

**SYLLABUS for  
Biology 2425 Human Physiology Lab  
Fall 2023**

**Course Description**

This course introduces students to processes within the human body that allow for the maintenance of homeostasis in a changing environment. We will investigate how these various processes work in concert, including the relationship between form and function, to allow for us to go about our daily lives. There will be a combination of approaches, including hands-on experiments and computer simulations, to investigate many of the underlying processes at work within and among us. While related to the principles taught in the lecture (Biol 2420), this lab is not directly connected with the lecture. 1 credit.

**Class Location & Times: JTB 245; (001) Tuesday 12:25-3:20, (002) Tuesday 3:40-6:35, (003) Thursday 12:25-3:20, (004) Thursday 3:40-6:35, (005) Wednesday 10:45-1:45**

**Instructor: Colby Tanner (South Biology 321B, or JTB 245), [colby.tanner@utah.edu](mailto:colby.tanner@utah.edu)**  
(Please do not email me through the Canvas system if possible. It is not reliable).

**Required Materials**

1. There is no textbook for this class, but a laptop computer sometimes will be needed.
2. There will be several computer simulation labs that students will have to purchase/download separately. The cost will be \$37.50 for the semester. The link to register for our class is:

[UAVJ-YrmT-5qvZ-hpbj-SUy](#)

Alternatively, a voucher for the simulation package can be purchased at the bookstore.

It is important that you review the information below *before* you subscribe to the SimUText for **Human Physiology Lab** at University of Utah. **To avoid possible problems, do not wait until the last minute.**

**1. CHECK YOUR TECH!**

Visit <https://simutext.zendesk.com/hc/en-us/categories/200170134-Check-Your-Tech-> to confirm that the SimUText application will work on your computer, and/or to explore your options if there is a problem.

**2. SimUText Voucher Code (optional)**

If you purchased a SimUText Voucher from your bookstore, be sure to have it with you when subscribing, as you will need to enter your voucher code.

**3. Registration Link**

When you are ready to subscribe and download installers, follow this link to initiate the process:

<https://www.simutext.com/student/register.html#/key/UAVJ-YrmT-5qvZ-hpbj-SUy>

**4. SimUText Application Installers**

After you have completed the subscription process, if you need to download the SimUText application installers again, you will be able to access them by logging into the [SimUText Student Portal](#) (<https://www.simutext.com/student/>).

**Save this email!** Should you encounter problems, you may need your course-specific Access Key. It is:  
[UAVJ-YrmT-5qvZ-hpbj-SUy](#)

Problems or questions? Visit [SimUText Support](http://simbio.com/support/simutext) (<http://simbio.com/support/simutext>)

Please inform your students that if they experience technical difficulty, they can submit a support request here -- <http://simutext.zendesk.com>. Requests are monitored daily including evenings and weekends. In the interest of saving your time, we do not recommend that you try to provide technical support for your students.

## Assignments and Grading

Course grade will be determined from your percentage score out of ~300 total points. Labs will be graded based on attendance, effort, completion, and accuracy. Each lab will be worth a total of 15 points. The final project will be worth 30 points. Cumulative scores of 90%, 80%, 70% or 60% will guarantee grades of not less than A-, B-, C- and D respectively.

## (TENTATIVE) 2425 CLASS SCHEDULE

*\* Please note that we may modify the course schedule to accommodate the needs of our class. Any changes will be announced in class and posted on Canvas under announcements*

Class #	Date (week of)	Topic
1	8/21	Introduction to the course: procedures, safety, etc.
2	8/28	Diffusion/osmosis (potato/petri dishes) & (simbio)
3	9/4	Flow (outside)
4	9/11	Ventilation I & II (biopac)
5	9/18	ECG/pulse (biopac)
6	9/25	Electromyography – Lie Detector (biopac)
7	10/2	Respiration (simbio)
8	10/9	Fall Break
9	10/16	Action Potentials (simbio)
10	10/23	biopac lab
11	10/30	biopac lab
12	11/6	biopac lab
13	11/13	Enzymes, buffers (pH and temperature)
14	11/20	How diseases spread (simbio) / <b>Group Project Experiment(1)</b>
15	11/27	<b>Group Project Experiment(2)</b>
16	12/4	<b>Group Project Presentation</b>

## Expected Learning Outcomes for Core Concepts in Physiology

• **Structure and function.** Students will be able to apply knowledge of molecular, cellular, and organismal structures to explain the diverse set of functions – ranging from the sub cellular to behavioral to ecological

- **Systems.** Students will be able to explain how biological units interact to give rise to emergent properties such as maintaining homeostasis in a fluctuating environment at scales ranging from molecular to organismal.
- **Ability to apply the process of science.** Students will be able to apply the process of science to identify knowledge gaps, formulate hypotheses, and test them against experimental and observational data to advance an understanding of the natural world.
- **Ability to use quantitative reasoning.** Students will be able to use mathematical and computational methods and tools to describe living systems and be able to apply quantitative approaches, such as quantitative analysis of dynamic systems to effectively communicate their findings to a broader audience.
- **Ability to participate in the interdisciplinary nature of science** through clear communication and collaboration with other disciplines. Students will be able to apply concepts and sub disciplinary knowledge from within and outside of biology in order to interpret biological phenomena, communicate with clear written and oral arguments, and work collaboratively to solve problems.

## Course Policies

**Lab safety:** While none of the labs are inherently dangerous, students will be expected to follow all directions and maintain a reasonable level of respect toward all other lab members. We will cover specific lab safety policies the first day of class.

**Missing lab:** Due to the participatory nature of experiential lab activities, there will be absolutely no make ups for any missed assignments. One (1) lab absence will be excused for each student that makes prior arrangements with me. The final project and presentation will not be excused.

## University of Utah Policies

### Drop, Withdrawal or Incomplete:

Students may drop a course within the first two weeks of a given semester without any penalties. Students may officially withdraw (W) from a class or all classes after the drop deadline through the midpoint of a course. A “W” grade is recorded on the transcript and appropriate tuition/fees are assessed. The grade “W” is not used in calculating the student’s GPA.

For deadlines to withdraw from full-term, first, and second session classes, see the U's [Academic Calendar \(Links to an external site.\)](#).

Also see <http://registrar.utah.edu/academic-calendars/index.php>. University policy allows assignment of a grade of incomplete (I) if 80% or more of the course work has been completed. I will consider assigning an “incomplete (I)” only under EXCEPTIONAL circumstances unrelated to academic performance, and only if a student is passing the course with a C or better when the “Incomplete” is requested.

**Disability accommodations:** The University of Utah seeks to provide equal access to its programs, services, and activities for people with disabilities. If you will need accommodations in this class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, (801) 581-5020. CDS will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in an alternative format with prior notification to the Center for Disability Services. \*If you would like to request academic accommodations due to a disability, please contact Disabled Student Services. If you have a letter from Disabled Student Services indicating you have a disability that requires academic accommodations, please present the letter to me so we can discuss the accommodations you might need for class.

**Discrimination and Harassment policies:** The University of Utah has zero tolerance for any discriminatory or harassing behavior. Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veteran's status or genetic information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or the Office of the Dean of Students, 270 Union Building, 801-581-7066. To report to the police, contact the Department of Public Safety, 801-585-2677(COPS). For support and confidential consultation, contact Student Wellness 426 SSB, 801-581-7776.

**Academic misconduct:** All suspected cases of academic misconduct including cheating, answering clicker questions for someone else, and plagiarizing will be dealt with according to rules in the student code, University policy 6-400(V). Please know that looking into someone else's exam is cheating and will be dealt with seriously as stated above. By accepting admission to the University you have agreed to abide by the University rules provided to you in the student handbook. Take note of B 2 a, b, and c Cheating and plagiarism are serious offenses and can result in getting a zero on the assignment, failing a class, a note in your record or being expelled. Here is the link <http://www.admin.utah.edu/ppmanual/8/8-10.html>

**Wellness:** Your personal health and wellness are essential to your success as a student. Personal concerns like stress, anxiety, relationship difficulties, depression, or cross-cultural differences can interfere with a student's ability to succeed and thrive in this course and at the University of Utah.

Please feel welcome to reach out to your instructor or TA to handle issues regarding your coursework.

For helpful resources to manage your personal wellness and counseling options, contact:

**Center for Student Wellness**

801-581-7776

[wellness.utah.edu](http://wellness.utah.edu)

2100 Eccles Student Life Center

1836 Student Life Way

Salt Lake City, UT 84112

**Women's Resource Center**

801-581-8030

[womenscenter.utah.edu](http://womenscenter.utah.edu) (Links to an external site.)

411 Union Building

200 S. Central Campus Dr.

Salt Lake City, UT 84112

Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veteran's status, or genetic information.

If you or someone you know has been harassed or assaulted, you are encouraged to report it to university officials:

### **Title IX Coordinator & Office of Equal Opportunity and Affirmative Action**

801-581-8365

[oeo.utah.edu](http://oeo.utah.edu) (Links to an external site.)

135 Park Building  
201 Presidents' Cir.  
Salt Lake City, UT 84112

### **Office of the Dean of Students**

801-581-7066

[deanofstudents.utah.edu](http://deanofstudents.utah.edu) (Links to an external site.)

270 Union Building  
200 S. Central Campus Dr.  
Salt Lake City, UT 84112

To file a police report, contact:

### **Campus Police & Department of Public Safety**

801-585-COPS (801-585-2677)

[dps.utah.edu](http://dps.utah.edu) (Links to an external site.)

1735 E. S. Campus Dr.  
Salt Lake City, UT 84112

If you do not feel comfortable reporting to authorities, the U's Victim-Survivor Advocates provide **free**, **confidential**, and **trauma-informed** support services to **students, faculty, and staff** who have experienced interpersonal violence.

To **privately** explore options and resources available to you with an advocate, contact:

### **Center for Student Wellness**

801-581-7776

[wellness.utah.edu](http://wellness.utah.edu)

328 Student Services Building  
201 S. 1460 E.  
Salt Lake City, UT 84112

### [Americans With Disabilities Act \(ADA\)](#)

The University of Utah seeks to provide equal access to its programs, services, and activities for people with disabilities.

All written information in this course can be made available in an alternative format with prior notification to the Center for Disability & Access (CDA). CDA will work with you and the instructor to make arrangements for accommodations. Prior notice is appreciated. To read the full accommodations policy for the University of Utah, please see Section Q of the [Instruction & Evaluation regulations \(Links to an external site.\)](#).

If you will need accommodations in this class, or for more information about what support they provide, contact:

### **Center for Disability & Access**

801-581-5020

[disability.utah.edu](http://disability.utah.edu) (Links to an external site.)

162 Union Building

200 S. Central Campus Dr.  
Salt Lake City, UT 84112

The University of Utah values the safety of all campus community members. You will receive important emergency alerts and safety messages regarding campus safety via text message.

For more safety information and to view available training resources, including helpful videos, visit [safeu.utah.edu](https://safeu.utah.edu) ([Links to an external site.](#)).

To report suspicious activity or to request a courtesy escort, contact:

**Campus Police & Department of Public Safety**

801-585-COPS (801-585-2677)

[dps.utah.edu](https://dps.utah.edu) ([Links to an external site.](#))

1735 E. S. Campus Dr.

Salt Lake City, UT 84112

*Important: Updated June 1, 2022 Instructional Guidelines*

University leadership has urged all faculty, students, and staff to **model the vaccination, testing, and masking behaviors** we want to see in our campus community. These include: • Vaccination • Masking indoors • If unvaccinated, getting weekly asymptomatic coronavirus testing • Quarantining after exposure

**Vaccination**

- **Get a COVID-19 vaccination and the booster shot recommended for pairing with your vaccine** if you have not already done so. Vaccination is proving highly effective in preventing severe COVID-19 symptoms, hospitalization, and death from coronavirus. Vaccination is the single best way to stop this COVID resurgence in its tracks.
- University of Utah students are required (as of August 27, 2021) to complete a cycle of COVID-19 vaccination and booster shot with an approved vaccine, or complete an exemption form. The university provides three convenient vaccination options:
  - Attend one of the regularly scheduled [vaccine events \(Links to an external site.\)](#) at the Student Union on campus.
  - Schedule an appointment with [Student Health \(Links to an external site.\)](#).
  - Visit [My Chart \(Links to an external site.\)](#), [Vaccine Information \(Links to an external site.\)](#), or [CDC Vaccine.gov \(Links to an external site.\)](https://www.cdc.gov/vaccines) to schedule your vaccination.
- **Masking**
- While masks are not required outside of Health Sciences facilities, UTA buses, and campus shuttles, **CDC guidelines now call for everyone to wear face masks indoors.**
  - Check the [CDC website \(Links to an external site.\)](#) periodically for masking updates
    - With high transmission rates in Salt Lake County, the CDC recommends: “Everyone should wear a mask in public indoor settings.”
  - Treat masks like seasonal clothing (i.e.during community surges in COVID transmission, masks are strongly encouraged indoors and in close groups outside).
  - In cases of classroom exposure, masks should be worn for the quarantine period (see details below).
- **Testing**

- **If you are not yet vaccinated, get weekly asymptomatic coronavirus tests.** This is a helpful way to protect yourself and those around you because asymptomatic individuals can unknowingly spread the coronavirus to others.
  - Asymptomatic testing centers are open and convenient:
    - [Online scheduling \(Links to an external site.\)](#)
    - Saliva test (no nasal swabs)
    - Free to all students returning to campus (required for students in University housing)
    - Results often within 24 hours
    - Visit [Testing and Vaccine Information \(Links to an external site.\)](#) Campus Alert
- Remember: **Students must self-report if they test positive for COVID-19** via the [Campus Covid Response \(Links to an external site.\)](#) webpage.
- **Student Mental Health Resources**
- Rates of burnout, anxiety, depression, isolation, and loneliness have noticeably increased during the pandemic. If you need help, reach out for campus mental health resources, including counseling, training, and other support.
- Consider participating in a [Mental Health First Aid \(Links to an external site.\)](#) or other [wellness-themed training \(Links to an external site.\)](#) provided by our Center for Student Wellness and sharing these opportunities with your peers, teaching assistants, and department colleagues.

**Students are required to self-report if they test positive for COVID-19.** To report, please contact:

**COVID-19 Central @ The U**  
 801-213-2874  
[coronavirus.utah.edu](http://coronavirus.utah.edu)

**Note:** *This syllabus is meant to serve as an outline and guide for this course, and might be modified in response to the needs of the class. All changes will be announced in class and posted on Canvas under Announcements.*