

**Brazosport College**  
**Spring 2012 Syllabus for Biology 2401 Anatomy & Physiology I**

**Instructor: Daryl Beatty**

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**Best Office Hours: 8-9, 12-1 Monday, 9:30 -11 Tuesday, 12-5 Wednesday, 9:30-10:30**

**Thursday, Other hours by appointment**

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**COURSE DESCRIPTION :** Human Anatomy and Physiology I is a study of the cells, tissues, and organ systems of the human body. Emphasis is on understanding the physiologic mechanisms maintaining homeostasis. The dynamics of cell membranes as well as the components and functions of the integumentary, skeletal, muscular, nervous, and endocrine systems will be studied. Laboratory activities are designed to complement lecture topics.

**PREREQUISITES:** Course is open to any student, basic understanding of chemistry and biology is assumed.

**COURSE GOALS:**

**The student will be able to:**

1. Students will demonstrate knowledge of the 6 different levels of structural organization, the 11 organ systems, and the 4 tissue types that make up the human body.
2. Students will demonstrate knowledge of negative feedback mechanisms and how they maintain homeostasis.
3. Students will demonstrate knowledge of the structure and composition of the plasma membrane.
4. Students will demonstrate knowledge of the various active and passive membrane transport processes.
5. Students will demonstrate knowledge of the basic biochemistry of carbohydrates, lipids, and proteins and how they are involved in 4 fundamental chemical reactions.
6. Students will demonstrate knowledge of the sequence of events of a local inflammatory response and the subsequent tissue repair process.
7. Students will demonstrate knowledge of the structure and function of bone tissue.
8. Students will demonstrate knowledge of the physiology of bone tissue as well as the bone remodeling and repair processes.

9. Students will demonstrate knowledge of the appendicular and axial skeletons by identification of bones.
10. Students will demonstrate knowledge of the physiology of Resting Membrane Potentials, Action Potentials, and Local Potentials.
11. Students will demonstrate knowledge of the events that occur at the neuromuscular junction and how these events initiate skeletal muscle contraction.
12. Students will demonstrate knowledge of the structure and functions of the skin.
13. Students will demonstrate knowledge of the sequence of events of skeletal muscle contraction involving ATP as well the aerobic and anaerobic production of ATP.
14. Students will demonstrate knowledge of select muscles of the arm, leg, face, and torso and the action these muscles produce.
15. Students will demonstrate knowledge of the various structures and functions of the central and peripheral nervous systems.
16. Students will demonstrate knowledge of the major neurotransmitters, their various roles, and how their actions can be altered by drugs and medications.
17. Students will demonstrate knowledge of the physiology of syncope, TIAs, and CVAs as well as the process of recovery.
18. Students will demonstrate knowledge of the physiologies of depression and addiction.
19. Students will demonstrate knowledge of reflexes and reflex arcs.
20. Students will demonstrate knowledge of the production, pathway, and fate of cerebrospinal fluid as well as the concept of the blood-brain barrier.
21. Students will demonstrate knowledge of the anatomy and physiology of the Autonomic Nervous System.
22. Students will demonstrate knowledge of various endocrine glands and their hormones and how they are involved in the control of variables such as blood pressure, blood sugar, electrolytes, osmolality of the blood, etc.
23. Students will demonstrate knowledge of the anatomy of the eye and ear and associated disorders.

## TEXTBOOK OR COURSE MATERIAL INFORMATION

**Required (Yes you really will need it, go ahead and buy it):** Class: Human Anatomy & Physiology, 8th Ed., 2009, by Elaine Marieb. (ISBN-13: 9780805395914 ) (7<sup>th</sup> Edition is also acceptable ISBN-13: 9780805359107). Make sure if you get a used book that you also get the IP 10 CD with it. Also, if you buy a used book, you will need to purchase an access code for the online portion of the class. This is about \$50, and comes (Included) with the new books in the bookstore. If you get a book elsewhere, make sure to factor that into the cost. This is the #1 most popular A&P text in the USA. You will need it for both lecture and lab for both A&P 1 & 2. (Save your book for use next semester in A&P 2 – Same book).

**Lab:** No textbook required. Lab handouts will be supplied, and are available online at: <http://www.brazosport.edu/sites/CurrentStudents/Faculty/DarylBeatty/Pages/AP1LabPage.aspx>

**Web Resources:** Numerous, will be given at various times.

**CD Rom – Interactive Physiology 10.** This CD comes with your text and is full of great tutorial animation clips, explanations, and practice quizzes.

**Excellent Websites:** I get a lot of my own questions answered at the following websites. If you find others that are also very helpful please share this information with your instructor and other students.

<http://mayoclinic.com/>

<http://www.medicinenet.com/script/main/hp.asp>

<http://www.rxlist.com/>

<http://www.emedicinehealth.com/script/main/hp.asp>

<http://www.drkoop.com/home/93/default.html>

<http://www.wikipedia.com> (Caution: Wikipedia is not an authoritative source, as it is user edited. It is however accurate probably 99% plus on the things we use. It is very useful for getting quick answers and is usually in a user friendly, easy to understand format.)

**Lecture material :** Slides for class notes are available online in advance on my website, [www.darylbeatty.org](http://www.darylbeatty.org) I may send an occasional e-mail. Please make sure that [daryl.beatty@brazosport.edu](mailto:daryl.beatty@brazosport.edu) is in your address book so that e-mails will be allowed to come through.

## LAB REQUIREMENTS:

This course has a weekly 3 hour laboratory. The required textbook for the course will often be used in the laboratory. You will receive a handout at the beginning of each laboratory to be used as a study guide along with instructor notes and other activities to provide an opportunity to learn the anatomy and functions related to various organ systems.

## **STUDENTS WITH DISABILITIES**

Brazosport College is committed to providing equal education opportunities to every student. Brazosport College offers services for individuals with special needs and capabilities including counseling, tutoring, equipment, and software to assist students with special needs. Please contact the Special Populations Counselor, 979-230-3236, for further information.

## **ACADEMIC HONESTY**

Last year I lost several students from my classes to cheating. Please don't do that. It ruins my day, and also your academic career. Brazosport College assumes that students eligible to perform on the college level are familiar with the ordinary rules governing proper conduct including academic honesty. The principle of academic honesty is that all work presented by you is yours alone. Academic dishonesty including, but not limited to, cheating, plagiarism, and collusion shall be treated appropriately. Please refer to the Brazosport College Student Guide for more information, this is available online at <http://www.brazosport.edu>, click on the link found on the left side of the homepage.

We regret that this section is necessary. Trust me on this, if you cheat, you will probably be caught. Specific to this course, if a student is found to be cheating on a test or lab quiz, they will be subject to disciplinary action ranging from withdrawal from the course, up to receiving an "F" in the course. Obviously, there is no second offence.

Online homework: In my class on the online homework you MAY use any assistance you wish, including other students.

## **ATTENDANCE AND WITHDRAWAL POLICIES**

The Brazosport College Life Sciences Department believes attendance in both lecture and lab is critical for the comprehension of material. I will take attendance in Lecture, and pop quizzes will be given at the beginning and end of some classes. The student is responsible for officially withdrawing from the course. Do not just stop attending. To officially withdraw from the course, students must complete and sign a withdrawal form, available in the Registrar's Office.

## **COURSE REQUIREMENTS AND GRADING POLICY**

Some topics are best addressed in a lecture setting while others are more suited for lab. In general, the emphasis in lecture is on physiology while the emphasis in lab is on anatomy. But, the two are not completely separable. My lectures are in Power Point format and will be posted on my web site ( [www.darylbeatty.org](http://www.darylbeatty.org) ) if you choose to print them out, or refer to them later. They are not all inclusive and I will not cover all of the material in lecture. You are strongly encouraged to take notes. You must also read and study the textbook.

Class grade is composed of:

We will plan to have 5 lecture exams plus a final, and the online "homework" average will count as a 7<sup>th</sup> test grade, possibly some pop quizzes. The ONE lowest grade of those will be dropped. In general, lecture exams test your knowledge of the topics covered in lecture while lab quizzes test your knowledge of topics covered in lab. Grades for the course are based 60% on lecture exams,

online homework, and pop quizzes and 40% on lab quizzes. You must take lab quizzes and lecture exams during your scheduled lab and lecture time, as detailed below.

## **TESTING**

Lab quizzes are given weekly at the beginning of lab. Come early. Questions are not repeated for late arrivals. The 10 best scores of your 12 are used to calculate your average. If you miss one, it will be one of your two to be dropped from the average.

If you take all five lecture exams at their scheduled times you have the option of taking the comprehensive final exam to replace a lower exam score. Pop quizzes may also be given and the total of these may equal as much as one major test grade.

If you miss one of the five lecture exams you will take the comprehensive final exam during finals week as a “makeup” to replace the missing score.

If you miss more than one lecture exam only one score can be replaced. The other(s) will remain as zeros. (A zero on an exam which is not dropped would reduce your course average by about one full letter grade). You may wish to consider withdrawing from the course and retaking it another semester.

Pop quizzes will sometimes be given at the beginning or end of class. These and other class work will be averaged together and, depending on number given, may equal as much as one major test grade.

## **MAKE-UP POLICY**

There are no makeup lab quizzes or lecture exams. If you have a good reason to miss your lab or lecture section, you may arrange with me IN ADVANCE to attend one of the other sections taught by me (Daryl Beatty). Lecture exams may be taken IN ADVANCE by permission of instructor in the LAC, but not AFTER the test is given. Note that in averaging the grades, we do drop the lowest test grade.

## **STUDENT RESPONSIBILITIES**

Students are expected to fully participate in this course. The following criteria are intended to assist you in being successful in this course:

- a. understand the syllabus requirements
- b. use appropriate time management skills
- c. communicate with the instructor
- d. complete course work on time, and
- e. utilize online components (such as WebCT) as required.

## **PROJECTS, ASSIGNMENTS, PORTFOLIOS, SERVICE LEARNING, INTERNSHIPS, ETC.**

None

## **OTHER STUDENT SERVICES INFORMATION**

Information about the Library is available at [www.brazosport.edu/~lib/Information.htm](http://www.brazosport.edu/~lib/Information.htm) or by calling 979-230-3310.

Information about study skills and tutoring for math, reading, writing, biology, chemistry, and other subjects is available in the Learning Assistance Center (LAC), see [www.brazosport.edu/~lac](http://www.brazosport.edu/~lac) or call 979-230-3253.

To contact the Life Sciences Department call 230-3225.

The Student Services provides assistance in the following:

Counseling and Advising	979-230-3040
Financial Aid	979-230-3294
Student Activities	979-230-3355

To reach the Information Technology Department for computer, email, or other technical assistance call the Helpdesk at 979-230-3266.