

# The University of Texas at San Antonio

**SUMMER 2009**

## **BIO 3422 (GENERAL PHYSIOLOGY LABORATORY) COURSE SYLLABUS**

**LAB INSTRUCTOR:** Harish Talla

Email: [h.talla@hotmail.com](mailto:h.talla@hotmail.com)

**LAB PHONE:** \_\_\_\_\_

**OFFICE HOURS:** By appointment

**CLASS ROOM:** SB 3.01.48

**LABORATORY Schedule:** BIO 3422.01F

MWR 8:00-12:55 PM

**COORDINATOR** Pramod Kumar, Ph. D. Phone # 458-5497

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**TEXTBOOK:**

i) Blackboard Lab Manual

ii) PhysioEX 8.0 for A&P Laboratory Simulations in Physiology by Zao *et. al.*

**COURSE OBJECTIVE:** The objective of this course is to provide you with a basic understanding of the physiological processes in living systems employing methods and instruments of biological research. Concurrent enrollment in BIO 3413 is recommended.

**COURSE OUTLINE:** Please see attached sheet

**GRADING POLICY and Course Policies:** Please refer to your lab manual for course policies.

<b><i>Grade to be allocated</i></b>	Quizzes	20%
A = 90 or more	Lab Report + HW & participation	15%+5%
B = 80 – 89	Mid Term	25%
C = 70- 79	Finals	25%
D = 60 – 69	Group Presentation	10%
F = less than 60	<b>Total</b>	<b>100%</b>

**EXAMINATION SCHEDULE:** Please see next course outline page. Examination time will be announced later.

**CLASSROOM BEHAVIOR EXPECTATION**-Students are expected to assist in maintaining a classroom environment that is conducive to learning. To assure all students have the opportunity to gain from time spent in class, students are prohibited from engaging in any form of distraction. Inappropriate behavior in the classroom shall result, minimally, in a request to leave class.

There will be no make-up quizzes. Make-up examinations are given only under certain extenuating circumstances and are generally more difficult than the regularly scheduled exams. Please see attached policy sheet for details.

**BIO 3422: GENERAL PHYSIOLOGY LABORATORY  
COURSE OUTLINE**

	DATE	EXPERIMENT	CHAPTER	NOTES
<b>WEEK 1</b>	M 6/1/2009	Introduction to the Power Lab	<b>Lab Tutor:</b> Introduction	
	W 6/3/2009	Osmosis, Diffusion, Tonicity and Cell Permeability	Lab Exercise 2	Quiz 1 Grade ____
	R 6/4/2009	Chemical Communication: Steroids	Lab Exercise 3 & PhysioEX Ex 4	
<b>WEEK 2</b>	M 6/8/2009	Bioelectrical Communication- Organization of the Somatic Nervous System	PhysioEX Ex 3	Quiz 2 Grade ____
	W 6/10/2009	Bioelectrical Communication- Organization of the Autonomic Nervous System (frog heart)	PhysioEX Ex 6	
	R 6/11/2009	Bioelectrical Communication: Organization of the Somatic and Autonomic Nervous System (pupillary and blink reflexes)	<b>Lab Tutor:</b> Pupillary and Blink reflexes	Quiz 3 Grade ____ <b>MIDTERM REV</b>
<b>WEEK 3</b>	M 6/15/2009	<b>MIDTERM</b>	<i>Lab Tutor Exercises and PhysioEX 3, 4, and 6</i> Midterm Grade: ____	
	W 6/17/2009	Muscle Contraction: Frog muscle and human motor points	<b>Lab Tutor:</b> Muscle Contraction	
	R 6/18/2009	Sensory Input	<b>Lab Tutor:</b> Sensory Input	Quiz 4 Grade ____
<b>WEEK 4</b>	M 6/22/2009	Luminescence Renal Physiology	Lab Exercise 9 PhysioEX 9	
	W 6/24/2009	The Cardiovascular System	<b>Lab Tutor:</b> Cardiovascular...	Quiz 5 Grade ____
	R 6/25/2009	Systemic Respiration	<b>Lab Tutor:</b> Systemic Resp.	
<b>WEEK 5</b>	MON 6/29/2009	<b>GROUP PRESENTATIONS</b>		Quiz 6 Grade ____
	WED 7/1/2009	<b>FINAL EXAM</b>	<i>All lab exercises after midterm</i>	

## COURSE INTRODUCTION

### General Physiology Lab

#### **Preparation**

Read the lab experiments for each day's class before class.

#### **Quizzes**

Weekly quizzes will be in assigned lab meetings, which will cover the material from last lab and the lab to be done that day.

Quizzes will be given at the beginning of the lab period. You will have approximately 20-25 minutes to complete the quiz. If you arrive late to class you will not be given extra time to complete the quiz.

#### **Missed quizzes and labs**

If you miss a quiz or lab due to absence or late arrival you will receive a zero.

#### **Dropping grades**

Your instructor will drop your one lowest weekly quiz grade and your one lowest lab report grade. Retain all graded work in the event a question arises regarding your grade.

#### **Midterm and Final Exams**

Each of these exams covers material from one half of the course. Each is based on the lab manual, experiments, and all material presented or assigned during class. See your instructor to coordinate a make-up midterm if you cannot be present for the exam for excusable reasons.

#### **Postponed or Missed Final Exam**

To postpone the final exam due to dire circumstances such as personal illness or family emergency, you must follow the procedures outlined in the UTSA Undergraduate Catalog (<http://www.utsa.edu/infoguide>). You must receive permission from the instructor for postponement at least 24 hours prior to the beginning of the final exam. If you miss the final and have not arranged to postpone it and have been there in the class at least 75% of the time, you will receive an "incomplete". It is your responsibility to make up the final according to the procedure in the UTSA Undergraduate Catalog.

#### **Attendance and Class Participation**

Attendance and full participation in every lab meeting is expected. You may take breaks as you need, but please inform your teammates and your lab instructor that you are doing so. You may not leave the lab for the day until your entire team does. When your team is ready to leave, the instructor will check to see that you have completed your clean up and, then, he or she will give you permission to leave. If it is essential that you leave the lab early, before your teammates, negotiate this with the lab instructor, not your teammates. Failure to follow this procedure could result in a reduction of your class participation grade.

If you have two absences before June 22, **2009**, the last date for dropping the course with a "W", and have not contacted your lab instructor about these absences, you may be dropped from the course for non-attendance. It is *your* responsibility to withdraw before the drop dates if that is your intention.

You will be counted as excessively absent if you miss more than 25% of the course any times in the semester including the day of the final exam. In such a case your instructor will recommend to the Dean of the College that you receive an "F" for the course for excessive absences according to the procedure in the UTSA Undergraduate Catalog.

#### **Lab Reports**

At the close of each experiment you will turn in a team-prepared lab report. Every member of the team will participate in the preparation of the lab report, and everyone is responsible for all parts of the report.

Your team's goal is to understand how and why you did the experiment and what the results mean. These reports should clearly and succinctly present:

1. The purpose of the experiment (1-3 sentences).
2. A graph, table or figure which best presents the data. An example calculation for each different calculation performed indicating all the necessary units.
3. A discussion that includes an analysis and interpretation of the data showing your team's

understanding of the results. This will include answers to any questions from the lab manual or which the instructor may pose about the experiment.

Appendix: the team's raw data. Power Lab recording must include the sensitivity setting and paper speed, marks showing where measurements were made, and the values of the measurements.

Before handing in the lab report, each team member should examine all parts of it for clarity, completeness, and spelling. When the report is complete, each team member should sign his or her own name to a cover page containing the date and the team's number. Never sign the name of someone who is absent or who has left early.

**Cell Phones:** The use of cell phones, pagers, PDAs, or similar communication devices during scheduled lab or lecture classes is prohibited. All such devices must be turned off or put in a silent mode. Sanctions for violation of this policy may include dismissal from the class. During testing, use of cell phones or similar communication devices may lead also to a charge of academic dishonesty and additional sanctions under the *Student Academic Integrity Policies and Procedures*

#### **Computer use in the classroom**

Students are permitted to use computers during class for note-taking and other class-related work **only**. Those using computers during class for work not related to that course must leave the lab classroom for the remainder of the class period.

#### **Scholastic Dishonesty**

To protect most of you who do your own work, here is the university's stand on scholastic dishonesty. Undergraduate Catalogue, states:

The integrity of a university degree depends on the integrity of the work done for that degree by each student. The University expects a student to maintain a high standard of individual honor in his/her scholastic work.

Information related to this issue can be found on the university website <http://www.utsa.edu/osja/scholastic.cfm> (Sec. 203. Scholastic Dishonesty)

If a student be accused of scholastic dishonesty, the faculty member may initiate disciplinary

proceedings through the Department chair, the Dean of the College, and the Student Judicial Affairs Coordinator.

#### **Lab Report Grades**

All members of a team normally receive the same grade for a lab report. However, you will receive a zero if you miss a lab, or leave early before your team has completed the lab report. An individual's lab report grade may be lowered due to a lack of participation or cooperation with the team.

#### **Attitude**

Each lab meeting is scheduled to last 5 hours. It is expected that the experiments and lab reports will be completed within that time. You may take brief breaks during lab as long as the instructor is not lecturing and your team is not expecting you to be taking measurements or recording data. Part of the basis for your grade will include attendance, participation, attitude, and cooperation.

#### **Pace of Work**

Your instructor expects you to be reasonably industrious and not to waste time. Some things must be done with all due speed. One of the reasons you must read the experiments before class is to know when timing or speed of work is important. Lab partners usually have to compromise on pace.

#### **General Laboratory Rules**

##### **Safety**

- Be observant. Question an action if you think it may cause unnecessary risk. Watch out for each other.
- Do not consume food or drinks in the lab. You may take short breaks during the lab session. Inform your team that you are doing so.
- Lab coats are not required, however disposable lab aprons may be used.
- Dress properly during a laboratory activity. Long hair, dangling jewelry, and loose or baggy clothing are a hazard in the laboratory. Long hair must be tied back, and dangling jewelry and baggy clothing must be secured. Shoes must completely cover the foot. No sandals and shorts allowed on lab days.
- Locate the eye-wash and shower stations in the hallway. Locate the eye-wash station in the lab. Also, locate the fire blanket and the first aid box.
- Procedures that have been set up under the ventilation hood should be performed under it.

### Personal Property

- For safety, take only the items required to perform the experiment to the work stations. Place all other items, such as books, purses, helmets, on the middle table. For safety, do not place any items under your work station table.
- It is the responsibility of each student to take sufficient safety precautions. Deviating from them increases your chance for injury.

### Chemicals

- Do not remove stock chemicals from where they have been placed. This will keep chemicals where others can find them. Bring your own container to obtain the portion that you need. Return the reagent bottle before continuing your work. Be conservative of your reagents.
- Make every effort to avoid contaminating the reagent bottles. Do not return any chemical to its stock bottle. Once out, it stays out. Always close the reagent bottle immediately. Many chemicals are ruined by reaction with the atmosphere. If you need more glassware, ask for it.
- When pouring chemicals, preserve the jar's label by pouring from the side away from the label. Try to keep reagent containers clean and dry.
- Use care to avoid spilling chemicals. If a spill does occur, before cleaning up, check with the Lab Instructor. Clean up the spill as directed.

Some chemicals are very dangerous when hydrated.

### Wastes

Place wastes in their proper containers. Broken glassware goes in the container marked for such. Liquids go down the sink, after approval from your instructor, with plenty of water. Biological matter goes into the freezer in plastic bags and without paper towels. Other waste materials go into the general trash can.

### Clean-Up Procedure

At the completion of your experiment, you are required to clean up your work area and a portion of the general work area. Be sure that:

1. assigned areas are wiped down with a damp paper towel.
2. electrical equipment has been turned off, unplugged. **DO NOT DISASSEMBLE THE EXPERIMENTAL SET UP.**
3. soiled equipment, such as glassware and dissecting instruments that has been cleaned or put in the proper place.
4. chairs are tucked in your entire half of the lab bench is toweled down.

After your team has been checked out, you may leave. **DO NOT LEAVE BEFORE THEN, UNLESS YOU HAVE PERMISSION FROM THE INSTRUCT**