**BIOL 3442 – Human Physiology** **Fall Lecture: MWF 10-10:50am, Location LS 122**

## INSTRUCTOR

Dr. Nicholas Pollock (nicholas.pollock@uta.edu)
Phone: 817-272-7223, Life Sciences Building Room 466
**Office Hours:** M 12-1pm, T 11-12pm, W 1-2pm, TH 2-3pm, F 11-12pm, or by appointment

## COURSE MATERIALS

**Text:** *Human Physiology, by Brian Derrickson, 1st Ed. (2016). Wiley*. Hardcover ISBN: 978-0-470-38140-3; Looseleaf ISBN: 978-1-119-27274-8; E-Text ISBN: 978-1-119-25517-8; WileyPlus Code ISBN: 978-111-8678-145; WileyPlus Code + Looseleaf ISBN: 978-111-929-6744

**Laboratory Manual:** *Biology 3442: Human Physiology, by Nicholas Pollock.* Available through Phi Sigma Honor Society for Biological Sciences (LS 127).

## COURSE DESCRIPTION

Physiology, at its simplest definition, is the study of how an organism functions. The general principles of physiological mechanisms on the cellular, tissue, organ, and organismal levels will be discussed. This course will focus on the human species, but comparisons may be made to other vertebrate species to emphasize similarities and differences across vertebrate taxa. Laboratory activities will complement lecture material and will focus on a broad array of topics, including hypothesis testing, data analysis, clinical techniques, and the understanding of research in physiology.

## COURSE OBJECTIVES

- Describe the levels of organization that comprise the human body.
- Understand and explain the functions of the major body systems.
- Understand and appreciate the importance and relevance of human physiology to everyday life.

## TENTATIVE SCHEDULE

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| | **WEEK 1: LECTURES** | | |
| Aug 22 | Intro & Overview | | |
| Aug 24 | NO CLASS | | |
| | **WEEK 2: LECTURES** | | **LAB WEEK 1** |
| Aug 27 | Nervous System & Signaling I | (Chap 7) | Peripheral Nervous System |
| Aug 29 | Nervous System & Signaling II | (Chap 7) | Somatic Reflexes |
| Aug 31 | Nervous System & Signaling III | (Chap 7) | |
| | **WEEK 3: LECTURES** | | |
| Sept 3 | NO CLASS | | |
| Sept 5 | Central Nervous System I | (Chap 8) | |
| Sept 7 | Central Nervous System II | (Chap 8) | |
| | **WEEK 4: LECTURES** | | **LAB WEEK 2** |
| Sept 10 | Sensory System I | (Chap 9) | Central Nervous System |
| Sept 12 | Sensory System II | (Chap 9) | Electroencephalography; **Quiz 1** |
| Sept 14 | Sensory System III | (Chap 9) | |
| | **WEEK 5: LECTURES** | | **LAB WEEK 3** |
| Sept 17 | Autonomic Nervous System | (Chap 10) | Sensory System |
| Sept 19 | Review | | **Quiz 2** |
| Sept 21 | **Exam 1** | | |

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| | **WEEK 6: LECTURES** | | **LAB WEEK 4** |
| Sept 24 | Muscular System I | (Chap 11) | Muscular System |
| Sept 26 | Muscular System II | (Chap 11) | Electromyography; **Quiz 3** |
| Sept 28 | Muscular System III | (Chap 11) | |
| | **WEEK 7: LECTURES** | | **LAB WEEK 5** |
| Oct 1 | Cardiovascular System: Heart I | (Chap 14) | Cardiovascular System |
| Oct 3 | Cardiovascular System: Heart II | (Chap 14) | Cardiovascular Physiology; **Quiz 4** |
| Oct 5 | Cardiovascular System: Vessels I | (Chap 15) | |
| | **WEEK 8: LECTURES** | | **LAB WEEK 6** |
| Oct 8 | Cardiovascular System: Vessels II | (Chap 15) | Respiratory System |
| Oct 10 | Cardiovascular System: Blood I | (Chap 16) | Spirometry; **Quiz 5** |
| Oct 12 | Cardiovascular System: Blood II | (Chap 16) | |
| | **WEEK 9: LECTURES** | | **LAB WEEK 7** |
| Oct 15 | Respiratory System I | (Chap 18) | Digestive System |
| Oct 17 | Respiratory System II | (Chap 18) | Digestive Enzymes; **Quiz 6** |
| Oct 19 | Review | | |
| | **WEEK 10: LECTURES** | | **LAB WEEK 8** |
| Oct 22 | **Exam 2** | | Urinary System |
| Oct 24 | Immune System I | (Chap 17) | Urinalysis; **Quiz 7** |
| Oct 26 | Immune System II | (Chap 17) | |
| | **WEEK 11: LECTURES** | | **LAB WEEK 9** |
| Oct 29 | Digestive System I | (Chap 21) | Reproductive System |
| Oct 31 | Digestive System II | (Chap 21) | Ovulation & Pregnancy; **Quiz 8** |
| Nov 2 | Digestive System III | (Chap 21) | |
| | **WEEK 12: LECTURES** | | **LAB WEEK 10** |
| Nov 5 | Urinary System I | (Chap 19) | Review Topics |
| Nov 7 | Urinary System II | (Chap 19) | **Quiz 9** |
| Nov 9 | Urinary System III | (Chap 19) | |
| | **WEEK 13: LECTURES** | | **LAB WEEK 11** |
| Nov 12 | Endocrine System I | (Chap 13) | **Practical** |
| Nov 14 | Endocrine System II | (Chap 13) | |
| Nov 16 | Endocrine System III | (Chap 13) | |
| | **WEEK 14: LECTURES** | | |
| Nov 19 | Review | | |
| Nov 21 | NO CLASS | | |
| Nov 23 | NO CLASS | | |
| | **WEEK 15: LECTURES** | | **LAB WEEK 12** |
| Nov 26 | **Exam 3** | | Group Presentations |
| Nov 28 | Reproductive System I | (Chap 23) | |
| Nov 30 | Reproductive System II | (Chap 23) | |
| | **WEEK 16: LECTURES** | | |
| Dec 3 | Reproductive System III | (Chap 23) | |

Final Exam Period (Wednesday, December 12th, 8-10:30 am): **Final Exam (Cumulative)**

**GRADES**

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|---|---|
| Quizzes (10 @ 10 pts each) | 100 |
| Lecture Exams (3 @ 100 pts each) | 300 |
| Final Exam | 100 |
| **Lecture Total (70% of overall):** | 500 points |

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| Quizzes (8 @ 10 pts each & 1 review quiz @ 20 pts) | 100 |
| Lab Reports (10 @ 10 pts each) | 100 |
| Hypotheses/Participation | 20 |
| Group Presentation | 20 |
| Lab Practical | 100 |
| **Laboratory Total (30% of overall):** | 340 points |

I do not curve grades, but I do round grades up from the 0.5% level (for example, if your final grade is 86.5%, you will be rounded up to 87%). Also, if you have regularly attended class, participated, and are within 1-2 points of the next letter grade, I am willing to bump you up. Grade cut-offs are as follows:

**A** 90 to 100%; **B** 80 to 89; **C** 70 TO 79; **D** 60 to 69; **F** Below 60

**ASSIGNMENTS**

**Reading:** Please always read the Chapter Review boxes in each assigned chapter BEFORE coming to class. The rest, you can either read before or after class, depending on your personal preference.

**Quizzes:** Quizzes will be all weeks except weeks 1, 5, 9, 10, 14, and 15. Quizzes will be administered in class, through Top Hat (see below). Quizzes will cover any material from the previous weeks. Each quiz will consist of 10 multiple choice/identification questions and you will have approximately 45-60 seconds per question. You are NOT permitted to use your notes or other sources to answer the questions. The time limit will prevent this.

**EXAMS**

All exams are multiple choice and require a Scantron form 882-ES, a #2 pencil, and an ID (yes, you can use your license). If you know you have a schedule conflict with an exam date, you must notify me at least 2 weeks in advance. There are 3 lecture exams, each with 50 multiple choice questions. The final exam is cumulative, and will consist of 100 multiple questions. However, if you receive A's on all lecture exams, then your final exam will only include questions dealing with the reproductive system. Therefore, it is worth giving it everything you have to get those A's early on.

**TOP HAT**

We will be using the Top Hat (www.tophat.com) classroom response system in class. You will be able to submit answers to in-class questions using Apple or Android smartphones and tablets, laptops, or via text message (SMS).

You can visit https://success.tophat.com/s/article/Student-Top-Hat-Overview-and-Getting-Started-Guide for the Student Quick Start Guide, which outlines how you to register for a Top Hat account, as well as providing a brief overview to get you up and running on the system. Technical support can be reached by using the contact information at https://success.tophat.com/s/contact-main. An email invitation will be sent to your email account (if you don't receive this email, you can register by visiting our direct Top Hat course URL: app.tophat.com/e/379707)

Top Hat will require a subscription. There are three options to choose from:

- $26 per semester
- $38 per calendar year
- $75 lifetime

**BLACKBOARD**
All lecture slides, grades, and information, including this syllabus can be found on Blackboard. If you have any questions, please check this syllabus and Blackboard first, if you still cannot find the information you are looking for, then you may email me.

**COURSE EXPECTATIONS AND POLICIES**
**Lectures:** I expect you to attend lecture. Students who regularly attend lecture score significantly higher on tests than students who do not (e.g., C vs. B+), plus I am more likely to bump up your final grade. Regardless of whether you are in class or not, however, you are responsible for everything which is discussed in lecture, everything which is assigned, and any handouts which are given in class. You are expected to make your own arrangements for access to class notes or handouts that you missed. If you choose to use a laptop for taking notes during class, please refrain from checking email or browsing the internet – if you are caught doing so, I will ask you to put your computer away immediately.

**Also:**
- Laboratory attendance is mandatory.
- If you must miss an exam, you must clear it in advance directly with me. In many cases, I will require official documentation of your excuse (e.g., doctor's or dean's note).
- Missed exams without permission from the instructor will result in a grade of 0.
- **I expect you to check your email for class announcements.**
- **Academic dishonesty of any kind will not be tolerated (see below)!**

**HOW TO STUDY FOR MY CLASS**
I use my own Powerpoints that I have made using the textbook and other sources. The best way to study is to read the chapters before class, and attend lecture to gain a greater understanding of the material and to determine which information I deem most important (I tell you this in class). Outside of class, review your notes, mark any information you still don't understand, and get that taken care of first. Read that section of the book again, find and watch tutorial videos, and/or come to my office hours for help. Make outlines, tables, and drawings using the Powerpoints to organize the information. This will help you make connections among the various topics, retain the information more efficiently, and gain a greater understanding of anatomy and physiology. Start with learning all definitions and anatomical structures, then focus on and learn the physiological concepts and processes. Practice and review by using any practice questions I post for you on Blackboard, those in the textbook, and those from other reputable sources. It is also very beneficial for you to make your own practice questions so that you can understand why some answers are correct and others are not. Overall, it is very important that you are able to recall the information from your brain and make sense out of the larger concepts by explaining them in your own words. Do not just read your notes or the textbook! Reading is passive learning, and does not work for 97% of people! Find active ways to study: recall, writing, drawing, speaking, teaching others, etc..

**INSTRUCTOR ACCESSIBILITY**
I will be available for walk-in meetings or instant e-mail replies during the hours listed at the top of this document. For students who are unavailable during the hours listed, please email me for an appointment. If you come by my office and my door is open, please knock and I am likely to meet with you if I am not currently busy. In addition, I will respond to e-mails outside of those hours within reason. You can expect a response within 24 hours, usually less, for emails received during the week.

**ACADEMIC HONOR CODE**
Each student has the responsibility to uphold the highest standards of academic integrity in their own work, to refuse to tolerate violations of academic integrity in the university community, and to foster a high sense of integrity and social responsibility on the part of the university community. Cheating and Plagiarism: Plagiarism is defined as the use of any information, published, or unpublished without acknowledgement. Cheating occurs when you use the work of another student in place of your own. Neither will be tolerated. It is extremely important that you distinguish your own ideas from those of others. You must always acknowledge sources. If you have any questions, see me.

**CONFLICT RESOLUTION**
If you are experiencing an issue in lecture, you must first arrange a meeting with me. If the issue remains unresolved after you have met with me, you may then consult the Associate Chair of Biology, Dr. Laura Mydlarz. To do this you need to file a grievance at https://www.uta.edu/php-lib/machform/view.php?id=3403. You must file the form in order to have your issue heard. None of the listed personnel will discuss the issue with you until you have first consulted all of those preceding him/her.

**AMERICANS WITH DISABILITIES ACT**
Lecture instructors are required by law to provide "reasonable accommodation" to students with disabilities, so as not to discriminate on the basis of disability. It is the student's responsibility to inform me that they require accommodation by the end of the second week and prior to any assignments, quizzes, activities, or exams that require accommodation. It is also the student's responsibility to schedule exams in the ARC and to notify me of the exam scheduling. Only students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at http://www.uta.edu/disability or by calling the Office for Students with Disabilities (University Hall, Room 102, 817-272-3364).

**TITLE IX**
The University of Texas at Arlington is committed to upholding U.S. Federal Law "Title IX" such that no member of the UT Arlington community shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity. For more information, visit www.uta.edu/titleIX.

**SYLLABUS CHANGE POLICY**
This syllabus is a guide for the course and is subject to change. Notice will be given. If you find an error, please contact me.