

AHS 2103 Human Biology: Physiology Fall 2008
Sec 001 SB 2.02.10 MWF 8-8:50 a.m. Sec 901 BV 3.326 MWF 1-1:50 p.m.

Instructor: Anita L. Moss, Ph.D.
Offices and Office Hours: **1604 campus:** SB 3.01.39B; Wed & Fri 10-10:45 am **or** by appt
Downtown: FS 4.532; Mon. 11-11:45 am **or** by appt.
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Course Objectives: To understand the functioning and interrelationships of physiological systems in the human body.
Prerequisites: You must have successfully completed BIO 1404 (formerly BIO 1113 & BIO 1203) and BIO 1122 (formerly BIO 1212).
Required Text: *Human Anatomy and Physiology, 7th edition*; Elaine N. Marieb & Katja Hoehn

| <u>DATE</u> | <u>TOPIC</u> | <u>Required Reading</u> |
|-------------|--|--|
| (W) 8/27 | How to pass this course; Homeostasis | 4-12 |
| (F) 8/29 | Carbohydrates, ATP, Lipids, Proteins | 43-52; Fig 2.19; 57-59 |
| (M) 9/1 | NO CLASS: LABOR DAY HOLIDAY | |
| (W) 9/3 | Plasma membrane structure, transport; Osmolarity and tonicity | 66-83 |
| (F) 9/5 | Body fluid compartments; Electrolytes | 1036-1043 |
| (M) 9/8 | Endocrine System: Overview; classes of hormones; control of secretion | 605-612 |
| (W) 9/10 | Pituitary gland; Hypothalamus; Hormonal regulation of reproductive function: GnRH; FSH, and LH in the male | 612-614, Table 16.1 616 (gonadotropins) 634-5 (gonads);1080-81 |
| (F) 9/12 | GnRH; FSH, LH in the female; Ovarian and uterine cycles | 1093-1098; Table 27.1 |
| (M) 9/15 | Hormonal regulation of glucose; glucagon; insulin; Diabetes mellitus | 632-634; Fig 16.19; A Closer Look (636-7) 973-78 |
| (W) 9/17 | EXAM 1 | |
| (F) 9/19 | Nervous System; Neurons | 388-419; Table 11.1 |
| (M) 9/22 | Neurophysiology; Graded potentials; action potentials | see above |
| (W) 9/24 | Propagation of action potentials; synaptic transmission | see above |
| (F) 9/26 | Dr. Moss' classes cancelled | |
| (M) 9/29 | Postsynaptic potentials; summation; neurotransmitters (ACh and NE) | see above |
| (W) 10/1 | Peripheral nervous system; Reflex arc | 521-25 |
| (F) 10/3 | Spinal reflexes; Stretch reflex | see above |
| (M) 10/6 | EXAM 2 | |
| (W) 10/8 | Muscular System; Muscle tissue; End plate and muscle action potentials | 280-299 |
| (F) 10/10 | Microscopic anatomy; skeletal muscle contraction | see above |
| (M) 10/13 | Excitation-contraction coupling; Summation; recruitment | see above |

| <u>DATE</u> | <u>TOPIC</u> | <u>Required Reading</u> |
|---|--|---|
| (W) 10/15 | Agents that interfere with muscle contraction; Acetylcholinesterase; Cardiac versus skeletal muscle | WebCT Handout, 289 and Fig 9.7 (AChE), Table 9.3 (314-15) |
| (F) 10/17 | Cardiovascular System ; Heart anatomy; pathway of blood; heart valves | 676-703; Fig 18.20 |
| (M) 10/20 | Cardiac muscle fibers; intrinsic conduction system; ECG | see above |
| (W) 10/22 | Cardiac cycle; heart sounds; Cardiac output; Regulation of heart rate | see above |
| (F) 10/24 | EXAM 3 | |
| (M) 10/27 | Respiratory System ; conducting/respiratory zones; pleura | 831; 840-46 |
| (W) 10/29 | Mechanics of breathing; External, internal respiration; O ₂ and CO ₂ transport; Control of respiration | 846-9; 853-9; 861-69 |
| <i>Thursday October 30, 2008 is last day for sophomores and above (≥ 30 credit hours earned) to drop with a grade of "W"</i> | | |
| (F) 10/31 | Urinary system ; anatomy; nephrons; net filtration pressure | 998-1015 |
| (M) 11/3 | Glomerular filtration rate; Tubular reabsorption | see above |
| (W) 11/5 | Tubular secretion; Concentrated urine; aldosterone, Fig 26.8; ADH, Fig 26.6; Summary of nephron functions | 1015; 1018-19; 1041-45 Fig 25.16 |
| (F) 11/7 | Review of pH, Acid-base balance ; chemical buffers | 41-43, Fig 2.13; 1049-56 |
| (M) 11/10 | Respiratory and renal mechanisms of acid-base balance | see above |
| (W) 11/12 | Abnormalities of acid-base balance | see above; "A Closer Look" (1057) |
| (F) 11/14 | EXAM 4 | |
| (M) 11/17 | Digestive System : Digestive processes | 883-86 |
| (W) 11/19 | Chemical digestion and absorption | 927-33 |
| (F) 11/21 | Capillary blood flow; Lymphatic system ; Immune System ; Innate (nonspecific) defenses; | 774-81 789-819 |
| (M) 11/24 | Inflammatory response; Antimicrobial proteins | see above |
| (W) 11/26 | Digestion and absorption of gallinacean protein | see below |
| (F) 11/28 | NO CLASS: Thanksgiving Holiday | |
| (M) 12/1 | Immunity; Antigens | 789-819 |
| <i>Wednesday, December 3, 2008 is the last day for freshmen (< 30 credit hours earned) to drop with a grade of "W"</i> | | |
| (W) 12/3 | Adaptive defenses: B and T cells; Humoral and cell-mediated immune responses | see above |
| (F) 12/5 | Reproductive System ; Anatomy and sexual responses | 1066-73; 1082-89; 1098-1100 |
| (M) 12/8 | NO CLASS: STUDENT STUDY DAY | |
| (W) 12/10 | FINAL EXAM Section 901 (Downtown campus) Wednesday 1:30-4:00 pm | |
| (M) 12/15 | FINAL EXAM Section 001 (1604 campus) Monday 7:30-10:00 am | |

Policy sheet

Attendance and Class Behavior

I expect you to arrive on time and remain in class for the entire time. It is rude and distracting for you to arrive late or leave during class. **Cell phones must be turned off. If you are in a situation where you must be able to be reached by phone then please do not come to class. Instead, ask someone to share their notes with you. The only reason for leaving class should be if you are sick.** You will have frequent opportunities to ask questions, but **please, do not talk** while I'm lecturing.

WebCT

This program on the Internet gives you access to **your personal grades, lecture outlines, reading and homework assignments, practice exams, announcements and other useful information.** The URL is <https://webct.utsa.edu/> and login instructions are given at that website. I update the course material on WebCT throughout the semester so check frequently for new or revised material.

Email

Email me at **anita.moss@utsa.edu** or use the email feature on **WebCT**. *I will respond to you only if you indicate on the Subject line what class you are in: **HP1604** for section 001 at the 1604 campus; or **HPDT** for section 901 at the downtown campus.*

Exams

| | | |
|---|-----------------------|---|
| September 17 | EXAM 1 | Lectures 1-8 |
| October 6 | EXAM 2 | Lectures 9-14 |
| October 24 | EXAM 3 | Lectures 15-21 |
| November 14 | EXAM 4 | Lectures 22-29 |
| December 15 (Sec 001) or December 10 (Sec 901) | FINAL (cumulative) | Lectures 1-37 with an emphasis on 30-37 |

Bring a **PARSCORE Test Form** for all exams. Questions will be multiple choice, matching, true/false and a few short answer or short essay questions. See the practice exams on WebCT to get an idea of the format. Save all your exams and talk to me **promptly** if you have any questions.

Extra Credit

The only extra credit that I give for this course are the short answer or essay questions on the exams.

Homework and Handouts on WebCT

Ten homework worksheets and their keys are posted only on WebCT. They indicate the level at which I expect you to understand the material. These will not be graded, but I will take exam questions, including the essay and extra credit questions from them, so it is well worth your time to work the assignments (don't just memorize the key). There will also be a number of handouts posted only on WebCT. Use all of these study materials to ensure your success in class

Weight of Exams

Exams 1-4: Your lowest grade will be dropped; the other 3 exams count **24% each**.

Final Exam: Counts **28%** and cannot be dropped.

Grade criteria

A 90-100 B 80-89 C 70-79 D 60-69 F 59 and below

If a student's average is borderline, the letter grade will be determined at the discretion of the instructor.

Missed Exams

You must make every effort to take the exams in class at the scheduled time. You will be allowed to take a make-up exam for the following excused absences only:

- **Participation in University-sanctioned events**
- **A documented illness or hospitalization of you or your child or spouse**

- **Documented death of an immediate family member**
- **Other absences for which you have notified me at least 1 week in advance.**

The make-up exam will not be the same format as the scheduled exam given in class, although it will cover the same material. **I strongly urge you to make up any exams for which you have an excused absence.** If you have an excused absence, please notify me within 2 days (excluding weekends) after the missed exam that you need to take the make-up.

Missed Final

You must make prior arrangements with me for a make-up if you will be absent from the final. Otherwise, if I have not heard from you within 48 hours of the scheduled final, you will receive a zero for the final. You cannot drop your final exam grade.

Scholastic dishonesty

I expect you to be honest. **Scholastic dishonesty includes**, but is not limited to:

- ***using notes during an exam***
- ***looking at someone's exam or letting someone look at your exam***

Any incidents will be dealt with according to the University policy on scholastic dishonesty.

Dropping the course

Thursday October 30, 2008 is the last day for sophomores and above (≥ 30 credit hours earned) to drop with a grade of "W". **Wednesday December 3, 2008** is the last day for freshmen (< 30 credit hours earned) to drop with a grade of "W". **You must take responsibility for dropping the class.** You do not need my signature if you drop by the drop date. You **cannot** drop after the drop date simply because of low grades.

Recommendations

Frequently I write recommendations for students for nursing school, physical therapy school, etc. Come see me early in the semester so I can get acquainted with you.

Study tips

Here are some study techniques that students have shared with me. Find something that works for you. *Come to see me quickly if you are having difficulties.* Don't wait until the problem gets out of hand.

1. *Read ahead of time* for general understanding. Don't get bogged down on details the first time through.
2. *Let the textbook guide you.* Read the chapter summary, introduction and topic headings for short cuts to the material. Use the "Making Connections" section at the end of some of the chapters to see how systems interrelate. Bring your textbook to class so you can mark it instead of redrawing the figures that I present.
3. *Get to class on time.* I begin each lecture with a brief review of the previous day's lecture.
4. *Take good lecture notes.* Listen for key ideas. Don't copy every word I say. You may record the lectures if you like.
5. *Use flash cards* to help memorize material.
6. *Work the homework.* *Work in a study group.* If you can explain it to someone else, you probably really understand it.
7. *Play the "What-If" game.* Look for cause and effect relationships. Know each part of a system of the body and its interrelationship with other systems. Be able to turn a system around and ask what happens if something is missing or abnormal.
8. *Enjoy the material.* Tie it in with other courses or with material in which you are particularly interested.