

# BIO 4120 Comparative Physiology

## Course Syllabus

### Spring/Summer, 2021

Instructor: Emily Powell  
Email address: [Ba7177@wayne.edu](mailto:Ba7177@wayne.edu)  
Course website: [canvas.wayne.edu](http://canvas.wayne.edu)

#### LECTURE MEETINGS

Tuesday and Thursday 2:30pm - 4pm via Zoom (in Canvas); no on-campus meetings for lecture.

#### LAB MEETINGS

Meetings via Zoom (in Canvas); no on-campus meetings for lab.

CRN 30655	Section 2	Thursday 11am - 2pm	Dave Lall	<a href="mailto:DaveLall@wayne.edu">DaveLall@wayne.edu</a>
CRN 30656	Section 4	Thursday 9am - 12pm	Lisa Koshko	<a href="mailto:lmkoshko@wayne.edu">lmkoshko@wayne.edu</a>

#### TEXT/BOOKS

##### Required

Principles of Animal Physiology,  
Third Edition  
by Christopher Moyes and Patricia Schulte  
ISBN: 9780321838179

##### Recommended

Reading the Primary Literature: A Practical  
Guide to Evaluating Research Articles in Biology  
by Christopher M. Gillen  
ISBN: 0-8053-4599-X

#### REQUIRED HARDWARE/SOFTWARE:

For lecture exam purposes, we will be requiring students to use BOTH **Respondus LockDown Browser** and **Respondus Monitor** (webcam, e.g., FaceTime HD (built-in) laptop camera, etc.) It is the responsibility of the student to ensure that they have the appropriate computer capabilities (programs), and access to a computer, for downloading the material.

#### How to download and use Respondus Lockdown Browser/Monitor:

All Bio 4120 **Lecture Exams** will require you to use Respondus Lockdown Browser/Monitor through the Canvas website.

- Respondus is its own browser (akin to Chrome or Firefox, etc.).
- Respondus is **compatible** with Microsoft Windows and macOS.
- You may need to clear all data and delete cookies/empty your cache so that it does not slow down the loading of questions on the exams.
- Respondus is not compatible with Android or macOS **mobile devices**\*
- While **Respondus LockDown Browser** is compatible with WSU issued Google Chromebooks, **Respondus Monitor is not. You cannot use a Google Chromebook** (not even a WSU issued one).
- Download Respondus in **Canvas** by clicking **Help** and then **Students: Links and Downloads**.
- Contact our **WSU C&IT Help Desk at 313-577-4357** or <https://tech.wayne.edu/helpdesk> for assistance.
- Please watch this short video for an overview of Respondus: <https://youtu.be/XuX8WoeAycs>
- Watch this video demo to learn how to download Respondus LockDown Browser (relevant to our course at 22 seconds): [https://youtu.be/C2NXRkRm\\_Uk](https://youtu.be/C2NXRkRm_Uk)
- Watch this video for a demonstration of how to take a Canvas quiz or exam using Respondus Lockdown Browser + Monitor (these are also found in our Canvas homepage and under modules): [https://youtu.be/gF\\_ZZSHb\\_Jw](https://youtu.be/gF_ZZSHb_Jw)

## COURSE DESCRIPTION

This course studies physiological processes at the molecular, cellular, and organismal levels. Comparison of major physiological systems across groups of organisms. Lab consists of physiology exercises and lab reports that allow students to explore major conceptual themes in physiology. Fulfills General Education Writing Intensive Course in the Major requirement; each student writes reports, and one research paper on topic approved by instructor, in addition to other course writing requirements.

## COURSE PREREQUISITES

BIO1500, BIO 3070, and BIO 3200 with grades of C-minus or above. In addition, because this is the advanced writing intensive for majors, it is strongly recommended that you successfully complete your elementary and intermediate writing requirements before taking this course. The writing intensive coursework focuses on learning to read and synthesize primary and review literature in physiology. If you have trouble with sentence and paragraph structure or other writing skills, contact the [University Writing Center](#).

## LECTURE OFFICE HOURS (Canvas Zoom; Meeting ID: 964 8492 5123; Passcode: 656662)

Tuesday & Thursday 2:30-4:00pm; i.e., the scheduled lecture time slot will be used for interactive discussions about all things lecture related.

- I will begin each zoom meeting with “Daily Announcements” of upcoming events (e.g., due dates, textbook readings, etc.).
- I will be lecturing live and answering questions during the zoom meeting.
- I will also answer questions that students post in the Canvas ‘Chat’ room (i.e., those that are posted prior to the zoom meetings).
- **Zoom sessions will be recorded**, so you can watch them at your own convenience (although live attendance is most highly recommended).

## LECTURE EXAMS

There will be 4 closed-book exams offered online using both **Respondus LockDown Browser AND Respondus Monitor** (webcam; required). A proper background check must be performed for each lecture exam. No notes, papers, books, headphones, or class material should be used or present during an exam. **Lecture Exams** (i.e., Exams 1-4) will take place at the regularly scheduled class time (see p. 3 below for specific dates). The lecture exams will include **multiple-choice** questions and may **include images**. If you are unable to access the necessary equipment to complete the exams on the specified dates (see dates/times below), you may choose to not be enrolled in the course. **PLEASE NOTE: Google Chromebooks** will not run Respondus Monitor. No alternate exam dates and/or formats or delivery methods will be used during the Spring/Summer semester 2021. **There will be no make-up exams**. The lowest score from your four lecture exams will be dropped, therefore if you miss an exam for any reason that exam will be your drop.

## LECTURE ONLINE QUIZZES/ASSIGNMENTS

Throughout the semester online open-book quizzes and assignments will be posted in [Canvas](#). The quizzes/assignments will be due one week from the date they were posted. The purpose of these online quizzes/assignments is to challenge students to engage with and review the lecture material. There are no make-up opportunities for missed quizzes/assignments. It will be the responsibility of the student to regularly check canvas for upcoming quizzes/assignments. Details concerning how to complete the quizzes/assignments will be discussed thoroughly during the first week of class. There are 80 points possible from quizzes/assignments (including Respondus checks prior to exams) and

any points students score past 60 points can be kept. I.e., students can potentially score 80/60. This system is implemented instead of make-up opportunities for individual missed points.

**IMPORTANT DATES:**

**University Calendar:**

<https://wayne.edu/registrar/registration/calendar20-21/>

**Lecture Specific Dates:**

**Exam Dates**

**Exam 1: Tuesday, June 1<sup>st</sup>**

**Exam 2: Tuesday, June 22<sup>nd</sup>**

**Exam 3: Tuesday, July 13<sup>th</sup>**

**Exam 4: Tuesday, August 3<sup>rd</sup>**

**Tentative Lecture Schedule**

Unit	Date	Topic	Chapter
1	11- May	Class Introduction / Introduction to Physiology	1
	13- May	Physiological Evolution of Animals	2
	18- May	Neuron Structure and Function	5
	20- May	Neuron Structure and Function Cont.	5
	25- May	Functional Organization of Nervous System	8
	27- May	Functional Organization of Nervous System Cont.	8
	<b>1- June</b>	<b>Exam 1</b>	
2	3-June	Sensory Systems	7
	8-June	Sensory Systems Cont.	7
	10- June	Cellular Movement and Muscles	6
	15- June	Locomotion	12
	17- June	Locomotion Cont.	12
	<b>22- June</b>	<b>Exam 2</b>	
3	24- June	Circulatory Systems	9
	29- June	Circulatory Systems Cont.	9
	1-July	Circulatory Systems Cont.	9
	6-July	Respiratory Systems	11
	8- July	Respiratory Systems Cont.	11
	<b>13- July</b>	<b>Exam 3</b>	
4	15- July	Digestion and Energy Metabolism	14
	20- July	Digestion and Energy Metabolism Cont.	14
	22- July	Thermal Physiology	15
	27- July	Thermal Physiology Cont.	15
	29- July	Study Day	
	<b>3- Aug</b>	<b>Exam 4</b>	

**Note about Lecture Schedule:**

The lecture schedule is tentative and may be changed at any time by the instructor. Exams will be held on the days indicated in the syllabus and will not be changed unless a University issue demands it. *If lectures fall behind, you will only be tested on the topics covered in classes, labs, and assignments.*

## LAB STRUCTURE AND MAJOR ASSIGNMENTS

All lab details will be posted to Canvas. All lab activities are due by 11:59pm on the specified due date (see below for specific dates). No late assignments will be accepted.

### Term Paper:

You will complete one literary research paper. Small assignments will build to create a final term paper. These assignments include the selection of a topic and articles, the transitions between the articles, an article summary, a rough draft, and a peer review. These assignments will help you make continuous progress through the semester. They are worth 10 points each and must be submitted via Canvas (unless otherwise specified). The final draft is worth 70 points. No late term papers will be accepted.

### Lab Assignments:

You will complete multiple individual lab assignments including lab reports and article summaries. The lab reports may include background information, the methods, the results, your conclusions, and a complete list of articles cited, to be submitted on Canvas. **There are no make-up lab assignments. All labs are scheduled with ample time to be completed.**

### Student-designed Lab (SDL):

Working in groups, you will design a laboratory experiment to research a significant topic in animal physiology. You will present your research proposal to your lab section in groups. Every student must turn in a final typed report based on their groups proposed experiment. Specific project requirements and content will be discussed in lab sections.

**Labs:** The labs will meet on zoom with your TA. The tentative schedule is below:

Dates	Topic	Assignment Due (Point value)
May 13	Introduction Discuss Term Paper Topics/Articles Discuss Plagiarism Essay	
May 20	Lab 1: Swimmy Lab Part 1 Discuss Table and Figure Legends	Plagiarism Essay (10pts)
May 27	Organize Student Designed Lab (SDL) Groups Lab 1 Cont.: Swimmy Lab Part 2	Term Paper Topic & Articles (10pts)
June 3	Lab 2: CNA Lab Review Term Paper Transitions	Swimmy Lab Report (10pts)
June 10	Lab 3: Article Dissection	Term Paper Transitions (10pts)
June 17	Lab 4: Skull Lab	CNA Lab Report (10pts) Article Dissection Summary (10pts)
June 24	Planning SDL/ Discuss planned labs with TA	Term Paper Article Summary (10pts)
July 1	Lab 5: ECG Lab	SDL Outline/Proposal (10pts) Skull Lab Report (10 pts)
July 8	Student-designed labs	Term Paper Draft (10pts)
July 15	Student-designed labs	Term Paper Peer Reviews (10pts) ECG Lab Report (10pts)
July 22	Lab Presentations	SDL Presentations (20 pts) SDL Lab Report (40 pts)
July 29	Labs Do Not Meet	Term Paper Final Draft (70pts)

## GRADING

A total of 600 points are available to be earned (360 from lecture and 240 from the lab). There will be no additional opportunities for extra credit or alternative assignments. Course grades are determined from total point accumulation (lecture + lab) at the end of the semester, with final letter grades based generally on a strait scale; modified if appropriate, depending on the class average and point distribution.

### Points for Lecture:

Exam 1	100
Exam 2	100
Exam 3	100
Exam 4	100
Online Quizzes/Assignments	60 (80*)
<u>Drop Lowest Exam Score</u>	<u>-100</u>
Total Lecture Points	360 (380*)

### Points for Lab:

Plagiarism Essay	10
Lab Reports/Assignments (5 individual)	50
Term Paper (120 points)	
-Topic & Articles	10
-Transitions	10
-Article Summary	10
-Term Paper Draft	10
-Peer Review	10
-Term Paper Final Draft	70
Student-Designed Lab (70 points)	
-Proposal/Outline	10
-Presentations	20
-Report	40
Total Lab Points	240 (250*)

Grades will be calculated on the following scale: (out of 600 points)

Percentage	Grade	Percentage	Grade	Percentage	Grade
93-100	A	80-82.99	B-	66-69.99	D+
90-92.99	A-	76-79.99	C+	63-65.99	D
86-89.99	B+	73-75.99	C	60-62.99	D-
83-85.99	B	70-72.99	C-	<59.99	F

## POSTING OF GRADES

- **Exam grades** will automatically load into Canvas grades following submission of the Respondus LockDown exam.
- Exams will be reviewed for any errors in grading and student concerns/inquiries will be discussed during the next lecture meeting following the exam.
- The **lecture quiz/assignment grades** will be updated on Canvas one week from their due date.
  - Some quiz formats may automatically load into Canvas grades following submission.
- Canvas grades does not perform calculations such as dropping the lowest exam score.

## GRADE DISPUTES / CHALLENGE OPTION

Students will have two weeks (from the date that grades are posted) to review an exam/assignment and to identify any concerns with the content or grading. After which I will announce if there are to be any adjustments to the original exam score. Failure by students to challenge the grade within this period indicates a willingness to accept the grade as is. Lab assignment grade challenges must be brought to the relevant teaching assistant's attention in a typed, concise, and coherent email within one week of the date the assignment grade is posted.

## EXAM CONFLICTS

[Exam 4](#) is scheduled as designated in the Schedule of Classes for this term. No other time for the last exam will be available, and **no exceptions** will be made for conflicts such as student travel plans. Students are not required to take more than two final exams in one day. A student with more than two scheduled final exams on one day *may* (not, “*must*”) petition to the instructor of the course with the lowest number students enrolled to arrange an alternate time for the final exam. Such petitions must be presented to the instructor as early as possible. I would prefer 2 weeks advanced notice.

## EMAIL GUIDELINES

All emails must be from your WSU email account for privacy reasons. Please make sure to include a clear subject and enough information for a proper response.

## ADD/DROP POLICY

Sunday July 18, 2021 is the last day to request a withdrawal. See academic calendar for dates pertaining to add/drop class at <https://wayne.edu/registrar/registration/calendar20-21>. Also see <http://reg.wayne.edu/> for student help related to registering, dropping/withdrawing, transcript requests, tuition and fees, calendars, and deadlines, etc.

## CHEATING/PLAGIARISM

A strict zero-tolerance policy for cheating/plagiarism will be enforced. If cheating is suspected the Dean of Students Office will be notified. Students found to be cheating during an exam (e.g., using digital or hardcopy resources during a lecture exam offered through Respondus, or sharing information about an exam through group chat (e.g., *WhatsApp*, etc.), will receive a zero for that test with no opportunity to drop or replace that score. A second episode of cheating will result in a grade of ‘F’ for the course and may also result in initiation of university disciplinary action. **Please refrain from discussing exam content on social media apps until after the exam is made “public for review” by the instructor.** Your written work will be submitted to Unicheck for an evaluation of your ideas and proper use and attribution of sources. By taking this course, you agree that all assignments may undergo this review process and that the assignment may be included as a source document in Unicheck's restricted access database, for the purpose of detecting plagiarism in such documents. **Anyone caught plagiarizing will automatically receive a failing grade for that assignment.** A second episode of plagiarizing will result in a grade of ‘F’ for the course and may also result in initiation of university disciplinary action. For more information refer to the University [Academic Misconduct](#) page.

## **SPECIAL CONSIDERATIONS FOR INDIVIDUALS WITH DISABILITIES**

If you have a physical or mental impairment that may interfere with your ability to complete the requirements for this course successfully, you are invited to contact Student Disability Services (SDS) at (313) 577-1851 to discuss appropriate accommodations on a confidential basis. Please refer to the [SDS website](#) for further information about students with disabilities and the services provided for students.

## **RELIGIOUS HOLIDAY CONFLICTS**

Because of the extraordinary variety of religious affiliations of the University student body and staff, the Academic Calendar makes no provisions for religious holidays. However, it is University policy, to respect the faith and religious obligations of the individual. Students with classes or examinations that conflict with their religious observances are expected to notify their instructors well in advance (minimum of 2 weeks notification), so that mutually agreeable alternatives may be worked out.

## **UNEXPECTED UNIVERSITY CLOSURES.**

If the University is officially closed on an exam day, the exam will be held on the next regularly scheduled class day. Closure of the University is announced by the following:

1. the University Newsline (313) 577-5345 \*
2. WSU Homepage ([www.wayne.edu](http://www.wayne.edu)) \*
3. WSU Academica ([www.academica.wayne.edu](http://www.academica.wayne.edu)) \*
4. WDET-FM (Public Radio 101.9)
5. by other local radio and television stations

## **UPDATES**

Updates and corrections to this syllabus will be described in class and posted on the course Canvas. You are responsible for checking Canvas announcements and your University email account.

## **OTHER**

Any specific issue not covered by this syllabus will be resolved using University policies. Disputes that cannot be resolved following the guidelines present in this syllabus will be resolved by following the guidelines of the University "Student Due Process".