

Neurobiology Laboratory
BIO 3442, SB 2.01.40 Fall 2009

Section 001: Monday, 1:00 – 6:00

Section 003: Wednesday, 1:00 – 6:00

Be prepared to be here the entire lab period – 5 hours!

Instructor: Bill Espinoza, PhD

Office: SB 2.01.40B **Office Hrs:** by appointment

Phone: 458–4509 458–4511 (Biology Dept.)

Email: Use the WebCT email. **Mailbox:** Biology Dept. Office, BSB 2.03.02

The Neurobiology Laboratory course is concentrated on basic neuroanatomy, aspects and investigative means of neuronal signaling via the passive membrane and the action potential, and to demonstrate an example each of sensory and memory systems. It is intended to reinforce concepts taught in the lecture class as well as means of data collection, simple analysis and verbal and written reporting of results.

TEXT: None

No Prerequisite: It is recommended that you have had Physiology, BIO 3413, Physiology lab, BIO 3422 and concurrent enrollment or previous completion of the Neurobiology course, BIO 3433.

Calculation of Grades: There is no automatic roundup of grades. An 89.9 is a “B”

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| Lab Attendance | 5% | A = 90% or above |
| Lab Participation | 10% | B = 80 – 89% |
| Lab Quizzes | 10% | C = 70 – 79% |
| Lab Midterm | 20% | D = 60 – 69% |
| Lab Final | 20% | F = below 60% |
| Presentations | 10% | |
| Lab Assignments | 15% | |
| Lab Notebook | 10% | |

NO FOOD OR DRINK IN THE LAB

NO LAPTOPS, CELL PHONES, PAGERS, ETC. DURING CLASS. Only items needed for the class should be at your table. There is an area for all book bags and other personal items.

LAB NOTEBOOK: Each student must obtain a 3-ring binder in which to keep collected lab data and other information. You will be given information about the notebook in class. It will be turned-in for grading at mid-term and final exams. It will be ready for return to you one week later.

Absences: ATTENDANCE IS REQUIRED. YOU ARE RESPONSIBLE FOR COMPLETION OF THE LAB EXERCISES AND ANY INFORMATION GIVEN IN CLASS EVEN IF YOU ARE ABSENT. If you are absent or know you are going to be absent CONTACT THE INSTRUCTOR AS SOON AS POSSIBLE. DO NOT SIMPLY WAIT UNTIL THE NEXT WEEK. The more time that passes the harder it is to help you and for you to catch up with missed work.

Make-up labs and exams: Make-ups are given only after **verifiable, written proof** is submitted in hard copy (no emails will be accepted), and **only when instructor time is available.**

Make-ups are only given for excusable absences which by university policy only covers verifiable cases of illness or a death in the immediate family, including grandparents.

In every case of an absence, you must provide documentation before a make-up is allowed. To schedule a make-up **only one week is allowed from the date of the absence**. Then no make-up can be scheduled for credit. Even if no credit is given, you are strongly encouraged to make up whatever work you can.

Academic Dishonesty: Students are responsible for adhering to UTSA's Student Code of Conduct, including Section 203, Scholastic Dishonesty. In summary, any occurrence of or attempt at Scholastic Dishonesty (e.g., cheating, plagiarism, collusion, and falsifying academic records) is subject to strict disciplinary penalty such as receiving a failing grade in the course, as well as suspension or expulsion from the University.

Classroom Environment: 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 the class.

Definitions:

Lab Attendance - includes when the student attends class, when he/she arrives, and whether lab rules are followed. It is the student's responsibility to arrive on time.

Lab Participation – includes whether the student is prepared for class as well as an ongoing assessment of the actual work and activity the student puts into completing the lab exercises. You should come prepared with the printouts from WebCT and having read over the lab exercise. There will be an assessment of your readiness for class.

Lab Quizzes – cover the material from the previous class. These are given generally at the beginning of class after an opportunity for student's to ask questions on the material. There is no make-up if the student is late.

Lab Midterm and Final - are written and hands-on exams at mid-term and at the end of the semester. The Final is quasi-comprehensive. This means that it is not a true assessment of the entire course but rather information from the second half of the course as well as information from the first half that you are expected to know well by the end of the course.

Presentations – are power-point presentations over specific lab exercises near the end of the semester that are prepared and given in class. There will only be a few slides allowed. More information will be given in class.

Lab Assignments – are work from the lab exercises either turned in at required times or as part of completed lab exercises within the lab notebook.

Lab notebook - is a composite of the work done in the lab exercises throughout the semester. It will be turned in at the midterm and the final for an assessment of work done for each lab exercise. You will need a 1", 3-ring binder, but you do not necessarily have to purchase one. You will be able to pick up the notebook at the end of the semester. There will be a format to follow. More information will be given in class.

**Neurobiology Laboratory Tentative Schedule
Fall 2009**

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| Aug 26 (Wed) | Lab Introduction |
| Aug 31 (Mon) | Lab Introduction / The Compound Microscope / The Dissection Microscope |
| Sep 2 (Wed) | The Compound Microscope / The Dissection Microscope |
| Sep 7 / 9 | Labor Day Holiday – No class this week |
| Sep 14 / 16 | Quiz 1: (Microscopes) / Neuronal Morphology |
| Sep 21 / 23 | Quiz 2: (Neuronal Morphology) / Human Brain, Models and cut brains / Sheep Brain Dissection |
| Sep 28 / 30 | Quiz 3: (Human Brain) / Axon circuit model / Passive Membrane |
| Oct 5 / 7 | Quiz 4: (Passive Membrane) / Midterm Review / Dendrite Simulation |
| Oct 12 / 14 | Midterm Exam (Microscopes, Neurons, Brain anatomy, Passive Membrane properties) / Worm AP / AP Simulation |
| Oct 19 / 21 | Quiz 5: (AP Simulation) / AP Simulation |
| Oct 26 / 28 | Quiz 6: (AP Simulation) / |
| Nov 2 / 4 | Quiz 7: Sensory Systems / Spinal Cord / Ascending, Descending Pathways / Sensory example: Vision / Cow eye dissection |
| Nov 9 / 11 | Quiz 8: (Spinal cord, Vision) / AP recording from the Cockroach Leg |
| Nov 16 / 17 | Quiz 9: (AP Recording) / AP Recording II - V / Presentation Slides |
| Nov 23 / 25 | Quiz 10: (AP Recording) / Presentations / Procedural Memory |
| Nov 30 / Dec 2 | Final Exam (Brain anatomy, Spinal cord, Passive membrane, Action potential, Sensory, Vision, Memory) |