BIOL 3442-001 Principles of Animal Physiology, Spring 2016
Mondays, Wednesdays and Fridays 11:00 am-11:50 pm, SH 121

Instructor: Dr. Malgosia Wilk, M.D., Ph.D. (M.A. Wilk-Blaszczak)
Office: LS 353
Office Hours: MWF 12:00am-1:00pm, W 2-3pm or **by appointment**
Phone: (817) 272-7424
Class email: use humanphys@uta.edu for all class related issues
wilk@uta.edu only for personal email communication

Additionally, a Twitter page has been created specifically for this class where I will be tweeting links, inspirations and reminders throughout the semester.
www.twitter.com/HumanPhysUTA
#HumanPhysUTA
@HumanPhysUTA

Teaching Assistants:

TA Office Hours: TA will be available during class and via email. Please check the syllabus first then email the TA if you still can't find the answer.

Required readings: The book we are going to use in this class has not been published in time for the beginning of the semester but the publisher, Wiley, has graciously agreed to make the pdfs of the selected chapters available to us. They will be posted on blackboard or dropbox. Check for them when we start a new topic.
Additionally you will be reading plenty of review articles, classic physiology papers, primary literature, and assigned readings from the Internet, and at least one popular science book on the subject of animal/human physiology. This class is very reading heavy. Please plan for that.

Animal Physiology is an upper-level class that requires some level of prerequisite knowledge. Lectures and test questions are based on the expectation that students already possess this prerequisite knowledge. This course will systematically introduce the organ systems in order to create a more global view of the body's function. The key theme of the class will be homeostasis and how all systems contribute to optimization of the body's functioning. I base lectures and test questions on the expectation that you already possess basic biology knowledge. I expect a lot from students, and this class will be heavy on homework, and course related reading. I teach with modern pedagogy methods, including active learning and implementation of higher order thinking skills (HOTS). This course is structured in a "flipped" fashion - i.e., you will study and learn basic course material, at home, *before* coming to class, thus freeing lecture time to discuss real-life applications and explain upper-level concepts.
This course is more about evaluating the integration of body systems than memorizing particular functions. For information on Bloom's taxonomy and tips for studying at the level expected in this class please visit:
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC128545/
http://www.weac.org/news_and_publications/education_news/2007-2008/readiingroom_modeling.aspx

Class structure (please read carefully):

As the instructor for this course, I reserve the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course.

This year's class is a transition between having two separate classes for human physiology and animal physiology and merging them together. From what statistics show most students in both classes were pre-health professions. Therefore most of the physiology will be discussed in the context of mammals (ie. human) rather than octopuses and worms. BTW, did you know that octopus has "three hearts" two for pumping blood to the gills and one to the rest of the body?

The "pdf book" is also adopted with future semesters in mind. It is a Human Physiology book but as I mentioned before human in fact = animal =mammal.

If you are a lover of octopuses or other non-mammalian physiology please let me know asap and I will definitely include other animals in the lectures/homework assignments

The following topics will be discussed:
Concept of homeostasis
Endocrine control of homeostasis
Neuronal control of homeostasis
Acute versus chronic stress response
Contemporary views of blood pressure control (with mention of hypertension)
How to prepare for that Everest trip aka control of oxygen and nutrient delivery (aka cardiovascular system function)
Acid/base balance in the body
Metabolism and its regulation
Nutrient deficiency diseases and diseases influenced by nutrition

I want this class to be fun and applicable and therefore this course will require a hefty amount of reading, writing, calculating and daily homework. Be prepared to read as many as 40 pages of text between classes. In addition to the textbook you will be reading popular science books, or review papers. **Homework will be assigned at the end of practically each class.** It might be reading, watching an animation or other online resource or writing, calculating etc. Homework has to be completed by the next class period.
Homework will NOT be emailed to students, and subject would usually be extension of class discussions.

Animal physiology is a big part of the MCAT. A part of the class is going to be dedicated to method of solving MCAT type questions. MCAT questions will also be a big part of homework work.

There will be 4 major writing assignments designed to test your understanding of systems physiology, critical thinking skills and research (like in searching for data) skills. They will be controversial and formulated as a question "Have we outgrown the benefits of stress response?"

Class participation is a major percentage of the grade. You have to talk in class, prepare ahead for discussion through homework assignments. **Participation is more than attendance. Showing up for class and not participating won't earn you any points.**

My approach will be to test students' knowledge based on their ability to solve problems using both the text and research articles, as well as other resources. This active approach will force students to seek answers about the big picture while studying smaller pieces.

I will try to make a "seminar" class in large class setting. Please help to make it fun and efficient. If we succeed your experience and resulting knowledge will be second to nothing.

Student learning outcomes: After completing this course you should possess, and therefore will be graded on your development of the following knowledge/skills and attitudes:

1. Describe fundamental body processes in detail.
2. Analyze how the human body is organized and what its design implies.
3. Explain the significance of the different body systems and their role in homeostasis.
4. Analyze cause and effects, including evaluation of your own lifestyle.
5. Creatively present knowledge acquired in class in the form of infographics, sketches, graphs and flowcharts.
6. Read and interpret current medical research more competently.

Expectations for Out-of-Class Study: Beyond the time required to attend each class meeting, students enrolled in this course should expect to spend at least an **additional 9 hours per week of out-of-class time in course-related activities**. As a rule, for every credit hour earned, a student should spend 3 hours per week working outside of class. Hence, a 3-credit course will have a minimum expectation of 9 hours of out-of-class work in form of homework and reading assignments.

How to Succeed in this Class:

1. Recognize and accept your own responsibility for learning, i.e. come to class prepared and on time.
2. **Come to EVERY class**. Attendance will not be taken but a big portion of the grade comes from class participation. Class participation will be recorded each class period. You cannot participate if you are not there.
3. Prepare for class. It is not enough to show up! You have to participate in class (i.e. talk).
4. READ assigned readings. Take your own notes, draw diagrams and make flowcharts to help you understand. Remember the word student means a person engaged in learning. Be willing to tolerate ambiguity that comes with scientific method, and frustration for the sake of eventual understanding.
5. Use your brain to pick up on patterns and themes. Elaborate but don't overcomplicate; form fits function.
6. Learn from mistakes you've made on homework and quizzes. Change and improve.
7. Trust the instructor's experience in designing class activities and participate willingly, if not enthusiastically.
8. Don't underestimate how much mood affects energy level; the energy you spend worrying/being negative could be used to get things done.

Grades:

The table below outlines the breakdown of the grade.

Class participation, class activities	200
Daily homework assignments	300
Four argumentative papers on selected topics	400
Midterm MCAT type exam	100
Comprehensive final exam **Wednesday May 11, 11:00-1:30**	100
Total points	1100

Grades: A = 900 - 1000 points; B = 800 - 899 points; C = 700 - 799 points; D = 600 - 699 points; F = 599 or fewer points. There will be no curving, bonus assignments, grade replacement, dropping of lowest exam, or other grace system. 100 points = 10% "curve" is already built into the point system.

Please notice that if you do everything well and get 900 points (an A) you can skip one paper or final exam. This is the most lenient grading system you have ever seen.

Writing assignments are expected to be done in a professional manner, not scribbled on the wrinkled piece of paper. **There is zero tolerance for copy and pasting someone else's work and submitting it as your own,** and if

caught you will receive a ZERO and will be reported for plagiarism to the Department of Biology and then the UTA Academic Integrity Board. A record of academic misconduct renders your chances for professional programs effectively nil—don't even consider it. Use all the resources you need but make it your own work.

Students are expected to keep track of their performance throughout the semester and seek guidance from available sources - including teaching assistants and the instructor - if their performance drops below satisfactory levels. A grade of "incomplete" may be assigned for a course if, in the opinion of the instructor, there are extenuating, documented circumstances which prevent the student from completing the required work. The incomplete must be removed by the end of the final examination period of the following semester, excluding the summer session, for the student to receive credit for the course. If the incomplete is not removed next semester, it will revert automatically to an F.

Grade Grievances: Any appeal of a grade in this course must follow the procedures and deadlines for grade-related grievances as published in the current undergraduate catalog.
http://wweb.uta.edu/catalog/content/general/academic_regulations.aspx#10

Attendance and Drop Policy:
There is no tolerance for missed classes. No matter what the reason is, you will lose points for class participation. Regular doctors's appointments for you, kids or parents do not count as excused absences. Most offices are open from 8-5pm, Nutrition class takes just one hour, schedule your other activities around class time.

Per university policy, students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance.** Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (http://wweb.uta.edu/ses/fao).

Electronic communication: Students **must** use their **official** UT Arlington e-mail address for all university-related business. All students are assigned a MavMail account and are responsible for checking the inbox regularly. MavMail is available at http://www.uta.edu/oit/cs/email/mavmail.php.

Final Review Week: A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week unless specified in the class syllabus. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

Student Feedback Survey: At the end of each term, students enrolled in classes categorized as lecture, seminar, or laboratory shall be directed to complete a Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student's feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit http://www.uta.edu/sfs.

Academic Integrity: All students enrolled in this course are expected to adhere to the UT Arlington Honor Code:

I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.
I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.

Instructors may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System Regents' Rule 50101, §2.2, suspected violations of university's standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University.

Emergency Exit Procedures: Should we experience an emergency event that requires us to vacate the building, students should exit the room through the doors in the back of the classroom and proceed to the right towrard the building exit. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist handicapped individuals.

Student Support Services: UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at www.uta.edu/resources.

Americans with Disabilities Act:
The University of Texas at Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including the Americans with Disabilities Act (ADA). All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Any student requiring an accommodation for this course must provide the instructor with official documentation in the form of a letter certified by the staff in the Office for Students with Disabilities, University Hall 102. Only those 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 www.uta.edu/disability or by calling the Office for Students with Disabilities at (817) 272-3364.