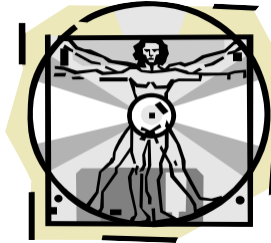


**Bio 202A: Human Anatomy & Physiology 2 Laboratory**  
**National University, Jan/ Feb 2020**



**Course Syllabus**

**Instructor**

Mr. Todd Kennedy  
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**Textbook:**

Laboratory Manual for Anatomy and Physiology by Connie Allen  
Current edition as specified by NU bookstore

**Course prerequisites:**

Students must be concurrently enrolled, or have satisfactorily completed, SCI 202 or an equivalent course in human anatomy and physiology.

**COURSE GOALS AND OBJECTIVES:**

The purpose of this course is to introduce the student to laboratory techniques and to give a better understanding of how things work at the cellular, tissue, and organ level. An important goal of this course is to introduce the student to correct laboratory notebook recordkeeping. Upon successful completion of the course, the student will be able:

1. To keep correct laboratory notebook recordkeeping required by the medical and biotechnological industries.
2. To become self-sufficient and self-reliant in the laboratory.
3. To interpret their own findings.
4. To evaluate often conflicting data to make decisions on their own and adapt to changes in the procedures.
5. To cooperate with others to develop combined sets of data.
6. To compare their data with those of the rest of the class.
7. To note trends and/or evaluate methods.
8. To use laboratory time to its best advantage by preparing ahead of time as much as possible.
9. To multitask by carrying out one experiment while another is undergoing a reaction for an extended time.
10. To know when to be "quick and dirty" and when to be careful.

In addition to learning good laboratory practices, students will:

1. Learn how to use the compound light microscope.
2. Learn how to prepare slides of tissues for microscopic examination.
3. Understand how and why buffers function.
4. Understand the function of enzymes.
5. Recognize and correctly identify anatomical structures and specimens.
6. Describe the cellular components of tissues and organs of the human systems.
7. Describe the chemical nature of the human body, including digestion, energy requirements and homeostasis.
8. Understand the physiology of cells and cell membranes.
9. Understand the anatomy and physiology of the cardiovascular system, including pressure/volume relationships in the heart, as well as cardiac output, blood flow, and blood pressure physiology.
10. Understand the anatomy and physiology of the urogenital system, including secretion, reabsorption, and filtration, excretion, and gamete formation.

**Assignments and grading (point values are approximate)**

Lab reports for Exercises section 1	50 points
Lab reports for Exercises section 2	50 points
Quizzes	200points
Power physiology	100 points
Midterm (practical)	200 points
Final (practical, non-cumulative)	200 points
<b>TOTAL</b>	<b>800 points</b>

National University's +/- system is used:

A	95 - 100 %	C+	77 - 79 %	D-	60 - 63 %
A-	90 - 94 %	C	74 - 76 %	F	0 - 59 %
B+	87 - 89 %	C-	70 - 73 %		
B	84 - 86 %	D+	67 - 69 %		
B-	80 - 83 %	D	64 - 66 %		

Lab reports. Students are to complete the lab reports in the Lab Schedule. Students may simply fill in the pages, tear them out, and hand them in on the indicated dates. Written work is acceptable, **but it must be legible.** Access to power physiology 3.0 is required for lab.

**Lab schedule**

<u>Date</u>	<u>Topic</u>	<u>Lab report</u>	<i>Powerphysiology</i> Suppliment
Jan. 8	Ex. 25 Endocrine System Ex. 26 Blood components Ex. 27 Heart Structure		ex 5, 11
Jan 15	Ex. 28 Cardiac Cycle Ex. 29 Blood Vessel Structure		ex 6,7

Jan 22	Ex. 30 Blood Vessel ID Ex. 31 Lymphatic System	ex 12
	Review	
Jan 29	Ex 32 Respiratory System Ex.33 Pulmonary Vent. <b>MIDTERM practical</b>	ex 8,9
Feb. 5	Ex. 34 Digestive System Ex. 35 Mechanical and Chemical Digestion	ex 14
Feb 12	Ex. 36 Urinary System Ex. 37 Urine Formation	ex 10, 13
Feb 19	Ex. 38 Male Reproductive Sys Ex. 39 Female Reproductive Sys Ex. 40 Human Development Review	
Feb 26	Ex. 41 Principles of Heredity Ex. 15 Surface Anatomy Roundup <b>FINAL practical (non-cumulative)</b>	

**(Clinical Case studies and PowerPhysiology Activities will be added through the lab schedule time permitting.)**

[Saturdays TBA.]

### **Other issues**

1. The equipment and materials for the laboratory exercises and exams are set up for each particular day, and are then put away in preparation of the next class meeting. Therefore, it is extremely difficult, as well as inconvenient, to make up missed exercises and tests. Thus, students **need to attend all class meetings**. The umbrella policy for this course is that **missed exams cannot be made up**.
2. Reminder: if you miss three or more class meetings and do not withdraw from the course before the 7th class meeting, then the Registrar will assign a grade of F. **It is the student's responsibility, not the instructors, to officially withdraw from a course.** See "Attendance Procedures" in the General Catalog.
3. Lab reports: the simplest solution is to do all work on time. Health, family, or work emergencies may earn extra time. Otherwise, 5% of the earned grade will be deducted for every calendar day that the assignment is late. Students are encouraged to email late work to me (tmkennedy8@gmail.com) in order minimize the late penalty.