

Human Anatomy and Physiology I Lab (BSC 2085L) Miami Dade College, Wolfson Campus

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Office Hours: To be announced

Course Website: LarryFrolich.com

Description: The structure and function of the systems of the human body, emphasizing those aspects most pertinent to students in the nursing and allied health technology programs. 1 laboratory credit (2 hour lab). This class is designed to familiarize the student with the structures of the human body, the language used to describe it, and how the anatomy functions in a living person. The information presented is considered a fundamental base, as well as a language, that is universal to the biomedical sciences.

Prerequisites: Although not required, a course in Basic or Cellular Biology, as well as Introductory Chemistry, with a passing grade, are highly recommended before attempting Human Anatomy and Physiology. Students without a good familiarity of basic biology and chemistry may have difficulties succeeding in this course

Co-requisite: BSC-2085-Lecture. Students must be enrolled in the Human Anatomy and Physiology I Lecture during the same semester that they take the laboratory component.

Required Text: Marieb and Mitchell, 2012. *Human Anatomy & Physiology Laboratory Manual with MasteringA&P®, Main Version, Update, 9/E.* Pearson.

Highly Recommended: Kapit, W. (2002). *The Anatomy Coloring Book.* Benjamin Cummings.
Kapit, W. (2000) *The Physiology Coloring Book.* Benjamin Cummings.

Anatomy and Physiology as a Language

In many ways, this course involves learning a new language. To learn a new language, it is essential to have direct experience with the objects or material being described—through lecture presentations, activities and lab—and to find ways to ingrain the words used to describe those objects. It is best to hear the terms, write them down, view and touch the structures, draw the structures, label them, write their definitions, say them out loud and then repeat it all over again. This can get to be a boring and repetitive process, but it is important to remember the power that comes from being able to describe the details of the human body, and how it works, with precision, and at a level that was previously not possible.

Keys to Success

Students often ask me what might be the best way to excel in this course. Every student is an individual with their own strengths and weaknesses and every year I learn about new ways to study and approach anatomy and physiology. But I do have a few tips that seem to be universally useful to all students:

- **PREPARATION:** Students who get an A in this class always come prepared to class and lab. It is a simple fact. They have read ahead and they are already familiar with the systems and parts of the body and the terms to describe them. They've seen the figures from the text and the PowerPoint presentations that apply to what we are covering that day and they have previewed that day's class activities and that day's vocabulary on the lab Wish Lists.
- **TIME:** This course requires time outside of class in order to do well—at least 10 hours/week.
- **REPETITION:** Read it, hear it, see it, say it, DRAW IT (this seems to be key); then do it again.
- **STUDY GROUP:** Try to find someone to study with—it makes it all a lot more interesting.
- **ATTITUDE:** Students with a better attitude do better in this class.



Organization and Course Logistics

Website: LarryFrolich.com The website for this course serves as your content guide and source for background information to do the labs, along with the presentations or activities in your lecture class. Lecture presentations for the entire semester are available on the course website as background material, as well as handouts, links and supporting information. For every lab, “Wish Lists” that include the vocabulary and core concepts for each lab activity are also to be found on the course website. If you have a question, please consult the website and this syllabus first. Then, if you don’t find the answer, post your question to our comment wall, send me a message or ask in class.

Relation to Lecture Course: I view this one-credit supplemental laboratory as the part of the A and P course where you have the opportunity to see and touch all the parts of the human body that we cover in lecture, or participate in physiological activities that demonstrate what we learn about in lecture. Evaluation, then, of the lab part of the course, involves insuring that you have developed the vocabulary, based on your lab experience, to describe those parts of the body, or analyze results from physiological demonstrations for that aspect of human function. I believe this vocabulary development is best accomplished on a weekly basis, and the one-credit lab grade will be based on quizzes, taken at each the start of each lab class, covering the previous week’s material.

Attendance: Students are expected to attend every lab meeting. All lab quizzes must be completed on the designated day and time. Students arriving late will not be able to take the quiz scheduled for that date. No makeup quizzes are given. However, the lowest two quiz grades for the semester will be dropped.

Registration: Students must be registered in the laboratory course from the start of the semester in order to receive a grade. If you are not in my lecture class, then you must also fill out an A and P Presentation Name Card during the first week of class to be registered with me—instructions for the Name Card will be given the first day of class. Please bring your Name Card to lab class every day of the semester.

Withdrawal: Students may withdraw until the mid-semester withdrawal date. After that date, if you continue in the class, I assume it is because you wish to receive the grade that you earn (A-F). *You must pass the Lab part of the class independently from Lecture and you cannot withdraw from one without withdrawing from the other.*

Learning Resources

ACCESS Center: Room 1180, <http://www.mdc.edu/wolfson/student/access/default.asp>

I will gladly work together with the ACCESS center to insure that a particular disability is not a barrier to success in this course. From the ACCESS website: “The mission of ACCESS is to assist students to maximize their talents, skills, and abilities and recognize disability as an aspect of diversity that is unique to each individual. We are a Student Services Department, and yet we collaborate to the extent possible with all campus faculty and staff as well as the community to ensure equal access and to design more usable, inclusive and sustainable educational experiences and environments.”

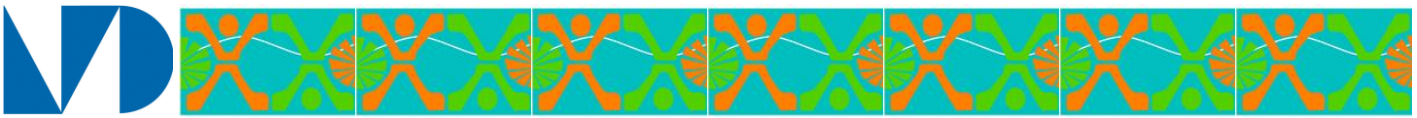
Science Resource Center: Room 2221

Tutoring help, anatomical models, slides and microscopes are all available here.

Computer Courtyards: Room 2201, <http://www.mdc.edu/wolfson/learningresources/Courtyard/>

You can always access the course internet site and all the linked resources through the high-speed internet-connected computers in the campus Computer Courtyard.

Wolfson Campus Library: Room 1216, <http://www.mdc.edu/wolfson/learningresources/library/>



Logistics, evaluation and grading

Self-directed study: Most labs will be principally self-directed study where you work alone, or with colleagues, to identify and learn the material for that week, or follow a physiological demonstration that might be online, or presented in class. I assume you have the lecture background, either from your own lecture class, or from my course website, to be ready to learn the material for each lab class, and I will do very minimal orientation for the lab, but rather focus on providing the time to interact with specimens, models or physiological demonstrations. I am available as your expert consultant, and will sometimes guide demos, but will not provide background information for each lab, given the limited time that we have.

Quizzes (15 points per quiz): Every laboratory meeting will have a practical quiz, using materials from the previous lab, right at the start of class. These will usually involve identifying structures, or analyzing results of a physiological demonstration. Material will almost always be taken from the Activity Wish Lists which are on the course website. These lab exams are very difficult if you have not spent the time in lab to touch, view, draw, interact and learn the material for that class...and then spent the time outside of class to really embed this information in your brain. However, if you do take the time, and learn everything on the Wish Lists and the course website, the quizzes should be quite easy. They will have a total of 15 points—approximately 10 points will come from identifying labeled structures on lab specimens and models; and five points from diagrams or physiological demonstration results presented on paper.

Final Letter Grade: Letter grades are assigned according the following percentage accumulations. Lab grades are assigned independently of lecture grades and you must pass the Lab part of the course without consideration for your performance in lecture.

- A: 90-100%
- B: 80-89%
- C: 70-79%
- D: 60-69%
- F: Less than 60%

Dedication, Collegiality and Professionalism

From the outset, I assume that students who have advanced sufficiently in their academic professional goals to be taking this course are self-motivated and want to achieve at the highest level. I view my own role as one of a colleague who serves to orient and guide the student. In the classroom, where tight collaboration is a necessity, I strive to create an environment that promotes a strong sense of professional respect and expect students to do the same. While observing the norms of academic honesty, we seek a cooperative approach to learning where we all take advantage of each others' strengths and skills in a collegial way, much as one would hope to find in a well-managed workplace.

Anatomy and Physiology requires serious and time-intensive dedication. A minimum of ten hours preparation, study and revision outside of class is needed to pass, and perhaps more time to really excel. Besides viewing all the course materials before coming to class, plan on spending additional time reviewing and memorizing lab materials, creating your own lab study guide each week, and coming to class ready for each quiz. I strongly encourage students to study together. Nonetheless, any plagiarism or violation of academic honesty in the preparation of class assignments, or during exams, will result in an instant "F" for that exam, and probably expulsion from the course for the semester.


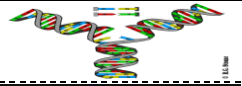


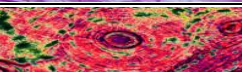
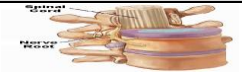








Anatomy and Physiology is a stepping-stone, or rite of passage, towards being a high-quality professional in the BioMedical Sciences. To this end, in this class, we support the college's—and society's—greatest aspirations of producing professionals who can communicate effectively, use quantitative analytical skills, solve problems using creative thinking and scientific reasoning, formulate strategies to locate and use information, demonstrate knowledge of diverse cultures, fulfill personal and civic responsibilities, think ethically, master emerging technologies, appreciate aesthetics and describe how natural systems function, including their human elements. (See College Learning Outcomes below)

Here's to the journey...



Human Anatomy and Physiology I Laboratory: The “Outer Tube”

Dates and details for each topic on course website: LarryFrolich.com

Part I. The Basic Body Plan: Embryology, Tissues and the Skin		
	Basic Body Plan and Embryology	Text Chapters: 1, 28
	Chemistry and Molecules of Life	Text Chapters: 2, 3
	Cells	Text Chapters: 2, 3, 4
	Tissues: Epithelial, Connective	Text Chapters: 3, 4
	Skeletal Tissues, Skin	Text Chapters: 5, 6
Part II. The Body Axis and Limbs: Movement—nerves, muscles and bones		
	Nervous System: Overall Organization	Text Chapters: 11, 12, 13, 14
	Neurons and Muscle	Text Chapters: 11, 9
	Mechanics of Movement, Joints	Text Chapters: 8, 7, 9
	Upper Limb	Text Chapters: 7, 8, 10, 13
	Lower Limb	Text Chapters: 7, 8, 10, 13
Part III. The Head: Feeding, Special Senses and Central Control		
	The Skull	Text Chapters: 7
	Throat	Text Chapters: 22, 10, 13, 14
	Special Senses	Text Chapters: 15
	Brain	Text Chapters: 12, 14, 11



The 10 Learning Outcomes

<http://www.mdc.edu/learningoutcomes/>

Through the academic disciplines and co-curricular activities, General Education provides multiple, varied, and intentional learning experiences to facilitate the acquisition of fundamental knowledge and skills and the development of attitudes that foster effective citizenship and life-long learning.

As graduates of Miami Dade College, students will be able to:

1. Communicate effectively using listening, speaking, reading, and writing skills.
2. Use quantitative analytical skills to evaluate and process numerical data.
3. Solve problems using critical and creative thinking and scientific reasoning.
4. Formulate strategies to locate, evaluate, and apply information.
5. Demonstrate knowledge of diverse cultures, including global and historical perspectives.
6. Create strategies that can be used to fulfill personal, civic, and social responsibilities.
7. Demonstrate knowledge of ethical thinking and its application to issues in society.
8. Use computer and emerging technologies effectively.
9. Demonstrate an appreciation for aesthetics and creative activities.
10. Describe how natural systems function and recognize the impact of humans on the environment.