SPRING 2013 SYLLABUS

Instructor: Candi K. Heimgartner Lab Coordinator: Loretta Broce

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Office Hours: Wednesday 11:00-12:20 and 1:30-2:30

By Appointment

During scheduled lab sessions

Prerequisite: Biology 120 - Human Anatomy (or other approved course) is required as a prerequisite for this course. If you have not met this requirement, please see me immediately. One semester of college chemistry is recommended but not required.

Textbook: Sherwood, Lauralee, "Fundamentals of Physiology - A Human Perspective", 4th Edition, 2012, Brooks/Cole. Diagrams, lecture material and related exam questions may be taken from this text for use during the course.

Lab Text: Heimgartner, Candi, "Laboratory Manual for Human Physiology", Kendall Hunt Publishing, 2012.

Learning Outcomes: This course will provide a basic overview of human physiology. For the students pursuing careers in the Allied Health Sciences and Physical Science curriculums, this course will be your primary exposure to human physiology. It is important to learn how the healthy body functions before you can learn in future classes how disease and injury impair function. The goal of this course is to provide a fundamental background in human physiological function to enable you to be successful in an allied health career, future exams and future courses related to physiology. It is important to remember that physiology is the study of function and therefore strict memorization will not enable you to master the material in this course. You will need to be able to think critically about the material and apply learned concepts to physiological situations. A strong background in human anatomy is a must for success in this course and I will teach the course under the assumption that you have met the prerequisite requirement and are comfortable with your knowledge of human anatomy.

Exams and Grading: This course is designed around a 50 minute lecture three times a week as well as an associated laboratory portion of one 3 hour session per week. The lecture will present material related to physiological function while the lab will be used to demonstrate these functions or provide more detail of a specific process. Your grade in this course will be based on: five multiple choice lecture exams worth 100 points each, one final exam worth 100 points, three lab exams worth 75 points each, 90 points of lab quizzes, 50 points of lab activities, posters and/or presentations, and 35 points based on the discretion of the instructor to include in class pop quizzes, writings, etc. There is a total of 1000 points for this course.

Due to the nature of human physiology, each lecture exam is considered comprehensive. This means that in order to understand how the kidney functions, you must have a solid background in cellular function and membrane transport mechanisms.

In order to reschedule an exam, you MUST have an official university excused absence. This is limited to athletic travel and doctor recommended absences ONLY. If you need to miss an exam for ANY other reason, this is your choice. If you have any questions about this policy, you MUST

contact me at least ONE WEEK BEFORE the scheduled exam. Not showing up for an exam means that you earn a zero. Any rescheduled exams time and format will be at the discretion of the instructor.

Lab exams cannot be rescheduled outside the week of exams regardless of circumstances. In order to take a lab exam in an alternate section, you must contact me, in writing, at least one week prior to the scheduled exam. Lab exams will include both written and procedural questions.

If you think that your exam was incorrectly graded, you must submit your concern to me IN WRITING no more than three class days following the exam. I will NOT entertain verbal requests for additional points, but I would be happy to recheck your exam if you submit your request in writing in a timely manner. Grading concerns must be typed, in a memo format and contain the question number and explanation of the concern. These will be returned following the submission deadline for each exam. Grading concerns may NOT be submitted via e-mail. The comprehensive lecture final, lab exam III, writing assignments and quizzes are exempt from this grading concern submission policy.

Any subsequent concerns or policies concerning grading and exams may be found in your student handbook and corresponding catalog for reference. These publications will be referred to concerning any other aspects of examinations and student grades.

There will be 35 points of your grade at the discretion of the instructor. These may be included in, but not limited to: pop quizzes, writing assignments, case studies, attendance points and participation points.

Lab Fees: these may be reimbursed only if the course is dropped within the first two weeks of the semester. A credit to your account will automatically be processed by Accounting Services

Suggestions for Success: This course is very fast paced and integrated. It is therefore very important that you keep up with study of the material. If you fall behind, I suggest dropping the course. It is extremely difficult to catch up in a course that builds on presented topics throughout the semester.

I suggest reading the chapter summaries before attending the lecture on the material. Don't worry about the details in the chapters, we will cover those in lecture. After attending the presentation, I suggest THEN reading the chapter front to back, reviewing your lecture notes at the same time. Highlight or otherwise note key concepts during this phase of study. The following day, review these key concepts and incorporate the new material. In this manner, you will be able to simply review the key concepts the day before the exam since you have seen them everyday prior!

BIO 121 – HUMAN PHYSIOLOGY TENTATIVE LECTURE SCHEDULE

Wednesday 1/9	Introduction and Chapter 1 - Homeostasis
Friday 1/11	Chapter 2 - Cellular Physiology
Monday 1/14	Chapter 2 - Mitochondrial Physiology and the Cytoplasm
Wednesday 1/16	Chapter 3 - Cell Membranes, Connections, and Communication
Friday 1/18	Chapter 3 - Membrane Transport
Monday 1/21	Martin Luther King Day - No Classes
Wednesday 1/23	Chapter 3 - The Membrane Potential
Friday 1/25	Chapter 4 - Neurophysiology Part I
Monday 1/28	Chapter 4 - Neuronal Physiology Part II
Wednesday 1/30	Chapter 4 - Synapses and Neuronal Integration
Friday 2/1	Catch-up/Review/ Q&A
Monday 2/4	Exam I - Chapters 1, 2, 3 and part of 4
Wednesday 2/6	Chapter 4 - Intercellular Communication and Hormones
Friday 2/8	Chapter 5 - CNS Overview, Intro to the Cerebrum
Monday 2/11	Chapter 5 - The Cerebrum and Forebrain
Wednesday 2/13	Chapter 5 - Limbic System and Memory
Friday 2/15	Chapter 5 - Cerebellum and Brain Stem
Monday 2/18 Wednesday 2/20 Friday 2/22	President's Day - No Classes Chapter 5 - Sleep and Spinal Reflexes Exam II - Chapter 5 and part of 4
Monday 2/25	Chapter 6 - PNS Receptors and Pain
Wednesday 2/27	Chapter 6 - Hearing and Equilibrium
Friday 3/1	Chapter 6 - Vision
Monday 3/4	Chapter 7 - PNS: Efferent - SNS
Wednesday 3/6	Chapter 7 - PNS: Efferent - ANS
Friday 3/8	Catch-up/Review/Q&A
Monday 3/11 Wednesday 3/13 Friday 3/15	Spring Break - No Classes
Monday 3/18 Wednesday 3/20 Friday 3/22	Exam III - Chapters 6 and 7 Chapter 8 - Muscle Contraction Chapter 8 - Muscle Metabolism and Fiber Types
Monday 3/25	Chapter 9 - Cardiac Physiology and EKG's
Wednesday 3/27	Chapter 9 - Cardiac Cycle and Cardiac Output
Friday 3/29	Chapter 10 -Blood Pressure I

Monday 4/1 Chapter 10 - Blood Pressure II Chapter 11 - The Blood Wednesday 4/3 Friday 4/5 Catch-up/Review/Q&A Monday 4/8 Exam IV - Chapters 8, 9, 10, 11 Wednesday 4/10 Chapter 12 - Respiratory Mechanics Friday 4/12 Chapter 12 - Gas Exchange and Transport Monday 4/15 Chapter 16 - Introduction to Digestive Control Wednesday 4/17 Chapter 16 - Mouth and Stomach Physiology Friday 4/19 Chapter 16 - The Intestines Monday 4/22 Chapter 16 - Accessory Organs to Digestion Wednesday 4/24 Exam V - Chapters 12 and 16 Friday 4/26 Chapter 13- Introduction to Urinary Physiology Monday 4/29 Chapter 13 - The GFR Wednesday 5/1 Chapter 13 - Tubular Absorption and Secretion Friday 5/3 Catch-up/Review/Q&A

Wednesday 5/8 Final Exam 12:30-2:30

(50 points Chapter 13, 50 points Comprehensive)

BIO 121 – HUMAN PHYSIOLOGY TENTATIVE LAB SCHEDULE

Week of 1/14	Exercise 1 - Microscopy and Histology Completion of Drawings and Questions - 10 pts
Week of 1/21	Exercise 3 - Membrane Transport Quiz 1 - 10 pts
Week of 1/28	Exercise 4 - Membrane Potential Quiz 2 - 10 pts Lab Improvement Paper - 10 pts
Week of 2/4	Exercise 5 - The Endocrine System and Hormone Feedback Loops Exercise 6 - Urinalysis Quiz 3 - 10 pts
Week of 2/11	Lab Exam I - 75pts
Week of 2/18	Exercise 7 - Memory and Learning
Week of 2/25	Exercise 8 - Receptors and General Senses Quiz 4 - 10 pts
Week of 3/4	Exercise 9 - Special Senses - Vision, Hearing and Equilibrium Quiz 5 - 10 pts Completion of Lab Summary and Questions - 10 pts
Week of 3/11	Spring Break - No labs
Week of 3/18	Exercise 10 - Special Senses - Taste and Smell Quiz 6 - 10 pts Lab Improvement Paper - 10 pts
Week of 3/25	Lab Exam II - 75pts
Week of 4/1	Exercise 12 - Skeletal Muscle Action Potentials and Muscle Fatigue Exercise 13 - Introduction to Reflexes
Week of 4/8	Exercise 14 - The Analysis of Blood Quiz 7 - 10 pts
Week of 4/15	Exercise 15 - Cardiovascular Physiology and Blood Pressure Exercise 16 - Cardiovascular Physiology and the EKG Quiz 8 - 10 pts Blood Pressure Practice Practicum and EKG Drawings - 10 pts
Week of 4/22	Exercise 17 - Respiratory Physiology Quiz 9 - 10 pts
Week of 4/29	Lab Exam III - 75pts