

BIOL 1233/1234: Anatomy & Physiology II Laboratory
Fall 2025 Laboratory Syllabus

General Information:

Section: 1234.11A

**Day/Time of class: Thursday 1:00 – 2:50 BO
225**

Lab Instructor: Tenzin. T. Shakya

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Office: BO 224 C

Office hours: M:10am-12pm

W:10am-12pm

F: 10am-11am or by appointment.

Required Text:

III. Required Texts:

McGraw-Hill Connect Term 2 – ISBN 9781264349227. Connect provides access to the eBook and SmartBook: **Anatomy and Physiology: Unity of Form and Function, by Saladin and McFarland, McGraw Hill**, as well as lab simulations and virtual dissections. For those who prefer a physical textbook you may purchase a Loose-Leaf copy – ISBN: **9798219060625**

A computer with internet access is required.

Course Description:

Focus on structure and function of the endocrine, cardiovascular, lymphatic, immune, respiratory, digestive, urinary, and reproductive systems of humans. Concurrent laboratory participation with animal dissection required.

Course objectives:

- Practice general laboratory safety
- Demonstrate effective use of a compound microscope
- Demonstrate proper dissecting techniques
- Identify the glands, organs and vessels comprising the body's several systems (Endocrine, Cardiovascular, Lymphatic, Respiratory, Digestive, Urinary, and Reproductive)
- Identify the histologic structure of tissues associated with the body's organs and glands
- Identify the various formed elements in blood and describe their functions
- Describe the underlying principles of blood typing and evaluate the results of a blood typing test
- Name and locate the major anatomical areas and structures of the heart, and describe the function of each
- Accurately determine a subject's pulse and blood pressure
- Describe how subject activity might affect blood pressure
- Demonstrate proper use of a spirometer

- Define, explain and measure the physiological volumes relevant to respiration
- Carry out urinalysis assays to determine urine composition
- Describe the processes and end products of digestion of the various foodstuffs
- Describe and explain the effects of temperature and pH on digestive enzyme activity

General Course Rules:

1. All lab sessions should be attended. We will not offer make-up labs or exams.
2. Punctuality is always expected. If you are more than 10 minutes late, you will miss the quiz for the day, receive a zero, and be counted as absent.
3. Students are expected to read the introductory material prior to each lab session.
4. Cell phones are to be turned off before lab begins.
5. Laboratory safety rules **must** be always followed. Safety violations will result in deductions from the laboratory participation grade.
6. Cheating will not be tolerated. Anyone suspected of cheating will be subject to the consequences outlined in the University's academic honesty policy (Student Handbook, p. 120).
7. Each group is responsible for proper clean up at the end of the laboratory period. This includes proper cleaning and storage of microscopes, proper disposal of contaminated materials, disinfection of benches and workspaces, etc.
8. If you have a documented disability that will impact your work in this class, please contact the TA or instructor to discuss your needs.

Laboratory Safety:

These regulations are for your personal safety. Students wearing inappropriate dress will not be permitted to enter the laboratory.

1. No food or drinks are to be taken into or consumed in the laboratory.
2. Open-toed shoes, sandals or similar footwear are not appropriate and should not be worn in the laboratory. Shorts and short skirts are also inappropriate in terms of laboratory safety.
3. Long hair must be tied back as it is not only a potential source of contamination, but also a fire hazard.
4. Do not apply cosmetics or handle contact lenses in the laboratory.
5. Wash your hands thoroughly with soap and water before leaving the laboratory – even if only for a short time.
6. Refer to the inside front cover of your lab manual for additional discussion of laboratory safety issues.

Adherence to laboratory safety and attendance policies is critical to effectively and safely getting as much as possible from your laboratory work. Thus, a safety/participation factor is used as a modifier for the weekly quiz scores. Everyone starts each lab session at 100%. Violations of laboratory policies will result in deductions from this 100%.

During the first week of lab, students will be given reminders regarding lab safety and attendance as needed. After that, points will be deducted for each violation. The severity of the deduction is at the discretion of the instructor. The exception to this regards appropriate dress. As stated above, students wearing open-toed shoes or excessively short pants/skirts will not be permitted to enter the laboratory.

Attendance Policy:

Laboratory attendance is required. All quizzes, exams, or assignments missed due to unexcused absences will be recorded as zeros.

Unexcused absences for the laboratory midterm or final, or more than two (2) unexcused absences for laboratory sessions, will result in a final grade of “F” for the course.

Absences may be excused by prior arrangement with the laboratory or course instructor for

- a. **University sponsored events.** Members of athletic teams, college bowl participants, etc. will be excused with proper notification.

Absences may be excused at the instructor’s discretion, and with prior arrangement for:

- b. **Death of an immediate family member.** An immediate family member is considered to be a grandparent, parent, sibling, spouse, in-law, aunt, uncle, or child.
- c. **Summons to appear in court or jury duty.** A copy of the summons is required.
- d. **Call to military service.** A copy of your orders to report is required.
- e. **Debilitating illness or disability.** Illnesses will be addressed on an individual basis. If a student is affected by an illness that is not debilitating, (i.e. flu, virus infection) which may result in the student missing one or more consecutive class sessions, that student will be marked as unexcused for the amount of days missed **unless a doctor’s note is provided.**

Grading:

Lab constitutes 25% of the BIOL 1233/1234 grade. The lab grade is calculated as follows:

Weekly quiz average:	30%	(Scores modified by participation/safety factor)
Poster project	10%	
Midterm Exam:	30%	(Lab practical)
Final Exam:	30%	(Lab practical)

FAQ: How do I calculate my lab grade so far?

$$\begin{aligned} &[(\text{Lab exam average so far}) \times (0.60)] \\ &+ [(\text{Lab quiz average so far}) \times (0.30)] \\ &+ [\text{Poster grade} \times 0.10] \\ &= \text{Lab Grade} \end{aligned}$$

Tentative Lab Schedule

Week	Date	Topic	Exercise	Assignment
1	Aug. 25-30	Lab Safety, Scientific Method, Endocrine System	27	No quiz
2	Aug.31 – Sept6	Blood	29A	Quiz 1
3	Sep.7-13	Heart	30, Heart Dissection	Quiz 2
4	Sept. 14-20	Cardiovascular physiology	33A	Quiz 3
5	Sept.21-27	Blood vessels	32, Dissection 3	Quiz 4
6	Sep. 28- Oct.4	Respiratory anatomy	36, Dissection 4	Quiz 5
7	October 5-11	Respiratory physiology	37A	Quiz 6
8	October 12- 18	Midterm exam		Midterm
9	October 19- 25	Urinary System	40, 41A, Dissection 6	No Quiz
10	October26-Nov1	Digestive anatomy	38, Dissection 5	Quiz 7
11	November 2-8	Digestive physiology	39A	Quiz 8
12	November 9-15	Reproductive system	42, Dissection 7	Quiz 9, Posters next week!
13	November 16-22	Poster presentations		Quiz 10
14	November 23-29	Thanksgiving, NO LABS	Thanksgiving, NO LABS	Thanksgiving, NO LABS
15	Nov 30- Dec 6	Final exam		Final

Laboratory Safety Acknowledgment Form

I hereby certify that I have read the safety recommendations provided for the laboratory and have located all of the safety equipment listed in the Laboratory Safety Guidelines (inside front cover of your lab manual).

Student's Name _____

Student Signature _____

Course _____ Date _____

Instructor's (TA) Name _____

Adapted from:

Biosafety in Microbiological and Biomedical Laboratories (BMBL), 5th Edition. 2007. US Government Printing Office. Washington, D.C. www.cdc.gov/od/OHS/biosfty/bmbl5/bmbl5toc.htm

Centers for Disease Control. 1996. "Universal Precautions for Prevention of Transmission of HIV and Other Bloodborne Infections." Washington, D.C. http://www.cdc.gov/ncidod/dhqp/bp_universal_precautions.html

Johnson, Ted, and Christine Case. 2010. *Laboratory Experiments in Microbiology*, Ninth Edition. San Francisco, CA: Pearson Benjamin Cummings.

School Chemistry Laboratory Safety Guide. 2006. U.S. Consumer Product Safety Commission. Bethesda, MD. <http://www.cpsc.gov/CPSCPUB/PUBS/NIOSH2007107.pdf>