Bio375: Human Anatomy and Physiology I

Lecture Instructor: Nathan H. Lents, Ph.D.
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Office hrs: M/W 8:00am – 9:00am, and 3:00pm – 4:00pm (Make appointment)

Laboratory Instructor: Tuyet Truster, Ph.D.
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Office hrs: W 2:00pm-3:00pm, and F 9:45am-10:45am (Make appointment)

Lecture: Monday/Wednesday, 4th Period (12:15pm – 1:30pm) **Room: 03.64 NB**

Laboratory: Wednesdays, 5-6th period (3:05pm – 5:45pm) **Room: 03.64 NB**

Course Description:

This is the first in a two-course exploration of the human body at all levels, from molecules and cells to tissues and organ systems. The laboratory portion of the course focuses on the physical structure of tissues and organs, while the lecture portion focuses on the functioning of organ systems in an integrated living context. This course focuses on microanatomy (histology) and tissue functions, homeostasis, the integumentary and skeleton-muscular systems, the central and peripheral nervous system, and the cardiopulmonary and circulatory systems.

Students who complete Bio375 cannot also use Bio355 as an elective in the CMB major or biology minor.

Learning and Performance Objectives of Bio375:

Students will be able to:

- Illustrate the molecular and histological organization of tissues in the human body.
- Determine how molecules and organs cooperate to regulate human body functions.
- Appraise the structure and function of the integumentary, skeletal, and muscular systems of the human body.
- Assess the structure and function of the nervous system and circulatory system in regulating body functions.
- Evaluate various states of human health and disease and how these often present in the clinical setting

Required Texts:

- Anatomy and Physiology 2e OpenStax
- Visible Body (online textbook)
- Selected articles and videos from Khan Academy
- Selected modules from Visionlearning.org

<u>You must check Brightspace and your John Jay E-mail account regularly.</u>

You are responsible for any and all course information, assignments, announcements, and communication that occurs through blackboard and/or your email account.

Statement of the College Policy on Plagiarism:

- Plagiarism is the presentation of someone else's ideas, words, or artistic, scientific, or technical work as one's own creation.
- Using the ideas or work of another is permissible only when the original author is identified. Paraphrasing and summarizing, as well as direct quotations, require citations to the original source.
- Plagiarism may be intentional or unintentional. Lack of dishonest intent does not necessarily absolve a student of responsibility for plagiarism.
- It is the student's responsibility to recognize the difference between statements that are common knowledge (which do not require documentations) and restatements of the ideas of others. Paraphrase, summary, and direct quotation are acceptable forms of restatement, as long as the source is cited. Self-plagiarism, the recycling of written material produced for another course or context, is generally considered equal in seriousness to other forms of plagiarism.
- Students who are unsure how and when to provide documentation are advised to consult with their instructors. The library has free guides designed to help students with problems of documentation.
- This course will use Brightspace for all written assignments, which will be checked with SafeAsign, Turnitin, or both. Plagiarism, including self-plagiarism will result in an automatic "zero" for the assignment. Depending on the severity of the offense, the instructor reserves the right to report the academic dishonesty to the college disciplinary mechanisms.
- The use of AI/ChatGPT or similar software is strictly prohibited. Any submitted work using AI will receive a zero and is considered a violation of our academic integrity policies.

Americans with Disabilities Act (ADA) Policies: Students with disabilities will be provided reasonable academic accommodations if determined eligible by the Office of Accessibility Services (OAS). Prior to granting disability accommodations in this course, the instructor must receive written verification of a student's eligibility from the OAS which is located at L66 in the new building (212-237-8031). It is the student's responsibility to initiate contact with the office and to follow the established procedures for having the accommodation notice sent to the instructor in enough time to be effective. The instructor is not allowed to accommodate disabilities on his/her own.

93.0 and above	A
90.0 - 92.9	A-
87.0 - 89.9	B+
83.0 - 86.9	B
80.0 - 82.9	B-
77.0 - 79.9	C+
73.0 - 76.9	C
70.0 - 72.9	C-
67.0 - 69.9	D+
63.0 - 66.9	D
60.0 - 62.9	D-
below 60.0	F

Grading Scale: The grading scale here (←) is the official grading scale for this course. There will be no exceptions to this scale and grades will not be rounded, except as explained here: following all computations, the grade will be rounded to the nearest tenth of a point in Microsoft Excel (one decimal place, e.g., 97.2%). This is the final grade and no further manipulations will be made, except for poor attendance as explained below. The scale here (←) will then be strictly used. These calculations are done by the computer so there are no judgment calls or "leniency."

Course Attendance: You are ***required*** to attend the lectures and laboratories and attendance will be taken every day.

For lectures, you will be allowed three absences with no required documentation. However, beginning with the fourth absence, your final course grade will be penalized by two points (2%) for ***each*** absence thereafter. Arrivals later than five minutes after the start of class will count as a one-half absence.

For laboratories, you will be allowed two absences with required documentation. However, beginning with the third absence, your final course grade will be penalized by five points (5%) for ***each*** absence thereafter, in addition to the lost points incurred from missing any quizzes or assignments. Arrivals later than fifteen minutes after the start of class will count as an absence.

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Important Policies

Lecture Exams: There will be four in-class exams, one of which will take place during the scheduled final exam period and will be partially comprehensive. These exams will contain questions covering the assigned readings and the lecture material. The four exams will form **40%** of the overall course grade. If you miss an exam (or foresee that you will miss an exam) for any reason, you must contact the instructor ***as soon as humanly possible***. You may be allowed to take the exam late (or early). However, you are only eligible for this one-time consideration if you contact the instructor immediately and arrange to take the exam before the corrected exams are handed back to the class. In all other cases, the missed exam will count as a zero. (Exception: a *documented* medical or family crisis may result in being excused from an exam, but this will only be allowed once. Further missed exams will count as a zero, regardless of reason.)

Lecture Homework, quizzes, and in-class Activities: This course will require a variety of homework and in-class assignments. These will vary from reading quizzes, short reflection papers, group work, and, most often, clinical case studies. This work is designed to help explore course content and prepare students for exams. Collectively, the homework will comprise **20%** of the final course grade and will be graded *mostly* (but not completely) on completion and effort. In most cases, homework fully completed, on time, and with proper effort will be given a "10." Late homework will be accepted, but only until the next exam, with a 5% deduction applied after class begins the day the homework is due and additional 5% reductions every day thereafter, until the score is 50% when no further deductions will be applied. The lowest two homework grades will be dropped, including any that are skipped and scored as a "zero."

Laboratory Exams: There will be three in-class exams in a practical and/or written format. The exams will form **15%** of the overall course grade. *Practical exams cannot be re-scheduled, due to their practical nature*. If you miss an exam (or foresee that you will miss an exam) for any reason, you MUST contact the instructor ***as soon as humanly possible***. You may be allowed to only take the written portion of exam late (or early). However, you are ONLY eligible for this one-time consideration if you contact the instructor immediately and arrange to take the exam BEFORE the corrected exams are handed back to the class. In all other cases, the missed exam **WILL** count as a ZERO. (Exception: a *documented* medical or family crisis may result in being excused from an exam, but this will only be allowed ONCE. Further missed exams will count as a zero, regardless of reason.)

Laboratory exercises, quizzes, and in-class activities: The laboratory activities will form **15%** of the overall course grade. The lab activities should be completed during the class period in one attempt. The activities will provide theory and demonstrate lab practice. The student is expected to complete each activity in its entirety (100%), to achieve a grade towards the specific lab. Questions are embedded throughout the exercise to help learning and foster key concepts. Therefore, answering all the questions is key to completing each lab. The scores are counted towards the grade and are viewable in Brightspace grade center. Late assignments are NOT accepted. Students that miss a lab receive a grade of zero and lab can never be made up for any reason. Regardless of the reason for the missed labs, students may drop their lowest two grades' lab exercises, including zeros.

Laboratory Weekly Quizzes (online visible body): due **before Wednesday 3:00 pm**. Weekly quizzes will form **10%** of the overall course grade. Graded quizzes after each lab will be available on Visible Body on Wednesday after class until the following Wednesday 3:00 pm. Students that miss a quiz receive a grade of zero and quizzes can never be made up for any reason. Regardless of the reason for the missed quizzes, students may drop their lowest two grades' quizzes, including zeros.

The grade for the Bio375 course: The grade for BIO375 is a composite of four in-class lecture exams (40%), homework and in-class activities from the lecture portion of the course (20%), laboratory exams (15%), laboratory exercises (15%) and quizzes (10%), and laboratory reports (10%). The chart here (→) shows the composition of the course grade. In addition, absences in both lecture and laboratory can result in a reduction of the ***final course grade*** (above whatever work is missed because of the absence) and lateness will count as one-half absence, as explained above.

Lecture exams	*40%*
Lecture HW, quizzes, etc.	*20%*
Laboratory exams	*15%*
Lab exercises, etc.	*15%*
Laboratory reports	*10%*
Total	*100%*

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Lecture Schedule *(28 class sessions + final exam)*

#	Date		Topic	OpenStax reading; Khan Academy
01	Wed	Aug 28	ch1: Intro to A&P	1.1 – 1.5; "Organization in the human body"
Sep 02 (Labor Day, No classes, "Labor is prior to, and independent of, capital. Capital is only the fruit of labor, and could never have existed if labor had not first existed. Labor is superior to capital, and deserves much the higher consideration." -- Abraham Lincoln.)				
02	Wed	Sep 04	ch3: key cell biology	ch3.1, 3.2, 3.6
03	Mon	Sep 09	ch4: Cells and Tissues	ch4; "Tissues, Organs, & Organ Systems"
04	Wed	Sep 11	ch1-4: Case Studies	Case Studies
05	Mon	Sep 16	chX: Homeostasis	ch1.5, 4.6; "Homeostasis"
06	Wed	Sep 20	ch5: The Integumentary System	ch5; "MCAT: The Integumentary System
07	**Mon**	**Sep 23**	**Exam One (Class session #1-5)**	
08	Wed	Sep 25	ch5: Continued	
09	Mon	Sep 30	ch6,9: The Skeletal System	ch6, "The Musculoskeletal System"
	Oct 02		*(Rosh Hashanah, No classes, Shanah Tovah)*	
10	Mon	Oct 07	ch6,9: Continued	ch9
11	Wed	Oct 09	ch10-11: The Muscular System	ch10
	Oct 14		*(Indigenous People's Day, No classes, "We will be known forever by the tracks we leave.")*	
12	Tues	Oct 15	ch10-11: Continued	ch11
13	Wed	Oct 16	ch10-11: Continued	ch11
14	**Mon**	**Oct 21**	**Exam Two (Class session #6-13)**	
15	Wed	Oct 23	ch12: Neurons, nerves, and synapses	ch12; "Overview of Neuron Struct. and Funct.
16	Mon	Oct 28	ch12: Continued	"The Synapse"
17	Wed	Oct 30	ch13-15: Autonomic Nervous system	ch13-15; "Structure of the Nervous System"
18	Mon	Nov 04	ch13-15: Continued, case studies	
Nov 05: Make a plan to VOTE! (If you have the right to, but don't, you lose the right to complain about the actions of the government.)				
19	Mon	Nov 06	ch13-15: The Senses: autonomic and somatic	
20	Wed	Nov 11	ch12-15: Continued, case studies	
21	**Mon**	**Nov 13**	**Exam Three (Class session #15-20)**	
22	Wed	Nov 18	ch17: Endocrine System; glands	ch17; "The Nervous and Endocrine Systems"
23	Mon	Nov 20	ch17: Continued	
24	Wed	Nov 25	ch17: Case Studies	
25	Mon	Dec 02	ch19: Heart and Circulation	ch19; "The heart is a double pump"
26	Wed	Dec 04	ch20: The Cardiopulmonary System	ch20; "The Lungs and Pulmonary System"
27	Mon	Dec 09	ch20: Continued	
28	**Wed**	**Dec 11**	**Exam Four (Class session #22-27)**	
	Wed	**Dec 18**	**Comprehensive Final Exam (10:30a – 12:30p)**	

Bio375 Laboratory Schedule (Wednesday 3:05pm - 5:45pm) 3.64NB

Lab #	Date	Laboratory Topics	Materials
1	8/28	1A: Getting Started with Visible Body Courseware and Apps 1B: The Language of Anatomy	Visible Body Courseware Planes & Positions Handouts/Worksheets from lab instructor
2	9/4	Cells and Cellular Metabolism: Cell Structure & Function Cell Life Cycle	Visible Body Courseware (Chapter 1-3) Handouts/Worksheets from lab instructor
3	9/11	Classifications of Tissues	Visible Body Courseware (Chapter 4) Handouts/Worksheets from lab instructor https://youtu.be/oHW-iu3X7fI https://youtu.be/JPcXPl-SdD8 https://youtu.be/t311tjyl-TY
4	9/18	Classifications of Tissues	Visible Body Courseware (Chapter 4) Handouts/Worksheets from lab instructor
5	**9/25**	**Exam I (on Labs 1-4)** Exam I will be a practical exam with 25-30 questions. Therefore, there is no make-up exam allowed under any circumstances.	
6	10/9	Skeletal System - Axial Skeleton	Visible Body Courseware (Chapter 10) Handouts/Worksheets from lab instructor
7	10/16	Skeletal System - Appendicular Skeleton	Visible Body Courseware (Chapter 11) Handouts/Worksheets from lab instructor
8	10/23	Muscular System	Visible Body Courseware (Chapter 13-16) Rat Dissection Handouts/Worksheets from lab instructor
9	10/30	Muscular System	Visible Body Courseware (Chapter 13-16) Handouts/Worksheets from lab instructor
10	**11/6**	**Exam II (on Labs 6-9)** Exam II will be a practical exam with 25-30 questions. Therefore, there is no make-up exam allowed under any circumstances.	
11	11/13	Nervous System	Visible Body Courseware 11A: The Brain (Chapter 20) 11B: Sheep brain dissection 11C: Human Reflex Physiology Handouts/Worksheets from lab instructor

12	11/20	Special Senses	Visible Body Courseware (Chapter 23) 12A: Anatomy of the Visual System - Cow eye dissection 12B: Hearing and Equilibrium 12C: Olfaction and Taste Handouts/Worksheets from lab instructor
14	12/4	The Endocrine System	Visible Body Courseware (Chapter 24-26) Handouts/Worksheets from lab instructor
13	12/11	Heart and Circulatory System	Visible Body Courseware (Chapter 27 & 29) 13A: Pig Heart Dissection 13B: Rat Dissection - Circulatory System Handouts/Worksheets from lab instructor
Final	**12/18**	**Exam III (on Labs 11-14)** Exam III will be a practical exam with 25-30 questions. Therefore, there is no make-up exam allowed under any circumstances.	