

# **Physiology Department**

Capstone Laboratory in Physiology | Fall 2021 Syllabus

Course: PSL 475L Credits: 2 Credits

Meetings:

Section 001: Monday, 3:00 PM – 5:50 PM\*
Section 002: Tuesday, 9:10 AM – 12:00 PM\*
Section 003: Wednesday, 1:50 PM – 4:40 PM\*
Section 004: Wednesday, 9:10 AM – 12:00 PM\*

Modality: \*Online Synchronous (meet as a class during the normally scheduled time over

Zoom)

Location: Zoom and D2L

Zoom Meeting Links

Monday Section 001

https://msu.Zoom.us/j/91214049881

Meeting ID: 912 1404 9881

Passcode: 968706

**Tuesday Section 002** 

https://msu.Zoom.us/j/92600024457

Meeting ID: 926 0002 4457

Passcode: 126059

Wednesday AM Section 004

https://msu.Zoom.us/j/98341008365

Meeting ID: 983 4100 8365

Passcode: 934859

Wednesday PM Section 003

https://msu.Zoom.us/j/95714341876

Meeting ID: 957 1434 1876

Passcode: 276137

# Outline/Schedule

# **Course Outline**

The table below describes the weekly activities including month, week, lab number, topic, and capstone information. The first column displays the month. The second column displays the starting Monday date for the week. The third column shows the lab number out of 12 regular labs for the semester. The fourth column describes the weekly topic. The fifth column lists the capstone grant information.

Month	Week Of	Lab Number:	Topic	Capstone Projects and
	The:			Notes
August	30th	1	Sec 001 ONLY:	
			Introduction to PSL 475L	
			(Mon section meets	
			Wednesday 9/1)	
September	6	1	Sec 002, 003, and 004:	
			Introduction to PSL 475L	
	13	2	Respiratory Sinus	
			Arrhythmia	
	20	3	Electrocardiogram	
	27	4	Pulmonary 1	Capstone Survey
October	4	5	Pulmonary 2	Announce Teams and
				Pulmonary Graph Due
	11	6	Blood Pressure	
	18	7	Systemic Reflexes	Idea Meetings
	25	8	NO CLASS - Fall Break on	Idea Meetings 10/27-
			the 10/25 and 10/26	10/29
November	1	9	Human Subjects &	Next Steps Assignment
			Biopsychosocial Model of Medicine	Due
	8	10	Exercise Physiology	Rough Draft Due
	15	11	Glucose	
	22	Thanksgiving	<b>NO CLASS - Presentation</b>	<b>NO CLASS - Presentation</b>
		Week	<b>Prep</b>	<mark>Prep</mark>
	29		Renal	Lay Summary
				Assignment Due
December	6		Grant Project	Final Draft and Abstract
			Presentation	Due
	13	Finals Week	Final Exam Week – Take	
			Home Final due	

# Fall 2021 MSU Holidays and Breaks

Classes Begin: Wednesday Sept. 1 University Closed: Monday Sept. 6

Fall Break: Monday Oct. 25 – Tuesday Oct. 26 University Closed: Thursday Nov. 25 – Friday Nov. 26

Classes End: Sunday Dec. 12

# Note:

All the dates and assignments are tentative (except for the final exam date) and can be changed at the discretion of the professor.

# Instructors

Instructor (pronouns)	Teaching Assistant	Teaching Assistant
Name: Dr. Erica Wehrwein, Ph.D	Name: Hannah Rudolph	Name: Brett Trombley
(She/Her/Hers)	(She/Her/Hers)	(He/Him/His)
Office: 2201J BPS	Section 001 and 003	Sections 002 and 004
Office hours: Office hours will be	Office hours: Office hours will	Office hours: Office hours will
held over Zoom, via email	be held over Zoom, via email	be held over Zoom, via email
appointment request.	appointment request.	appointment request.
Email: wehrwei7@msu.edu	Email: rudolphh@msu.edu	Email: trombl61@msu.edu

Assistant Instructor and Lab	D2L, Prep, and Learning	Chief Learning Assistant
Manager	Assistant	
Name: Keeler Steele	Name: Jackson Joseph	Name: Jake Canfield
(He/Him/His)	(He/Him/His)	(He/Him/His)
Office: 2199 BPS	Sections 001 and 004	PRN Substitute
Office hours: Office hours will be	Office hours: Learning	Office hours: Learning
held over Zoom, via email	assistants can be contacted via	assistants can be contacted via
appointment request.	email.	email.
Email: steele50@msu.edu	Email: joseph93@msu.edu	Email: canfie44@msu.edu

Learning Assistant	Learning Assistant	Learning Assistant
Name: Ben Kessler	Name: Dana Josifoski	Name: Kennedy Franklin
(He/Him/His)	(She/Her/Hers)	(She/Her/Hers)
Section 003	Section 001	Section 002
Email: kessle75@msu.edu	Email: josifos2@msu.edu	Email: frank213@msu.edu

Learning Assistant	Learning Assistant	Learning Assistant
Name: Wil Schikorra	Name: Lauren Jernstadt	Name: Matthew Cederman
(He/Him/His)	(She/Her/Hers)	(He/Him/His)
Section 002	Section 004	Section 003
Email: schikor1@msu.edu	Email: jernsta4@msu.edu	Email: cederman@msu.edu

# Course Information

# **Course Description**

Laboratory-type exercises in human integrative physiology. Weekly assignments will include data analysis, statistics, clinical correlates, and relevant physiological principles. Students will complete weekly assignments on various aspects of human body function and author a grant proposal for a human physiology Capstone project of their own design.

# **Broad Course Objectives**

- 1. Integrate physiological concepts to understand whole body function.
- 2. Think critically to generate weekly experimental hypotheses and perform appropriate data analysis and statistics.
- 3. Design a novel Capstone experiment in physiology.
- 4. Practice professional skills.

#### **Required Textbook & Course Materials:**

There is no required textbook for this course. All materials will be provided in D2L.

# Supplementary Resources to aid with weekly assignment questions:

- 1. Human Physiology: From Cells to Systems by L. Sherwood textbook (PSL310/431/432)
- 2. Fundamentals of Human Physiology by L. Sherwood textbook (PSL250)
- 3. Course-packs, slides, and notes from PSL lecture courses

#### **Required Technologies:**

- Students should have access to a device with internet access and the downloaded Zoom app.
  - The browser-based Zoom doesn't work for breakout rooms and the other functionalities we use. Therefore, you must have the Zoom client downloaded.
- A working webcam is highly recommended for group and classwork.
  - A browser that is compatible with D2L is required. Google Chrome is recommended. However, the following link includes more information as to what browsers work on different devices for D2L.
  - https://documentation.brightspace.com/EN/brightspace/requirements/all/browser\_support.htm
- Internet Speed: For this course, 25 Mbps should be sufficient for participation in Zoom calls and interacting with video content. The following guide includes more information on internet speed.
  - Google "internet speed test" to quickly test your internet speed!
  - o https://broadbandnow.com/guides/how-much-internet-speed-do-i-need
  - If you do not currently have access to an internet connection, use the following link for information regarding free or reduced cost internet
    - https://remote.msu.edu/learning/internet.html

#### **Class Communication:**

Each week we send out weekly announcements via D2L email on Friday afternoons. <u>You are responsible</u> for following along with any updates or announcements.

You can either check D2L regularly for these emails or follow these steps to have the emails forward to your primary email account:

- o Log into D2L.
  - o In the top right corner, click on your name to reveal a drop-down box.
- Go to "Account Settings."
- Click on the "Email" tab.
- Scroll down the page to find the "Forwarding Options."
- Check the box to forward incoming messages and input the email address of your choice.
  - Click "Save and Close."

#### **Learning Continuity Statement:**

Should a student need to miss a Zoom class session for any reason they must arrange a make-up session with the instructor. Students must attend a live Zoom session or participate in the make-up lab to get credit for the associated weekly assignment. You can attend another section of the course (see front page for schedule) or do an individual make up session using course recordings and TA assistance.

For known conflict/absences:

- Make arrangements via email at least 24 hours in advance of missed class
- Provide documentation to excuse the absence
- Refer to the Code of Conduct for further information

For emergencies/last minute issues:

• EMAIL DR WEHRWEIN AND YOUR TA ASAP!!!!

# **Course Continuity Statement:**

Should any instructor be required to be absent for an extended period of time:

- The other members of the teaching team will take over their duties for that period of time
- Students will be notified via email or during the Zoom session
- Assignments will continue to be graded, and any delays will be communicated

# **Prerequisite:**

PSL 431

#### **Course platforms/Structure:**

This course will be delivered *online synchronously* through Zoom, and you will need your MSU NetID to login to the course from the *D2L homepage* (http://d2l.msu.edu).

In **D2L**, you will access online lessons, course materials, and additional resources. Activities may consist of readings, discussion forums, email, journaling, wikis, and other online activities.

# Technical Assistance (immediate on the day of class):

# Contact Keeler ASAP before/during class for urgent issues with connection.

If you need technical assistance at any time during the course or to report a problem, you can:

- Visit the MSU Help site at http://help.msu.edu
- Visit the Desire2Learn Help Site at <a href="http://help.d2l.msu.edu">http://help.d2l.msu.edu</a>
- Call the MSU IT Service Desk at (517)432-6200, (844)678-6200, or e-mail at <a href="mailto:ithelp@msu.edu">ithelp@msu.edu</a>

# Typical Day in Class

- 1. Log-in and open D2L for any documents needed for that session
- 2. Take Zoom Attendance Poll (\*In Class Points Earned)
- 3. Dr. Wehrwein Announcements
- 4. Physiology in the News
- 5. Class Activity (\*In Class Points Earned)
- 6. Hypothesis Generation for Weekly Experiment (\*In Class Points Earned)
- 7. Data Review
- 8. Figure Legends and Results (\*In-Class Points Earned)
- 9. Graphing of Group Data (\*In-Class Points Earned)

# **Grading Policy**

#### **Grade Determination:**

# Weekly: (1385 points total for weekly labs in the semester)

#### Pre-Lab:

o 11 Pre-Lab Quizzes (10 points each, 110 points total)

# In-Lab:

11 Zoom Session Attendance and Activity Points, 25 pts per class session (275 points total)

- 1 attendance point
- o 24 in class points made up of a combination of the following
  - Activity
  - Hypothesis
  - Figure Legends and Results
  - Graphs/Data Analysis

#### Post-Lab:

11 Weekly Laboratory Assignments (100 points for the first assignment; 90 for the remaining assignments: 1000 points total)

# Capstone Project: (400 points)

- Grant Proposal (300 points total)
  - o Idea meeting 20 points
  - o Team contract and Idea form 10 points
  - o Rough draft 150 points
  - o Final draft 100 points
  - Abstract 20 points
- o Project Presentation 100 points

# Final Exam (200 points):

o Final examination (200 points)

# Other (130 points):

- o 1 "Physiology in the News" Assignment (10 points)
- o 2 Professional-Skills Surveys (10 points: 5 points each for pre and post survey)
- o Pulmonary Graph (10 points)
- o Preparing for Next Steps Assignment 50 points
- Lay Summary 50 points

#### **Grade Dissemination:**

Grades will be posted on D2L.

# **Grading Scale:**

The table below describes the relationships between grades and percentages. The first column describes the grade. The second column describes the percentage range associated with that grade. The third column describes the number of points required for that grade.

Grade	Percentage	Points
4.0	95% to 100%	2009.25 – 2115
3.5	90% to 94.9%	1903.5 – 2009.24
3.0	85% to 89.9%	1797.75 – 1903.49
2.5	80% to 84.9%	1692 – 1797.74
2.0	75% to 79.9%	1586.25 – 1691.9
1.5	70% to 74.9%	1480.5 – 1586.24
1.0	65% to 69.9%	1374.75 – 1480.49
0.0	0% to 64.9%	0 – 1374.74

# Other Course Policies

# **Zoom Attendance Policy:**

Class will run as an interactive, synchronous session over Zoom. Attendance is mandatory. Attendance and participation points will be earned by being on time, actively engaging in course activities, and successfully completing in class checkoffs which occur at multiple times in the class session. Make-up labs are required for excused absences and must be done within 7 days of missed class. Make-ups must be performed to submit the weekly homework.

Accommodations will be made for students with excused absences or documented emergencies, but these require timely communication with the instructor over email when there is a conflict or emergency.

#### Requirements:

- Log-in a few minutes before the start of class to ensure that you get the attendance points for being on time. A Zoom poll will launch at the exact start time of class that you must answer for attendance.
- Cameras are not required for participation but are <u>highly</u> recommended. Using cameras during group-work has been shown to result in better group performance.
- Although cameras are not required, speaking participation is required. You must have a microphone capability available.
- Participation in class activities is required for points and will be checked off during the session
- All in-class activities must be completed and checked-off before leaving for the day

# How do I get help? Who should I contact?

The instructors for PSL 475 are always happy to help you. Your TA is your main contact for this course.

- For issues with class, physiology content, or grading, contact your TA by email.
- For other issues regarding absences, other personal matters, or if you have any issues with your lab partner or TA, Dr. Wehrwein would be glad to help you and you should email her anytime.
- There are not fixed office hours because junior/senior students are very busy with different schedules, as are our graduate student TAs. Therefore, we have email availability or will gladly set up a custom office hour for your needs. You can contact your TA or Dr. Wehrwein at any time. We encourage this. If possible, we will try to schedule a weekly "Help Hour," but this isn't guaranteed. Therefore, we recommend you reach out to us by email to coordinate first!

#### **Final Examination:**

The final exam will be comprehensive and will consist of short essay questions based on materials from laboratory readings, lectures, and general physiological concepts. You will be given a detailed review guide to help you prepare.

#### Per University Policy:

No student should be required to take more than two examinations during any one day of the final examination period. Students who have more than two examinations scheduled during one calendar

day during the final examination period may contact the Academic Student Affairs Office in their colleges for assistance in arranging for an alternate time for one of the three examinations.

Common final examinations are scheduled in certain courses with several class sections. In case of a conflict in time between such an examination and a regularly scheduled course examination, the latter has priority. The department or school giving the common examination must arrange for a make-up examination.

#### **Participation in Human Subjects Research:**

Though this online course will primarily provide students with data to analyze, there may be circumstances where students are requested to provide their own. As is the case for all studies involving human subjects, you are not required to participate as a subject. If you are in any way uncomfortable about a particular experiment, you can opt-out of being the subject without penalty. If you opt out, you will still need to be in class and will serve as the researcher/observer so that you have data for your lab report. This does not relieve you of obligations to participate in class, take the quiz, write the lab report, or participate in class discussions.

#### **Honors Option:**

Honors options are offered in this course. If you are interested in fulfilling your requirements for your program, please talk to Dr. Wehrwein at the <u>beginning</u> of the semester.

# **Professionalism:**

A goal of this course is to aid in your personal development to promote success in a professional career. The learning objectives, structure and assignments of this course have been tailored to align with MSU Career Network's "12 Essentials for Success" that outline core competencies that employers are looking for.

 The "12 Essentials for Success" can be found at: https://careernetwork.msu.edu/ files/PDF/12%20Essentials%20List.pdf

#### **Plagiarism:**

Plagiarism is <u>ALWAYS UNACCEPTABLE</u> and will result in action taken against you. Please refer to the following links for further information:

- MSU policy on plagiarism: <a href="https://www.msu.edu/unit/ombud/academic-integrity/plagiarism-policy.html">https://www.msu.edu/unit/ombud/academic-integrity/plagiarism-policy.html</a>
- MSU policy on academic dishonesty: <a href="http://splife.studentlife.msu.edu/regulations/student-group-regulations-administrative-rulings-all-university-policies-and-selected-ordinances/integrity-of-scholarship-and-grades">http://splife.studentlife.msu.edu/regulations/student-group-regulations-administrative-rulings-all-university-policies-and-selected-ordinances/integrity-of-scholarship-and-grades</a>

# Use of Turnitin™:

Consistent with MSU's efforts to enhance student learning, foster honesty, and maintain integrity in our academic processes, instructors may use a tool called Turnitin to compare a student's work with multiple sources. The tool compares each student's work with an extensive database of prior publications and papers, including previously submitted student works, providing links to possible

matches and a 'similarity score.' The tool does not determine whether plagiarism has occurred or not. Instead, the instructor must make a complete assessment and judge the originality of the student's work. All submissions to this course may be checked using this tool.

Students should submit papers to Turnitin assignment submission folder without identifying information included in the paper (e.g., name or student number), the system will automatically show this info to faculty in your course when viewing the submission, but the information will not be retained by Turnitin. Student submissions will be retained only in the MSU repository hosted by Turnitin.

#### **SIRS Evaluations:**

Michigan State University takes the opinion of students seriously in the evaluation of the effectiveness of instruction and has implemented the SIRS (Student Instructional Rating System) process to gather student feedback. This course utilizes the "online SIRS" system. You will receive an e-mail sometime during the last two weeks of class asking you to fill out the SIRS online form at your convenience. Please note the final grade for this course will not be accessible on STUINFO during the week following the submission of grades for this course unless the SIRS online form has been completed. You will have the option on the online SIRS form to decline to participate in the evaluation of the course by clicking on the "decline" choice at the bottom of the SIRS online form and your grade will not be held — we hope, however, that you will be willing to give us your frank and constructive feedback so that we may instruct students even better in the future.

#### **Grief Absence Policy:**

http://splife.studentlife.msu.edu/regulations/student-group-regulations-administrative-rulings-all-university-policies-and-selected-ordinances/grief-absence-policy

The goal of this policy is to provide a mechanism to standardize, monitor, and accommodate students who request temporary absence from a course, or special accommodations for a quiz or an exam as a result of loss or serious injury of a family member (parent, grandparent, sibling, spouse, or child). Students are directed to notify the Assoc Dean of their college and document the reason for the grief absence, and the Assoc Dean in turn is charged with notifying the student's instructors that the bereavement event has been verified. Ultimately, it is the student's responsibility to make up any missed work.

# **Incomplete (I) Policy**

https://reg.msu.edu/academicprograms/Print.asp?Section=528

When special or unusual circumstances occur, the instructor may postpone assignment of the student's final grade in a course by use of an I-Incomplete. The I-Incomplete may be given only when: the student (a) has completed at least 6/7 of the term of instruction but is unable to complete the class work and/or take the final examination because of illness or other compelling reason; and (b) has done satisfactory work in the course; and (c) in the instructor's judgment can complete the required work without repeating the course.

Provided these conditions are met, the instructor electing to give an I-Incomplete files an Agreement for Completion of (I) Incomplete at the time course grades are due. This agreement specifies what the

student must do, and when, to remove the I-Incomplete. The department or school office gives a copy to the student and retains a copy for at least one year.

#### **Accommodation Statement:**

Michigan State University is committed to providing equal opportunity for participation in all programs, services and activities. Requests for accommodations by persons with disabilities may be made by contacting the Resource Center for Persons with Disabilities at (517) 884-RCPD or on the web at rcpd.msu.edu.

Once your eligibility for an accommodation has been determined, you will be issued a verified individual services accommodation ("VISA") form. Please present this form to me at the start of the term and/or two weeks prior to the accommodation date (test, project, etc.). Requests received after this date will be honored whenever possible.

RCPD is in room 120 Bessey Hall, near the center of the Michigan State University campus, on the southwest corner of Farm Lane and Auditorium Road.

#### A Note on Sexual Misconduct

Our school is committed to fostering a safe, productive learning environment. Title IX and our school policy prohibits discrimination on the basis of sex. Sexual misconduct — including harassment, domestic and dating violence, sexual assault, and stalking — is also prohibited at our school.

Our school encourages anyone experiencing sexual misconduct to talk to someone about what happened, so they can get the support they need, and our school can respond appropriately.

If you wish to speak confidentially about an incident of sexual misconduct, want more information about filing a report, or have questions about school policies and procedures, please contact our Title IX Coordinator, which can be found on our school's website.

Our school is legally obligated to investigate reports of sexual misconduct, and therefore it cannot guarantee the confidentiality of a report, but it will consider a request for confidentiality and respect it to the extent possible.

As a teacher, I am also required by our school to report incidents of sexual misconduct and thus cannot guarantee confidentiality. I must provide our Title IX coordinator with relevant details such as the names of those involved in the incident.

#### CODE OF CONDUCT

- I. CLASS ATTENDANCE: By being on time to all lab periods, students earn attendance points. Since PSL475L is a "hands-on" course where the primary benefit is gained through in class activities, attendance is mandatory. If I (student) am absent and do not makeup 2 or more labs, I will fail the class.
  - a. **BE ON TIME:** I agree that it is unacceptable to arrive late to class. Not only does this disrupt my professor and fellow students, but it puts my lab partner at a disadvantage. I understand that to be "on-time," it is best to arrive a few minutes early to class. I agree to be ON-TIME to class, unless I contact Dr. Wehrwein, my TA, and my lab partner ahead of time OR due to extenuating circumstances. I also understand that it is unacceptable to leave class early unless I am finished with the exercise/presentation/problem set. Points will be deducted from my assignment if I leave without completing the daily activity.
  - b. MISSING LAB: I understand that I can make up a missed lab ONLY if I have a legitimate excuse as determined by the professor and let Dr. Wehrwein know at least 24 hours before the lab or have a documented emergency that is communicated by email before class. I must have appropriate written documentation (e.g., a doctor's note, medical school interview) that has been approved by Dr. Wehrwein and I must complete the make-up lab within 7 days to receive the possibility of earning the maximum points. An assignment *cannot* be turned in without completing the make-up lab. I understand that I must make the lab up within 7 days of the missed lab, preferably by attending another section of the course but also through an individually scheduled appointment with the course Learning Assistant. The 24-hr advance notice also applies to missing a scheduled make-up lab. A missed make-up will result in a zero. You will have 7 days from the make-up day to email the weekly assignment to your TA.

#### II. CLASS WORK ETHIC:

- a. **BE PREPARED:** I agree to have watched the pre-lab lecture and completed the readings ahead of time so that I am prepared during my scheduled class period.
- b. **WORK AS A TEAM:** I agree to work as an equal team with my lab partner(s), and that I will show up on-time and prepared for class, so as not to negatively affect their grade. If a problem arises, I promise to contact my instructor as soon as possible. It is acceptable and encouraged to work together; however, all post-lab assignments MUST be unique to me and any plagiarism or copying from my partner or other student will NOT be tolerated.
- c. LATE ASSIGNMENTS: Lab reports are due at the BEGINNING of the next lab period. "Late" means any time after the assignment submission folder closes, which will be at the start of the next class period for my section. If I miss the assignment submission folder deadline, there are TWO things I should do: 1) Submit the assignment to the assignment submission folder in D2L and the assignment will be marked with a "late" tag by D2L; AND 2) I should also email my TA to notify them of the late assignment to ensure it will be graded in a timely manner. An assignment one day late will receive 80% of earned points; 2-7 days late will result in 50% of earned points; after 7 days no points will be awarded. No assignments will be accepted if they are more than 7 days late. To avoid any technical issues causing a late assignment (such as a D2L issue), I can also email directly to my TA by the assignment due date/time.

#### III. MUTUAL RESPECT:

- a. **CELL PHONES:** I agree that the use of a cell phone and/or other internet device for non-academic reasons during class is unacceptable. I agree to focus on class activities and group work during my class period.
- b. LECTURE: I agree to give my full attention during class so that I can get the most out of class and group work.

#### IV. ACADEMIC INTEGRITY:

- a. DEFINITION: "Plagiarism is copying another person's text or ideas and passing the copied material as your own. It is your responsibility to make certain that you understand the difference between quoting and paraphrasing, as well as the proper way to cite and delineate quoted material." https://ombud.msu.edu/academic-integrity/plagiarism-policy.html
- b. **GENERAL:** I understand that PSL475L holds a zero-tolerance policy to academic dishonesty (which includes plagiarism). This will result in action taken against me: ranging from a penalty grade to failing the course, filing an Academic Dishonesty Report with the MSU Registrar's office, and/or a hearing with the Associate Dean's office.
- c. **CITING:** Direct quotes from articles, websites, peers, or other sources will be considered as plagiarism and will not be accepted *even if in quotation marks and followed by a citation.* **All answers submitted must be in your own words.**
- d. **ASSIGNMENTS:** I agree that all forms of academic dishonesty, including but not limited to cheating, copying the work of authors and inappropriately sourcing information on any in/out of class assignments is unacceptable and will result in action taken against me. If you turn in any work (ranging from a sentence to a full answer to a full report) from another individual (a current student, former student, academic, etc.), you will get a zero on that assignment, must write a reflective essay, will be reported to the academic integrity office, and will need to take an online course on academic honesty. Turning in the work on another as you own in considered a serious offense by the university and will not be tolerated.

Print Name:	Semester-Year & Section #:	
Signature:	Date:	
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