Bio376: Human Anatomy and Physiology II

Lecture Instructor: Nathan H. Lents, Ph.D.
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Laboratory Instructor: Tuyet Truster, Ph.D.
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Lecture: Monday/Wednesday, 4th Period (12:15pm – 1:30pm) Room: 03.63

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

Course Description:

This is the second 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 the pulmonary, lymphatic, immune, urinary, digestive, endocrine, and reproductive systems; and explores the topics of nutrition, metabolism, fluid homeostasis, and embryonic development and pregnancy. The course concludes with a brief introduction to organ system pathology.

Learning and Performance Objectives of Bio376:

Students will be able to:

- Illustrate the integration of the pulmonary, cardiovascular, and nervous systems in regulating gas and fluid homeostasis.
- Determine how the urinary and digestive systems work together with our diet and metabolism to provide energy and nutrients.
- Assess the structure and function of the reproductive and endocrine systems and how they function in development and pregnancy.
- Appraise the lymphatic and immune systems and how they function in infection, immunity and defense.
- 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, supported by OpenStax)
- 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 Brightspace 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.

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., 87.2%). 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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You are responsible for any and all course information, assignments, announcements, and communication that occurs through Brightspace and/or your email account.

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 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. Homework that is 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 three 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 Activities: The laboratory activities will form **15%** of the overall course grade. The lab exercises (refer to the lab manuals posted on Brightspace) should be completed during the class period in one attempt. The exercises will provide theory and demonstrate lab practice. The student is expected to complete each exercise 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. Take home assignments on Visible Body will be assigned periodically to solidify your lab practice. The Activities annotated in the schedule below are required to be completed and submitted to obtain a full grade for the lab indicated. Late assignments are NOT accepted.

Laboratory Online Quizzes: There will be weekly quizzes covering laboratory material and students will have one week to submit them. The quizzes will be made available on Visible Body following each laboratory session and will be due by 3:00P.M. the following Wednesday. Failure to submit a quiz will result in a grade of zero and quizzes can never be accepted late or made up for any reason. The lowest two quiz grades will be dropped from the quiz average, including any quizzes missed for any reason. The quiz average will comprise **10%** of the overall course grade.

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 laboratory quizzes (10%). The chart here (→) shows the composition of the course grade. In addition, the final course grade may be reduced due to excessive absences, as explained above in the attendance policy.

Lecture exams	*40%*
Lecture homework	*20%*
Laboratory exams	*15%*
Laboratory exercises	*15%*
Laboratory quizzes	*10%*
Total	*100%*

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

#	Date		Topic	OpenStax reading
01	Mon	Jan 27	ch19-20: Review of heart and circulation	ch19-20
Wed, Jan 29. No classes: Chinese New Year. "It does not matter how slowly you go, as long as you do not stop" -Confucius				
02	Mon	Feb 03	ch18: Blood; coagulation	ch18
03	Wed	Feb 05	ch18: Case Studies	handout(s) on BS
04	Mon	Feb 10	ch22: The Lungs and Pulmonary Circulation	ch22.1-3
Wed, Feb 12. No classes: Lincoln's Birthday. "Give me six hours to cut down a tree and I will spend four of them sharpening my axe."				
Mon, Feb 17. No classes: Presidents Day. "Every expert was once a beginner" -Rutherford B. Hayes				
05	Tues	Feb 18	ch22: Properties of Gas Exchange	ch22,4-6
06	Wed	Feb 19	ch22: Case Studies	handout(s) on BS
07	**Mon**	**Feb 24**	**Exam One (Class session #1-6)**	**ch18, 19, 20, 22**
08	Wed	Feb 26	ch25: Intro. To Renal Physiology	ch25.1-3
09	Mon	Mar 03	ch25: Intro to Nephrology	ch25.4-6
10	Wed	Mar 05	ch25: Case Studies	handout(s) on BS
11	Thurs	Mar 06	ch25: Case Studies	ch25.7-10, handouts
12	Mon	Mar 10	ch21: Intro. To the Immune System	ch21.1-2
13	Wed	Mar 12	ch21: Adaptive Immunity	ch21.3-5
14	Mon	Mar 17	ch21: Case Studies	handout(s) on BS
15	Wed	Mar 19	ch21: Allergy, Autoimmune Disease,	ch21.6-7, handouts
16	**Mon**	**Mar 24**	**Exam Two (Class session #8-15)**	
17	Wed	Mar 26	ch23: The Digestive System	ch23
Mon, Mar 31. No classes: Eid al-Fitr. Eid Mubarak! May this Eid be the best one yet.				
Tuesday, April 01 is the LAST DAY TO WITHDRAW FROM COURSES				
18	Wed	Apr 02	ch23: The Digestive System, cont	ch23
19	Mon	Apr 07	ch23: Case Studies	handout(s) on BS
20	Wed	Apr 09	ch23: Nutrition and Metabolism	ch24
April 12 – 20: No classes Spring Recess. "The future rewards those who press on." -Barack H. Obama				
21	Mon	Apr 21	ch23: Nutrition and Metabolism, cont	ch24
22	Wed	Apr 23	ch23: Case Studies	handout(s) on BS
23	**Mon**	**Apr 28**	**Exam Three (Class session #17-22)**	
24	Wed	Apr 30	ch27: Intro to Reproductive Physiology	ch27
25	Mon	May 05	ch27-28: Case Studies	handout(s) on BS
26	Wed	May 07	ch28: Pregnancy and embryonic development	ch28
27	Mon	May 12	ch28: Case Studies	handout(s) on BS
28	Wed	May 14	Cancer Pathology	TBA
	Wed	**May 21**	**Comprehensive Final Exam (10:30a – 12:30p)**	

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

Week #	Date	Laboratory Topics	Visible Body	Supplementary Materials
1	Feb 05	Lab 1: Circulatory System	Ch. 27 Introduction Ch. 28 Blood	Visible Body Courseware Handouts
Feb 12: No classes scheduled				
2	Feb 19	Lab 2: Respiratory System	Ch. 34-36	Visible Body Courseware Handouts
3	Feb 26	Lab 3: Respiration	Ch. 37	Visible Body Courseware Handouts
4	**Mar 05**	**Exam I (Labs 1-3)**		
5	**Mar 06 Thursday**	Lab 4: Urinary System	Ch. 43 Introduction Ch. 44 Kidney	Visible Body Courseware Handouts
6	Mar 12	Lab 5: Urinalysis	Ch. 45 Urine production Ch. 46 Urine storage & elimination	Visible Body Courseware Handouts
7	Mar 19	Lab 6: Lymphatic System	Ch. 31 and 32	Visible Body Courseware Handouts
8	Mar 26	Lab 7: Immunity	Ch. 33	Visible Body Courseware Handouts
9	**Apr 02**	**Exam II (Labs 4-7)**		
10	Apr 09	Lab 8: Digestive System	Ch. 38 Introduction Ch. 40 Esophagus & Stomach Ch. 42 Intestines	Visible Body Courseware Handouts
April 12-April 20: No Class - Spring Recess				
11	Apr 23	Lab 9: Accessory Organs of Digestion	Ch. 41	Visible Body Courseware Handouts
12	Apr 30	Lab 10: Reproductive System (RS)	Ch. 47 Introduction Ch. 48 Male RS Ch. 49 Female RS	Visible Body Courseware Handouts
13	May 07	Lab 11: Meiosis, Gametogenesis, Reproduction & Development	Ch. 48 and 49 Ch. 50	Visible Body Courseware Handouts
14	May 14	Lab 12: Cancer Pathology		Handouts
Final	**May 21**	**Exam III (Labs 8-12)**		