

COURSE OUTLINE

LIFS 3220 Animal Physiology Laboratory (Spring 2023)

Tutorial Sessions: Wednesday 17:00 – 17:50 LTH
 Tuesday 13:30 – 14:20 Rm # 4160 (Teaching Lab.)
Practical Sessions: Tuesday 14:20 – 17:20 Rm # 4160 (Teaching Lab.)

Instructor: Dr. Philip Y. Lam

Course Grading:	Quizzes	12%
	Laboratory Performance	12%
	Proposal, Reports, and Worksheets	28%
	Written Examination	48%

YOU ARE REQUIRED TO ATTEND ALL THE LABORATORY SESSIONS AND SUBMIT ALL LAB ASSIGNMENTS IN ORDER TO COMPLETE THE COURSE.

Phase 1 – Students will work in groups to learn the experimental technique and methods that can be used in investigating various physiological functions in animals. They will be asked to perform experiments following the laboratory manual’s instructions. Every student is also required to submit a written assignment for each of the experiments.

Feb 14	Introduction to LIFS 3220
Feb 22, 28	Practical #1: Muscle Structure and Function
Mar 1, 7	Practical #2: Reflexes & Reaction Times
Mar 8, 14	Practical #3: Cardiovascular Physiology
Mar 15, 21	Practical #4: Respiratory Physiology
Mar 22, 28	Practical #5: Renal Function

Phase 2 – Students will review the knowledge and technique that they have learned from Phase 1. They will work in groups to formulate a project that aims to answer a question related to animal physiology. Each group will be required to submit a project proposal and the instructor will review the feasibility of the project and provide feedback. After obtaining approval from the instructor, students will carry out their planned experiments and each group will be required to submit a project report at the end of the semester.

Mar 31	Project proposal submission
Apr 4	Project proposal consultation and feedback
Apr 18 – May 9	Student-initiated project

** Date of the **Written Examination** to be announced by the ARRO.

Objectives and Course Learning Outcomes of the Animal Physiology Laboratory Sessions

Objectives

This course aims to help you acquire various basic laboratory techniques in physiology, to develop powers of observation and data recording to test basic physiological principles. This course also helps you to develop analytical and report-writing skills by conducting experiments and presenting them in a formal laboratory report format. In addition, students will have opportunities to collaborate with others, working in a team in conducting experiments.

Course Learning Outcomes

Upon completion of this course, students will be able to:

1. Apply various basic laboratory techniques in physiology to handle animals and tissue.
2. Set up and use precision equipment to study physiological phenomena.
3. Critically observe, qualitatively and quantitatively analyze, and apply physiology knowledge to interpret experimental data.
4. Write formal laboratory reports and a proposal in a scientific format.
5. Work and coordinate effectively in a group to accomplish laboratory-based tasks.
6. Operate ethical laboratory practices such as safety and environmental protection.
7. Evaluate and design laboratory experiments, interpret experimental data and write up the results in accordance with appropriate scientific conventions.

III. Course Grading

The grades for this course will be determined as follows:

Assessment Tasks	Contribution to Final Grade (%)	Learning Outcomes to be Assessed
Quizzes	12%	(1), (3)
Laboratory Performance	12%	(1), (2), (5) & (6)
Proposal, Reports, and Worksheets	28%	(3), (4) & (7)
Written Examination	48%	(1), (2), (3) & (7)