



Department of Physiology  
MICHIGAN STATE UNIVERSITY

# 2023

*Register  
Today!*

# PHYSIOLOGY & NEUROSCIENCE SUMMER COURSES

## PSL 250 - Introductory Physiology

**Description:** Function, regulation, and integration of organs and organ systems of higher animals emphasizing human physiology.

**Instructor:** John Zubek, PT, DPT

**Instruction Mode:** Online Asynchronous

**Schedule:** Full Summer Session 5/15/23 to 8/18/23

**Total Credits:** 4

**Lecture/Recitation/Discussion Hours:** 4

**Restrictions:** Not open to students in the Physiology major.

## PSL 310 - Physiology for Pre-Health Professionals

**Description:** Human organ system physiology with clinical applications for students entering health care fields.

**Instructor:** Marty Spranger, Ph.D.

**Instruction Mode:** Online Asynchronous

**Schedule:** Full Summer Session 5/15/23 to 8/18/23

**Total Credits:** 4

**Lecture/Recitation/Discussion Hours:** 4

**Prerequisite:** BS 161 or BS 181H or LB 145 or ANTR 350

**Class Notes:** Five Unit Examinations will be administered online/remotely from 6:00 PM to 7:30 PM on 6/2/23; 6/16/23; 7/7/23; 7/28/23; and 8/18/23.

## PSL 311L - Physiology Laboratory for Pre-Health Professionals

**Section 1 Wednesdays 10:20 AM to 1:10 PM**

**Section 2 Tuesdays 10:20 AM to 1:10 PM**

**Description:** Laboratory exercises in human and animal physiology, including neural, sensory, muscle, cardiovascular, and urinary function, with an emphasis on the integration of physiological systems. Laboratory exercises relevant for pre-health students and the development of data analysis and problem solving skills.

**Instructor:** John Zubek, PT, DPT

**Instruction Mode:** In Person

**Schedule:** Full Summer Session 5/15/23 to 08/18/23

**Location:** Natural Sciences Building, Room 139

**Total Credits:** 2

**Lab Hours:** 4

**Prerequisite:** CEM 142 or CEM 152 or CEM 182H or LB 172 and PSL 310 (or concurrently) or PSL 432 (or concurrently)

**Restrictions:** Not open to freshmen.

## IMPORTANT DATES

**First Summer Session** starts 5/15/23 to 6/29/23

Open adds end on 5/17/23

Last day to drop with refund 5/25/23

Last day to drop with no grade reported 6/7/23

**Second Summer Session** starts 7/5/23 to 8/18/23

Open adds end on 7/7/23

Last day to drop with refund 07/17/23

Last day to drop with no grade reported 7/27/23

## NEU 300 - Neurobiology

**Description:** Structure and function of nerve cells and nervous systems.

**Instructor:** Casey Henley, Ph.D.

**Instruction Mode:** Online Asynchronous

**Schedule:** Full Summer Session 5/15/23 to 8/18/23

**Total Credits:** 3

**Lecture/Recitation/Discussion Hours:** 3

**Prerequisite:** BS 162 or LB 144 or BS 182H and BS 161 or LB 145 or BS 181H

**Restrictions:** Not open to freshmen or sophomores and not open to students in the Program in Neuroscience and not open to students in the Lyman Briggs Neuroscience Major.

**Interdepartmental With:** Integrative Biology

## NEU 301 - Intro to Neuroscience I

**Description:** Structure and function of nerve cells and nervous systems.

**Instructor:** Valerie Hedges, Ph.D.

**Instruction Mode:** Online Asynchronous

**Schedule:** Summer Session 1 5/15/23 to 6/29/23

**Total Credits:** 3

**Lecture/Recitation/Discussion Hours:** 3

**Prerequisite:** BS 161 or BS 181H or LB 145 and BS 162 or BS 182H or LB 144

**Recommended:** PSY 101

**Restrictions:** Open to undergraduate students in the Program in Neuroscience or in the Lyman Briggs Neuroscience Coordinate Major.

## NEU 302 - Intro to Neuroscience II

**Description:** Survey of brain-based behavioral and cognitive systems and related human diseases.

**Instructor:** Valerie Hedges, Ph.D.

**Instruction Mode:** Online Asynchronous

**Schedule:** Summer Session 2 7/5/23 to 8/18/23

**Total Credits:** 3

**Lecture/Recitation/Discussion Hours:** 3

**Prerequisite:** NEU 301

**Restrictions:** Open to undergraduate students in the Lyman Briggs College or in the College of Natural Science or in the Program in Neuroscience.

## NEU 311L - Neuroscience Laboratory (W)

**Section 1 Tuesdays 10:20 AM to 12:10 PM**

**Section 2 Tuesdays 1:00 PM to 2:50 PM**

**Description:** Overview of neuroscience research methodology, including experimental design, data analysis, and presentation of results.

**Instructor:** Byron Gipson, Ph.D.

**Instruction Mode:** In Person

**Schedule:** Full Summer Session 5/15/23 to 8/18/23

**Location:** Giltner Hall, Room 268

**Total Credits:** 2

**Lecture/Recitation/Discussion Hours:** 1

**Lab Hours:** 3

**Prerequisite:** NEU 301 (or concurrently) and completion of Tier I writing requirement and STT 201 or STT 231 or STT 421 and BS 171 or BS 191H or LB 145

**Restrictions:** Open to undergraduate students in the Program in Neuroscience or in the Lyman Briggs Neuroscience Coordinate Major.

**Class Notes:** Students are REQUIRED to attend the first day of class the week of Monday, May 16, 2023. Otherwise you may be dropped from the course.

## NEU 401 - Cellular & Molecular Neuroscience

**Description:** In-depth examination of cellular and molecular processes that underlie neuronal and circuit function. Topics include synaptogenesis, olfactory and visual system, developmental wiring, neurogenetics, regulatory systems, and neurodevelopmental and neurodegenerative disorders.

**Instructor:** Cameron Prigge, Ph.D.

**Instruction Mode:** Online Synchronous

**Schedule:** Full Summer Session 5/15/23 to 8/18/23

**Days & Times:** TUES & THURS 12:40 PM to 2:00 PM

**Total Credits:** 3

**Lecture/Recitation/Discussion Hours:** 3

**Prerequisite:** NEU 301 and NEU 302

**Restrictions:** Open to undergraduate students in the Neuroscience Major or in the Lyman Briggs Neuroscience Coordinate Major.

## NEU 402 - Behavioral & Cognitive Neuroscience

**Description:** In-depth examination of neuronal mechanisms that regulate behavior, learning, cognition, and human disease.

**Instructor:** Charlotte Vanacker, Ph.D.

**Instruction Mode:** Online Synchronous

**Schedule:** Full Summer Session 5/15/23 to 8/18/23

**Days & Times:** TUES & THURS 10:20 AM to 11:40 AM

**Total Credits:** 3

**Lecture/Recitation/Discussion Hours:** 3

**Prerequisite:** NEU 301 and NEU 302

**Restrictions:** Open to undergraduate students in the Neuroscience Major or in the Lyman Briggs Neuroscience Coordinate Major.

View the syllabus for each course as it becomes available on our website [psl.msu.edu](https://psl.msu.edu) or:



## MEET YOUR INSTRUCTORS!

*What's your advice to a student who wants to do well in the summer course you're teaching?*



**Byron Gipson, Ph.D.**

"Do the pre-lab assignments that prepare you for each lab. It makes lab so much simpler when you prepare for it."



**Valerie Hedges, Ph.D.**

"Take advantage of the recommended assignments and remember to ask questions!"



**Casey Henley, Ph.D.**

"Try to do your best on the first attempt at the exam to minimize how much work you need to do on revisions."



**Cameron Prigge, Ph.D.**

"Tap into your creativity by drawing out the pathways and concepts we learn in class."



**Marty Spranger, Ph.D.**

"Do the study skills, go to a study skills help session, and do the application questions. Also, try to enjoy it!"



**Charlotte Vanacker, Ph.D.**

"Students who are willing to use the course material to build up new knowledge, discover new areas of interest, and develop their critical thinking will do well."



**John Zubek, PT, DPT**

"Engage with other students towards a common goal, take an "other's centered" approach to learning, and practice communicating complex physiological concepts in a variety of modes."