

232 Lab Manual Overview

History and Context, 2010-2024

In the 2010s, instructors teaching Human Physiology (Biology 232) for the first time generally inherited the lab protocols from longtime 232 instructor Jackie Hedgpeth and then, in subsequent iterations of the course, would introduce their own modifications. This understandable and reasonable behavior eventually led to different 232 instructors offering fairly different versions of the labs. While not necessarily bad in and of themselves, these differences cause complications for the laboratory instruction staff, as well as for the instructors, who may no longer be covering the same content in lab, and especially any new instructors, who may rightly wonder which versions of the labs they should adopt.

The topic of 232 lab alignment was a major focus of the Sept. 16, 2022 EvCC Life Sciences retreat. Greg Crowther's minutes of the retreat included the following:

It was agreed that a common lab file with equipment requirements and protocols would be helpful to Thu [Nguyen] and perhaps to instructors as well -- especially instructors teaching the course for the first time. This lab file may or may not include questions for students; if it does, individual instructors would then be free to modify or supplement those questions. Greg will take the lead on this, giving Thu, Max [Gerloff], and other current/future 232 instructors ample opportunity to review and comment on drafts. There should also be a clear procedure in place for revising the file in future quarters.

Several follow-up meetings were then held during the 2022-23 academic year. These meetings revealed some persistent differences of opinion, e.g., regarding the issue of whether certain rarely used activities (of the 4-20 total activities included in a lab) could/should be prepped by interested instructors according to individual preferences, or whether all possible activities should continue to be prepped by laboratory coordinators for the benefit of all instructors. In the end, the latter option was decided to be the way forward.

Lab Manual Format

The Biology 232 Common Lab Manual is a [Google Drive folder of files](#) that captures the range of currently feasible activities for each lab. **This lab manual is not intended as a student-facing resource; rather, it is an instructor-facing reference that instructors can use to generate student-facing labs.** That is, each Biology 232 instructor is welcome to modify these instructor-facing files to create the student-facing files that they use in their own sections of the course. Such instructor-specific edits do not need to be approved by others if they use materials and equipment already provided with the lab.

Lab Manual for Biology 232: Human Physiology

Since Greg Crowther has led the creation of this online lab manual, the files included primarily reflect the ones he received from Jackie Hedgpeth in 2017 and sometimes modified. Using these source files was done for convenience and is not meant to promote these versions of labs as being better than other versions.

Each lab file is formatted to have the following sections/headers:

- Learning Objectives [draft; to be finalized by instructors according to their priorities]
- Pre-Lab Assignment [to be filled in by instructors according to their priorities]
- Introduction [draft; to be finalized by instructors according to their priorities]
- Possible Lab Activities
 - Activities currently used by Greg Crowther are indicated with an asterisk (*)
- Details of Possible Lab Activities [each including protocols and embedded questions]
 - Includes a list of “Available Materials and Equipment”
- Additional Questions [may be added by instructors as desired]

Each on-campus lab is thus represented as a file to be copied, edited by individual instructors, and distributed to their students.

Lab Manual Contents

The main files that constitute the lab manual are as follows:

- [232 Lab A: Cell Transport](#)
- [232 Lab B: Senses and Reflexes](#)
- [232 Lab C: Special Senses](#)
- [232 Lab D: Muscles](#)
- [232 Lab E: Endocrinology](#)
- [232 Lab F: Blood](#)
- [232 Lab G: Cardiovascular System](#)
- [232 Lab H: Immunology](#)
- [232 Lab I: Respiration](#)
- [232 Lab J: Digestion](#)
- [232 Lab K: Urinary Physiology](#)

The labs and the activities contained within them are not numbered to emphasize that different numbers of labs and activities will be done in different orders depending on the academic quarter and the instructor. Instructors are encouraged to label/number labs and activities in their student-facing materials.

Lab Manual for Biology 232: Human Physiology

Also included is a [folder of at-home lab ideas](#) for possible use with students who are unable to attend a lab on campus.

These files are being maintained by Greg Crowther in this Google Drive folder to facilitate periodic commenting and updating as needed. Questions and suggestions are welcome.

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Creation of lab manual: Summer 2024
Last modification of lab manual: 1-29-26 (for compliance with Title II requirements)