connection. A laptop computer is preferable to take the exam.
- (5) **Pencils:** For in-person paper exams you MUST bring your own pencils or pens. Pencils with erasers are needed for exams where answers need to be entered on machine-graded Scantron sheets.

Before In-person Exam:

- (1) **Pencils:** Bring 2 sharpened/mechanical PENCILS with good erasers, to fill in machine-graded Scantron sheet.
- (2) **Personal needs:** Attend to personal needs (e.g., bathroom) *prior to or after* exam. Students cannot leave room during the exam.
- (3) **Exam-Related Materials:** Put away (and out of sight, in closed bag, backpack, etc) any materials relating to the exam (books, lecture outlines, notes, etc.).
- (4) **Electronic/Digital Devices:** Turn off and place out of sight and away from your body ALL digital/electronic devices (including cell phones, digital watches, computers, tablets, PDA’s, iPods, MP3’s, earphones, calculators, etc.). Any student found with such devices on their person, or visible to them, will be considered as having cheated, and appropriate action will be taken that will impact the student’s grade.

During In-person Exam:

- (1) **Write Your Name on Both Exam Papers:** When you receive the Exam Question Sheet & Scantron Answer Sheet, IMMEDIATELY write your name on top of the page. Failure to do so may result in loss of points.
- (2) **No Talking:** All communication between students must STOP when Question Sheets are distributed.
- (3) **Seating before/during Exam:** I reserve the right to specify or change the seating of any/all students, whether before or during the exam. Such seating adjustments reflect exam room desiderata rather than student behavior.
- (4) **Pencil-in Scantron Answer Sheet:** Neatly enter all answers. Heavy pencil marks are not necessary.
- (5) **Time Management:** Answer high point value lecture questions before answering lab questions, in order to avoid running out of time or otherwise needing to submit papers before completing all answers.
- (6) **Question Types:**
 - (a) ‘True/False questions: ‘True’ = ‘A’, ‘False’ = ‘B’;
 - (b) ‘Matching’ questions: Pick best matches (use each answer only once—unless otherwise specified).
 - (c) ‘Multiple Choice’ questions: pick best answer. (E) ‘N.o.t.a.’ = “None of the above” (usually is a wrong answer).
- (7) **Do NOT Second-Guess Yourself:** Don’t change your answer— UNLESS you have a good reason for doing so. Psychological studies show that your first answer is more likely to be right.