

SYLLABUS FOR BIOL 2305/2102

Human Physiology, Fall 2006

39858 Lec 009| [CYP](#) CYP1 1083 TTh 7:45am- 9:00am39828 Lab 009| [CYP](#) CYP1 1085 Th 9:10am-11:50am

INSTRUCTOR	Dr. Anikó Szabó Hill MD, PhD MD of general medicine, Szent Györgyi Medical School, Szeged, Hungary PhD of Neurobiology, Cornell University Graduate School of Medical Sciences, NY, NY and Sloan-Kettering Cancer Institute, NY, NY
OFFICE	CYP Portable # 3 / lobby
ACC PHONE	223-1795 ext. 25771 + voice mail
WEB SITE	http://www.austincc.edu/aszabohi
FAX	223-2046 – use cover sheet with my name on it
e-mail	aszabohi@austincc.edu
BLACKBOARD	http://itdl.austincc.edu/blackboard/stlogin.htm
HOURS	T 9-10 am MW 11-12 am or call or email for appointment

BIOL 2305 HUMAN PHYSIOLOGY LECTURE Lecture component of Human Physiology. A detailed study of the physiological processes of the healthy human body.

Corequisite enrollment in laboratory course (BIOL 2102) also required. Skills: G
Prerequisites: CHEM 1405, BIOL 1406 and BIOL 2304/2101 or equivalents with lab.

Unit 1: Biochemistry, plasma membrane physiology

Unit 2: Nervous system physiology

Unit 3: Muscle physiology

Unit 4: Cardiovascular physiology

Unit 5: Organ systems physiology

BIOL 2102 HUMAN PHYSIOLOGY LAB Laboratory component of Human Physiology. Emphasis on lab-based investigations of physiological processes.

Corequisite enrollment in lecture course (BIOL 2305) also required.

Prerequisites: CHEM 1405, BIOL 1406 and BIOL 2305/2101 or equivalents with lab.

You cannot take this class if you do not have all prerequisites with a minimum grade of C. Your reading, writing and math skill levels must be ACC level 5 or above or you must have passed a state-approved assessment test.

COMMUNICATION: I prefer to communicate with you by e-mail

REQUIRED TEXTS AND MATERIALS:

- 1) text book:
Vander's Human Physiology (10) PK McGraw-Hill Widmaier Et Al.
- 2) calculator that will perform simple operations including square roots
(each person must have his or her own calculator)
- 3) safety eye wear that meets Z87.1 standards (safety glasses with permanent side shields or safety goggles (vented)
- 4) closed-toed shoes for labs

OTHER REQUIRED COURSE MATERIALS:

1. Lecture Outlines: The lecture outlines indicate in general the material to be covered in each lecture, with room for you to fill in the details.
You can download them from my web-site.
2. Lab Objectives: It is a weekly material you will receive from me.
For preparation for laboratory
For preparation of lab report
For lab quizzes
3. Lists of Exam Essay Questions: These are lists of essay questions for each unit. I will choose a few questions from this list for each lecture exam. You should be able to prepare excellent responses to all the questions since you have them beforehand. The essay question do not cover all the material you need to know for the multiple choice part of the exams.
You can download them from my web-site.

You will be tested on all of the material covered by the lectures during lecture exams.

Lab objectives will be tested in quizzes.

Some of the topics in the lecture notes will be homework assignment.

ACC POLICY CONCERNING COPYRIGHTED MATERIALS: All class materials provided on the instructor's web page, electronic reserves, on diskette, on CD, and in printed form (labs, objectives, assignments, etc.) are copyrighted and may not be reproduced without the written consent of the copyright holder (this may be the instructor, ACC, or a publisher). Reproduction consists of photocopying, scanning and copying files, or posting on a server or web site. Students currently registered for this section have permission to print one copy of course materials for their own personal use. No permission is given for posting any course materials on web sites.

COURSE RATIONALE: This course is designed for students entering professional programs such as nursing. It provides a foundation for the clinical topics covered in those courses by requiring mastery of factual material, laboratory techniques, and problem-solving skills.

WARNING: If you are planning to transfer to another institute, first check with them to see how it transfers, as specific course or for biology credits or science credits or elective.

COURSE METHODOLOGY: This is an **in-class** lecture and lab course.

COURSE GOAL: Most of you probably have as your goal a specific grade and 4 credit hours. ACC and I, however, share the goal of ensuring that students who pass the course and receive 4 credit hours:

- ✓ learn and retain the subject material at the knowledge, comprehension, application and analysis levels,
- ✓ improve their critical thinking skills,
- ✓ improve their ability to work independently and follow directions, and
- ✓ are prepared for subsequent courses and professional work.

My job is to help you meet both goals by assisting you in your learning effort, and to ensure the institution's goal by evaluating your progress. This generally involves:

- delivery of information, in which I help you obtain information through lectures, handouts, assigned directed reading (looking for answers to objectives), and problem-based learning,
- reinforcement, in which information is presented in several different ways (labs, homework, answering objectives) so that it's more easily understood and remembered,
- assessment, in which I use different methods of finding out what you know and how well you understand concepts (lab reports, homework, quizzes, exams), and
- feedback, in which I let you know how, or if, your work was incomplete and how to improve for the next assessment.

COMMON COURSE OBJECTIVES: http://www2.austincc.edu/biology/cc_objectives

Specific learning objectives for lectures and labs are posted on this web site. They constitute the basic description of what you have to know for the course.

Most of the material in the lecture objectives will be covered in lecture, or in handouts.

You are responsible for and will be tested on all of the material specified by the objectives regardless of whether or not it is covered in lecture.

ATTENDANCE: Your course performance depends on your attendance. You are responsible for all materials, activities, assignments, or announcements covered in class, regardless of your reason for being absent. If you do miss a class, get lecture notes from someone in the class and get handouts and assignments from me. Some of the lecture notes will be on my web-page.

WITHDRAWING: The last day to withdraw for this semester is 11/27/06.

Student-initiated withdrawal: You are responsible for withdrawing yourself from the course if you cannot complete the course requirements or if you do not have the grade you wanted. If you do not complete the course requirements and forget to withdraw you will have a grade of "F" on your transcript.

I will be glad to help you figure out your current course average before the drop date.

Instructor-initiated withdrawal:

- The instructor may withdraw any student who fails to attend two successive class periods.
- The instructor may withdraw any student who misses an exam and fails to take a makeup exam within the stated period of one week following the exam.
- The instructor may withdraw any student who has disruptive behavior in the class.

You should be aware of recent changes in Texas law before you decide to drop:

Students who entered a Texas public college for the first time in or after the fall of 1999 are subject to a Texas statute that limits the number of courses a student may take for which the state will pay the college.

EXPECTATIONS: I expect you to be prepared for each lecture and lab class and to participate in all class activities. Lectures will not be used to review material from prerequisite courses. If you need help with review material you should see me during office hours, use the parallel studies lab tutors, or use your study group. You should expect to spend *at least* 2 hours outside of class for every hour spent in class just to *pass* the course (16 hours a week in addition to time spent in class). More time may be needed to pass or to get a higher grade. Make sure you have enough time to accomplish your goals.

BEHAVIOR: I expect professional and respectful behavior from everyone. If you have any question that is no benefit to the class, you need to see me during office hours. Do not disturb class activity with personal questions. I also expect everyone to respect privacy of my belongings and to ask me first, before you grab any paper from my desk.

DISABILITIES: If you have a disability you must bring a copy of your letter of accommodation before we can make special arrangements for lecture, lab or testing. If you have a medical condition that would require you to leave the room during an exam, you are responsible for making alternative arrangements with me at least one week in advance of the scheduled exam.

GRADES: Your final grade depends on how many points you accumulate:

<i>Source of Points</i>	<i>#</i>	<i>Points Each</i>	<i>Total Points</i>	<i>Percent of Grade</i>
Unit exams	5	100	500	55
Lab reports	15	15	225	25
Pre-Lab Quizzes	9	15	135	15
Homeworks	5	10	50	5
Total			910	100

*If there are fewer or more lab reports, quizzes or assignments, the total number of points will be adjusted before computing your course average.

** less points deducted for failing to clean up in lab

final grade scale: 90-100% = A; 80-89% = B; 70-79% = C; 60-69% = D; < 60% = F

NO CURVE, NO EXTRA CREDIT

In the case of borderline final course grades (tie-69%, 79%), I will make a decision about whether or not to assign the next higher grade based on your exam averages alone.

A grade of incomplete (I) will be assigned only if:

- 1) you have a valid reason that is documented and can be verified,
- 2) you request a grade of I in writing and submit documentation supporting the request,
- 3) you have completed at least half of the course work,
- 4) you have at least a C (70%) average on completed work.

ASSIGNMENTS: During the semester you will be given 5 homework assignments related to the current objectives. Specific instructions and deadlines will be included. Assignments will require the use of the textbook and class notes as references. I will not accept late assignments (they get zero points), so fax them to me if you can't get here.

COLLABORATIVE VS INDIVIDUAL WORK:

Take-home assignments are not intended to be collaborative work. Lab reports are expected to be collaborative efforts because in most labs you will be working with your lab group to collect and analyze data.

TIMELY RETURN OF PAPERS: Papers and exams will be returned within one week of submission.

EXAMS: There will be 5 unit exams, see course outline for dates. Unit exams are about 2/3 objective multiple choice and 1/3 essay. The chapters covered by each exam are indicated on the course outline, and the material is specified more detail in the course objectives. Once you take an exam, you may not take it again to try for a better grade. All exams will be given in class on the days when they are scheduled unless the class and the instructor think that there is a valid reason for changing the date. When you take an exam you will be given an exam booklet and a scantron sheet. Before you leave the room you must turn in the exam booklet or you will receive a grade of 0 for the exam. You may not leave without turning in your exam and answer sheets. If you are late, you cannot take the exam if anyone else from the class has already completed the exam or left the room.

MAKEUP EXAMS: You can take one makeup exam in the testing center during the semester, if you miss the regularly scheduled exam. You must take the makeup exam within one week of the date on which the missed exam was scheduled.



STATEMENT ON SCHOLASTIC DISHONESTY -"Acts prohibited by the college for which discipline may be administered include scholastic dishonesty, including but not limited to, cheating on an exam or quiz, plagiarizing, and unauthorized collaboration with another in preparing outside work. Academic work submitted by students shall be the result of their thought, research or self-expression. Academic work is defined as, but not limited to, tests, quizzes, whether taken electronically or on paper; projects, either individual or group; classroom presentations; and homework."

STATEMENT ON STUDENTS WITH DISABILITIES -"Each ACC campus offers support services for students with documented physical or psychological disabilities. Students with disabilities must request reasonable accommodations through the Office of Students with Disabilities on the campus where they expect to take the majority of their classes. Students are encouraged to do this three weeks before the start of the semester."

STATEMENT ON ACADEMIC FREEDOM -"Institutions of higher education are conducted for the common good. The common good depends upon a search for truth and upon free expression. In this course the professor and students shall strive to protect free inquiry and the open exchange of facts, ideas, and opinions. Students are free to take exception to views [*but not facts*] offered in this course and to reserve judgment about debatable issues [*but not facts*]. Grades will not be affected by personal views. With this freedom comes the responsibility of civility and a respect for a diversity of ideas and opinions. This means that students must take turns speaking, listen to others speak without interruption, and refrain from name-calling or other personal attacks."

BLOOM'S TAXONOMY

- 1.00 KNOWLEDGE (remembering previously learned material)
knowledge of specific facts and definitions, classifications, criteria
- 2.00 COMPREHENSION (grasping the meaning of material)
converting material from one form to another; explaining or summarizing material,
extending the meaning beyond the data
- 3.00 APPLICATION (using information in concrete situations)
- 4.00 ANALYSIS (breaking down material into its parts)
identifying the parts, the relationship between the parts, the way the parts are
organized
- 5.00 SYNTHESIS (putting parts together into a whole)
- 6.00 EVALUATION (judging the value of a thing using definite criteria)

BIOL 2102 LAB POLICIES

Human physiology lab is a self-directed learning activity. All of the equipment and materials you need to complete the exercises will be supplied. You will prepare before coming to class and will work cooperatively to complete the exercises in the time allowed. You will need to have your lab handout, calculator, textbook and safety equipment for each class. I will act as a resource person and troubleshooter. There are no lab makeups for this course.

GENERAL LAB OBJECTIVES:

1. observe and apply physiological principles
2. learn how to use laboratory equipment
3. learn how to analyze data gathered during lab exercises
4. learn how to read and make graphs

LAB REPORTS:

You will have to make 15 reports. They have to be done by the end of the lab with your group.

PRE-LAB QUIZZES:

You will have 9 quizzes that will cover material from the next lab and will be given at the beginning of the lab period. The lowest grade can be replaced by an extra credit quiz. You may have one makeup during the semester. See dates in the schedule.

CLEANUP: Each group must clean up its equipment and desk before leaving. If a group does not clean up I will deduct points from the lab grade of each group member. Unless otherwise instructed:

- 1) wash all glass and plastic with brush and soapy water, remove marks, rinse and place in drainer
- 2) turn off and then unplug all electrical equipment
- 3) put animal parts in disposal bag
- 4) put contaminated materials in biohazard bag
- 5) clean any apparatus that has had solutions on or in it
- 6) wipe down the table with soap or disinfectant as directed
- 7) follow specific instructions on the chalk board and in the lab instructions

LAB GRADE: Based on lab report, participation and cleanup. See course schedule for points.

SAFETY: Biology Lab Rules and Information handout, Safety Contract

You will wear nitrile or latex gloves, safety eye wear and closed toed shoes when participating in labs that use chemicals, animals, sharps or body fluids. Gloves will be provided by ACC. If you show up on lab days without appropriate safety eye wear and shoes you will not be able to participate in lab or remain in the room during class and you will lose those lab points. You will not be permitted to participate in labs until you complete safety training and will receive a grade of zero for labs you miss for this reason. You will be removed from the college if you endanger the health or safety of any ACC student, staff or faculty.

STATEMENT ON SAFETY - "Health and safety are paramount values in science classrooms, laboratories and field activities. Students are expected to learn, understand and comply with environmental, health and safety (EHS) procedures and protocols, and must agree to abide by the ACC science safety policy. Students are expected to conduct themselves with appropriate professional behavior and with respect and courtesy to all. Anyone who thoughtlessly or intentionally jeopardizes the health of another individual will be immediately dismissed from the day's activity, may be withdrawn from the class, and/or barred from attending all activities. Specific safety information for each activity will be discussed at the beginning of the activity. For those activities that require specific safety training, a student who is late and misses the safety training will not be able to participate in the activity. The comprehensive science safety policy can be found at:
<http://www.austincc.edu/sci-safe/>.

TESTING CENTER: <http://www2.austincc.edu/testctr/>

STUDENT SERVICES: The web address for student services is:
<http://www3.austin.cc.tx.us/evpcss/rss/Default.htm>. The ACC student handbook can be found at: <http://www3.austincc.edu/evpcss/handbkitoc.htm>.

INSTRUCTIONAL SERVICES FOR STUDENTS: The web address is:
<http://www3.austincc.edu/evpcss/memos/reference.htm>, then click on "Campus Based Student Support Overview".

Official Biology Department Policy Concerning Student Use of Organisms in the Classroom and Laboratory

Most ACC biology classes, particularly those with laboratory components, use actual organisms during instruction in addition to images and models. ACC students generally are preparing for real-world careers requiring workers with hands-on experience. These careers include health care, veterinary work, horticultural and agricultural work. Other students plan to transfer to four-year colleges and will be participating in biological research where hands-on experience is equally important.

Organisms used at ACC are fundamental in biology instruction and they are utilized to teach specific skills and knowledge. Their condition and usage varies from course to course. **Students will be expected to actively participate in these activities.** Students with particular concerns in this matter should consult with their instructor and/or departmental officials before enrolling in a laboratory course so that they can know what will be required of them.

Some organisms are observed alive while others are dead and preserved in various ways. Student manipulation of organisms ranges from culturing living organisms to dissecting preserved ones. Some examples include, but are not limited to: bacterial culturing for microbiology courses; cat, pig or rat dissection for anatomy courses; skeleton and pelt examination for field biology; and use of frogs in physiology experiments.

Approved by Biology Department, February 6, 2004

Unit exams

Exam # 1 _____/100
Exam # 2 _____/100
Exam # 3 _____/100
Exam # 4 _____/100
Exam # 5 _____/100

Homework

homework 1 _____/10
homework 2 _____/10
homework 3 _____/10
homework 4 _____/10
homework 5 _____/10

TOTAL LECTURE pts: _____/550 pts

Lab Quizzes

quiz 1 _____/15
quiz 2 _____/15
quiz 3 _____/15
quiz 4 _____/15
quiz 5 _____/15
quiz 6 _____/15
quiz 7 _____/15
quiz 8 _____/15
quiz 9 _____/15

Lab Reports

labreport 1 _____/15
labreport 2 _____/15
labreport 3 _____/15
labreport 4 _____/15
labreport 5 _____/15
labreport 6 _____/15
labreport 7 _____/15
labreport 8 _____/15
labreport 9 _____/15
labreport 10 _____/15
labreport 11 _____/15
labreport 12 _____/15
labreport 13 _____/15
labreport 14 _____/15
labreport 15 _____/15

TOTAL LAB pts: _____/360 pts

TOTAL pts: _____/910 pts

AVE:

GRADE:

BIOL 2305/ 2101 Human Physiology Course Schedule

<u>DATE</u>	<u>Lecture</u>	<u>Laboratory</u>	<u>Quiz</u>
1/17	Syllabus & Metric system		
1/19	Chemistry Review	Safety, Metric System, Scientific Method	Q1
1/24	CH-13 Plasma Membrane		
1/26	CH3-Plasma Membrane	Organic Molecules	
1/31	CH1-Homeostasis		
2/2	CH2-Cellular Physiology	Physio Ex.- Membrane	Q2
2/7	Exam # 1		
2/9	CH4-Neurophysiology	Wet lab-Membrane Transport	
2/14	Neurophysiology		
2/16	Neurophysiology	Reflex Physiology PhysioEx. Nerve conduction	
2/21	Neurophysiology		
2/23	CH6-PNS, CH7-ANS	Sensory Physiology	
2/28	CH6-Special Senses		
3/2	Exam # 2	Blood Safety & Hematology	Q3
3/7	CH8-Muscle Physiology		
3/9	CH8-Muscle Physiology	Skeletal Muscle Physiology	Q4
3/13- 3/19	Spring Break		
3/21	CH9-Cardiac Physiology		
3/23	CH9-Cardiac Physiology	Frog Heart Physiology	Q5
3/28	CH-10 Vascular Physiology		
3/30	CH11-Blood	EKG/ Blood Pressure	Q6
4/4	Exam # 3		
4/6	CH18-19-Endocrine System	Diseases	
4/11	CH12-Immunity		
4/13	CH13-Respiration	Respiratory Physiology	Q7
4/18	Exam # 4		
4/20	CH16-Digestion	Nutritional Assesment	
<u>4/24</u>	<u>LAST DAY TO WITHRAW</u>		
4/25	CH14-Urinary		
4/27	CH14-Urinary	Digestion Laboratory	Q8
5/2	Fluid & Acid-Base balance		
5/4	Fluid & Acid-Base balance	pH & buffers	Q9
5/ 9	CH20-Reproductive		
5/11	Exam # 5	Urinary Laboratory	

Note: This schedule is subject is to change.

Dr. Anikó Szabó Hill