

AHS 2103 Human Biology: Physiology SUMMER 2009
Sec 01F

NOTE FOR ON LINE SECTION (No attendance required): All course materials and performance assessments will be completed and administered entirely on-line through the world wide web internet and via Blackboard software of UTSA (tentatively via webct.utsa.edu). The introductory lecture on the syllabus and all lectures are recorded and posted on the Blackboard Homepage as streaming video. All performance assessments, e.g., exams and quizzes, will be administered on line beginning the date mentioned on the syllabus, i.e., exams, or date posted, i.e., quizzes; an email will be sent via Blackboard Mailbox to all enrolled students notifying them of availability and end date/time for completion of on line assessment materials. All lecture presentations will be posted, e.g., Powerpoint and pdf slides, and pdf handouts for printing, on the Blackboard course site. All correspondence will be conducted via the Blackboard Mailbox function on the course site. Grades are posted automatically upon completion of performance assessment materials. Final grades are posted subsequent to the administration of the final exam.

- Instructor:** Clyde F. Phelix, Ph.D.
Offices and Office Hours: Via Blackboard Mail.
E-mail address: **Blackboard Mail (tentatively via webct.utsa.edu)**
Department of Biology Office: BSB 2.01.02; (210) 458-4458 (1604 campus)
Course Objectives: To understand the functioning and interrelationships of physiological systems in humans.
Prerequisites: You must have successfully completed BIO 1113 (Biology I), 1122(Lab). AHS 2083 Human Biology: Anatomy recommended. Concurrent enrollment in AHS 2111 recommended.
Required Text: *Human Anatomy and Physiology: Recent edition* by Elaine N. Marieb.

Welcome to Human Physiology, a study of human life functions. In the course of a semester we will study principles of physiology, physiological processes, and the integration of these systems. An effort will be made to stress basic quantitative and integrative physiological principles and these principles will be on the in-class quizzes. Each quiz will be weighed equally toward the final grade.

This course consists of three hours of lecture and supplemental, required material on the Blackboard course site. Your grade will be determined in the following manner...

Grading System

Six (6) Comprehensive exams	60% of final semester grade
Lecture quizzes	10% of final semester grade
On Line Exercises	20% of final semester grade
On Line Case Studies	10% of final semester grade
Letter Grades	A = 90% and above
	B = 80% - 89%
	C = 70% - 79%
	D = 60% - 69%
	F = 59% and below

Note - Fractions of a percentage will be rounded to the nearest whole percentage.

through Blackboard and you are encouraged to study the posted powerpoint slide presentations carefully. This usually works to your advantage.

Lecture quizzes will be given on-line throughout the semester. **DON'T FORGET TO CHECK YOUR BLACKBOARD EMAIL**, lecture quizzes will be announced at least one day in advance.

In order to be successful in this class you will need to be dedicated, take good lecture notes, complete your on-line exercises and case studies, do well on quizzes and tests, view streaming video lectures, be attentive, and be able to memorize materials quickly. You will also need to read and study the physiology text book for comprehensive understanding of the material in the lecture presentations. **You should also use other textbooks, such as Principles of Anatomy and Physiology by Tortora and Grabowski.**

COURSE OUTLINE

<u>DATE</u>	<u>TOPIC</u>
<u>MODULE I: REGULATION: Endocrine and Nervous Systems</u>	
(M) 01 JUN	(1) Homeostatic Control Mechanisms
(M) 01 JUN	(2) Endocrine System: Overview of hormones; Glucagon & Insulin
(M) 01 JUN	(3) Diabetes Mellitus; Parathyroid hormone and calcitonin
(T) 02 JUN	(4) Hypothalamic-pituitary relationships; Posterior pituitary hormones; oxytocin; antidiuretic hormone
(T) 02 JUN	(5,6) Anterior Pituitary: GnRH;FSH, and LH in male and female
(W) 03 JUN	(7 [8 first half- no video]) Ovarian and uterine cycles (Menstrual Cycle)
(R-M) 4-08 JUN	EXAM I (Lectures 1-8) [on line exam; lectures will continue on line] (<i>CENSUS DAY: June 05 LAST DAY TO WITHDRAW WITHOUT A GRADE</i>)
(M) 08 JUN	(9) Nervous System; Neurons
(M) 08 JUN	(10) Neurophysiology; Resting Membrane and Graded Potentials
(T) 09 JUN	(11) Neurophysiology; Action Potentials
(T) 09 JUN	(12) Propagation of action potentials; synaptic transmission
(W) 10 JUN	(13) Postsynaptic potentials; summation; neurotransmitters
(W) 10 JUN	(14) Sensory receptors; Sens receptor potentials (Lec notes & video)
(R) 11 JUN	(15) Autonomic Nervous System
(R-M) 11-15 JUN	EXAM II (Lectures 9-15) [on line exam; lectures will continue on line]
<u>MODULE II: Movement: The Somatic Nervous and Skeletal Muscle Systems</u>	
(M) 15 JUN	(16) Reflex arc; stretch and flexor reflexes

(M) 15 JUN (17) **Muscular System**; Muscle action potential; Overview

(T) 16 JUN (18) Microscopic anatomy; skeletal muscle contraction

(T) 16 JUN (19) Excitation-contraction coupling; Summation

(W) 17 JUN (20) Agents that interfere with muscle contraction and Disorders Lecture 20

(W-M) 17-22 JUN **EXAM III** (Lectures 16-20) [on line exam; lecs will continue on line]

MODULE III: Distribution: The Cardiovascular and Lymphatic Systems

(R) 18 JUN (21) **Cardiovascular System**; cardiac versus skeletal muscle

(R) 18 JUN (22) Heart anatomy; pathway of blood; heart valves

[MONDAY JUNE 26: LAST DAY TO DROP WITH AUTOMATIC W]

(M) 22 JUN (23) Cardiac muscle fibers; intrinsic conduction system; ECG

(M) 22 JUN (24) Cardiac cycle; heart sounds; cardiac output; regulation of HR
Capillary blood flow

(T-R) 23-25 JUN **EXAM IV** (Lectures 21-24) [on line exam; lectures will continue in class and on line]

MODULE IV: Disease Resistance: The Lymphatic and Immune Systems

(T) 23 JUN (25) **Lymphatic & Immune System**; Nonspecific defenses; Inflammatory response

(T) 23 JUN (26) Antimicrobial proteins; Immunity; Antigens

(T) 23 JUN (27) B and T cells; Humoral and cell-mediated immune responses

MODULE V: Gas Exchange and pH Balance: The Respiratory System

(W) 24 JUN (28) **Respiratory System**; conducting/respiratory zones, pleura

(W) 24 JUN (29) Mechanisms of breathing; External, Internal respiration; Control of Respiration

MODULE VI: Fluid and pH Balance: The Urinary System

(W) 24 JUN (30) **Urinary System**; anatomy, nephrons; net filtration pressure

(R) 25 JUN (31) Glomerular filtration rate; Tubular reabsorption

(R) 25 JUN (32) Tubular secretion; Electrolyte balance; aldosterone, ADH

(R) 25 JUN (33) Review of pH, **Acid-base balance**; chemical buffers

(R) 25 JUN (34) Respiratory and renal mechanisms of acid-base balance

(R) 25 JUN (35) Respiratory and renal mechanisms of acid-base balance Blackboard Lecture

(F-T) 26-29 JUN **EXAM V** (Lectures 25-35) [on line exam; lectures will continue on line]

MODULE VII: Energy Acquisition and Use: The Digestive System

(M) 29 JUN (37) Cephalic Phase; Mechanical and Chemical Digestion

(M) 29 JUN (38) Chemical Digestion and Absorption

(T) 30 JUN (39) Carbohydrate, Lipid, and Protein Metabolism

(W) 01 JUL (40) Energy Expenditure: Metabolic Rate

MODULE VIII: Continuity: The Reproductive System

(R) 01 JUL (41) **Reproductive System**; Male and female anatomy and the sexual response cycle

(F-T) 02-03 JULY, **FINAL EXAM** ON-LINE (Covers lectures 37-41)

EXAM SCHEDULE: [Each exam will be posted on line on Blackboard. You will have instructions for duration and availability schedules on all Exams; check the Calendar. You will be given two attempts on the first five exams and ONLY ONE attempt on the final. The exams will be posted starting on the dates below and will remain available for you to take them until 11:55 pm on the last posted day.]

EXAM I Thursday, 04 June

EXAM II Thursday, 11 June

EXAM III Wednesday, 17 June

EXAM IV Tuesday, 23 June

EXAM V Friday, 26 June

FINAL EXAM Thursday, 02 July

Policy sheet

Attendance

There are NO in-class lectures or meetings for on line only sections! Be sure to view the Blackboard posted lectures, you might miss tips for the exams.

Exams:

EXAMS 1 - 5 approximately 50 TO 75 questions; FINAL EXAM 50 questions.

Each exam will be graded by Blackboard on line and instantly, except for any short answer questions. Questions will be multiple choice, matching, true/false, fill-in-the-blank (requiring correct spelling) and short essay. Check and double check your on line grades and send me an email through Blackboard Mailbox **promptly** if you have any questions.

Missed quizzes and exams

There are NO make-up exams or quizzes! You must notify me, through Blackboard Mailbox, of problems that will prevent you from taking an exam within **2 calendar days** (excluding weekends) before the scheduled day of the exam unless you and I have made other arrangements. Leave a message with the Department office (458-4458) if you do not receive a reply from me by Blackboard Mailbox email.

Missed final

You will receive a grade of "I" (incomplete for a postponed final) if you make prior arrangements. Otherwise, if I have not heard from you within 1 day after the final, you will receive a zero for the final.

Cheating (See <http://www.utsa.edu/gcat/inprogress/09-10/B%20Student%20Code-0809.pdf> for Student Code of Conduct)

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

- 1) using notes or any materials while actively taking an exam or any performance assessment**
- 2) looking at on line materials while actively taking the exam or any performance assessment**
- 3) looking at another's or letting someone look at your exam or any performance assessment**
- 4)utilization of 'old' exams, exercises, case studies, or any such materials from prior years of the course (none of this course material should exist outside of Blackboard – if found destroy)**

Dropping the course

Monday, June 22 begins the last day(s) to drop and still get 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.