

BIOL3204: Physiology

LECTURE

Spring 2025

Department of Integrative Biology
Oklahoma State University

4 Credit Hours (Lecture + Laboratory)

Instructor: Ciarán A. Shaughnessy, Ph.D. (he/him)

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Office: Life Sciences West Room 307

Office Hours: Monday, 2:30 to 4:30 PM (or other days/times by appointment)

Lecture Days: Monday, Wednesday, and Friday

Lecture Time: 1:30 to 2:20 PM

Lecture Location: Animal Science Building 123

Learning Objectives for Lecture and Laboratory

Course Description: Anatomy and function of the human body. Human and domestic animal physiology considered in laboratories.

Core Content and Knowledge

- Students will learn the basic principles of physiology and homeostasis.
- Students will learn about the structure and function of organs and organ systems of the human body, how they coordinate to maintain physiological homeostasis.
- Students will learn about molecular, biochemical, and cellular processes underlying organ and organ system function in the maintenance of physiological function.
- Students will learn about pathologies can arise when cells, organs, or organ systems fail to maintain physiological homeostasis.

Research and Communication Skills

- Students will learn the scientific method and its application to physiology, including the concept of peer-review and how to access peer-reviewed literature.
- Students also demonstrate critical thinking to summarize and evaluate basic scientific information published in the peer-reviewed literature.

Required Textbook

Direct Bill eBook | *Please Note: You must 'Opt-Out' of purchase by the add/drop date to avoid being charged.*

Title Human Physiology: An Integrated Approach, 8th Edition

Authors Dee Unglaub Silverthorn

Publisher Pearson, 2019

ISBN 9780135923627

Please Note: Management of this course is independent of the textbook and publisher portal, and assessments (homeworks and exams) are based primarily on the lecture material. In this course, the textbook is used only as a reference.

LECTURE SYLLABUS – BIOL3204: Physiology

Course Grading Scheme

A total of 800 points will be available throughout the term.

200 Points for Laboratory Activities

- **Please see Laboratory Syllabus for more details.**

Please Note: Students must earn ≥ 120 points from Laboratory Activities; student earning < 120 points will receive an 'F' for BIOL3204, regardless of the lecture score. Additionally, students must attend at least 8 laboratory classes; students who attend less than 8 laboratory classes will receive an 'F' for BIOL3204.

600 Points for Lecture Activities – Participation, Homeworks, Midterms, and Final Exam

- **50 Points for Lecture Participation.** Participation in lecture is valued and awarded a total of 50 points throughout the semester using iClicker. Every lecture will include one or more iClicker activities. Students will be awarded 1 point for each lecture in which they were present and participated in at least 50% of the iClicker activities per lecture. **Please Note:** Answers to iClicker answers are not graded, only participation. Students are personally responsible for ensuring their iClicker technology is functioning properly. Missed participation points due to absences cannot be made up. Points missed for any canceled classes will be added to the course evaluation extra credit.

iClicker Activities 50 Pts 1 Pt Per Lecture; 3 Pts Per Review Session

- **100 Points for Homework Questions.** A total of 10 Homework Question assignments, each worth 10 points, are assigned throughout the term. Homework Questions will become available on Canvas on after class on Mondays and must be submitted on Canvas by the following Sunday at 11:59PM.

Homework 1	10 Pts	Posted: Mon, Jan 19	Due: Sun, Jan 26
Homework 2	10 Pts	Posted: Mon, Jan 27	Due: Sun, Feb 2
Homework 3	10 Pts	Posted: Mon, Feb 10	Due: Sun, Feb 16
Homework 4	10 Pts	Posted: Mon, Feb 17	Due: Sun, Feb 23
Homework 5	10 Pts	Posted: Mon, Feb 24	Due: Sun, Mar 2
Homework 6	10 Pts	Posted: Mon, Mar 10	Due: Sun, Mar 16
Homework 7	10 Pts	Posted: Mon, Mar 24	Due: Sun, Mar 30
Homework 8	10 Pts	Posted: Mon, Apr 7	Due: Sun, Apr 13
Homework 9	10 Pts	Posted: Mon, Apr 14	Due: Sun, Apr 20
Homework 10	10 Pts	Posted: Mon, Apr 28	Due: Sun, May 4

- **300 Points for Midterms.** There are 4 midterms, each worth 100 points each. The lowest Midterm score will be dropped. **Please Note:** Midterms are taken in-person on Canvas. Students must bring a charged device (laptop or iPad; phones are not allowed) to class for each Midterm. Midterms scores of '0' due to a violation of the Academic Integrity policy is not eligible to count as a dropped Midterm score.

Midterm 1	100 Pts	Wed, Feb 5
Midterm 2	100 Pts	Wed, Mar 5
Midterm 3	100 Pts	Wed, Apr 2
Midterm 4	100 Pts	Wed, Apr 23

- **150 Points for Final Exam.** There is one final worth 150 points. The final exam score cannot be dropped. The final exam will be semi-cumulative: 30% Lec 37-40 and 70% Cumulative. **Please Note:** The final exam is taken in-person on Canvas. Students must bring a charged device (laptop or iPad; phones are not allowed) to the exam.

Final Exam 150 Points Friday, May 9, 2:00–3:50 PM

Letter Grade Cut-Offs: Grades are determined by points, not percentage. No rounding is necessary. **For example:** If a student earns 637 out of the 800 total points (79.6%), they would receive a final grade of a 'C'.

A = ≥ 720 Points ($\geq 90\%$)

C = 520–639 Points (65–79.9%)

F = ≤ 439 Points ($\leq 55\%$)

B = 640–719 Points (80–89.9%)

D = 440–519 Points (55–64.9%)

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Extra Credit Opportunities

There will be several opportunities for extra credit throughout the semester. **Please Note:** Points earned via extra credit can only be applied to the lecture score (out of 600), not the lab score (out of 200).

20 Points for Homework Activities: Alongside each set of Homework Questions, students will have the opportunity to earn extra credit by participating in a 'Homework Activity' assignment. These optional activities will include alternative question types and activities, including reading passages, watching videos, drawing, writing essay-style answers, and reflecting on your learning experience. The purpose of these activities is to engage students with course content in alternative ways. Most submissions will receive full credit; these activities will be evaluated primarily for participation and authenticity only, and only evaluated for quality in exceptional circumstances. **Please Note:** Violations of the Academic Integrity Policy, including copying and the use of generative AI, can still incur penalties, including a formal Academic Integrity Violation Inquiry.

Homework Activities

2 Points Each

Due: Weekly, with Homework Questions

20 Points for Midterm Corrections: Students will have the opportunity to earn extra credit by submitting Midterm Corrections. After each Midterm, untimed, take-home versions of the Midterm will become available to students to work through and resubmit (worth 5 points each Midterm). The percentage correct on the Midterms Corrections assignment will be multiplied by 5. Unsubmitted Midterm Correction assignments will be input as a 0 Points. **For Example:** Students who get 90% on a Midterm Corrections assignment will receive 4.5 points. Students with 80% receive 4 points. If a student submits all Midterm Corrections and answers all questions correctly, they will receive all 20 points of extra credit for the Midterm Corrections. If a student submits 3 out of 4 Midterm Corrections and answers all questions correctly on the ones they submitted, they will receive 15 points of extra credit. **Please Note:** Violations of the Academic Integrity Policy during a Midterm or lack of attendance to a Midterm void a student's eligibility to earn extra credit for the corresponding Midterm Corrections.

Midterm 1 Corrections
Midterm 2 Corrections
Midterm 3 Corrections
Midterm 4 Corrections

5 Points
5 Points
5 Points
5 Points

Posted: Fri, Feb 7
Posted: Fri, Mar 7
Posted: Fri, Apr 4
Posted: Fri, Apr 25

Due: Sun, Feb 16 at 11:59PM
Due: Sun, Mar 16 at 11:59PM
Due: Sun, Apr 13 at 11:59PM
Due: Sun, May 4 at 11:59PM

5 Points for Course Evaluations: Students will have the opportunity to earn extra credit for submitting course evaluations. Course evaluations are exceptionally important as they are often used in departmental reviews of courses, curricula, and instructors. Additionally, it is a constructive exercise for a student to reflect on the policies, instruction, or content of a course that were useful, engaging, or enjoyable to them, as well as those that were uninteresting or challenging. As a small incentive to submit course evaluations, if the response rate is over 90% for both the lecture and the lab course evaluations, all students will receive 5 points of extra credit (adding ~1% to your final BIOL 3204 grade).

Course Evaluations

5 Points

Open: Mon, Apr 21

Due: Fri, May 2 at 5:00PM

Course Policies

Policy for Lecture Attendance: Lecture attendance is critical to achieving the learning objectives of the course. You are expected to attend and participate fully in all lectures. However, attendance is not recorded or graded. There is no need to explain lecture absences to the instructor. **Please Note:** Please see how this applies to the Participation section of the grading scheme (above) as well as Missed Midterms and Final Exam (below).

Policy for Missed Assignments: Missed assignments cannot be made up, only submitted late (see Policy for Late Homework Assignments below).

Policy for Late Assignments: Any assignments submitted late will be penalized 25% per day. To calculate the number of days late, Canvas rounds up to the next whole number. **For Example:** If a student submits a 12-point assignment 1.3 days late, the late penalty will be rounded from 1.3 days up to 2 days. The student's score will include a 50% deduction for lateness.

Policy for Missed Midterms: A missed midterm cannot be submitted late, and generally cannot be made up. A missed midterm will receive a score of '0' and will count as a dropped midterm score. Missed midterms can only be made up for: (i) documented health reasons (e.g., a student is incapable of taking the exam and has a note from a doctor from the day of the missed midterm), or (ii) a documented and university-sponsored absence (e.g., athletics), for which documentation must be provided at least a week in advance and the make-up date/time has been confirmed and arranged in advance with the instructor. Midterms must be made up within 2 school days of the original midterm at the [OSU Testing Center](#) (or equivalent testing center). **Please note:** *Generally, missed midterms cannot be made up for non-athletics extra-curricular reasons, such as Greek, club sports, church or mission trips, family, or work. The OSU Testing Center may charge fees to schedule a make-up exam.*

Policy for Missed Final Exam: The final exam cannot be rescheduled. A missed final exam cannot be submitted late and cannot be made up. A missed final exam will receive a score of '0', which cannot be dropped.

Course Management, Guidance, and Other Important Information

Course Management and Guidance: Canvas is used for all course material (lecture notes), assignments (homework, midterms, and final exam), grades, and announcements. Lecture slides will be posted on Canvas, either before or after class. You are strongly encouraged to take detailed notes during class, as the slides may not contain all the information presented in class. The lectures are meant to complement the material covered in the textbook. Homework and exams will cover material presented in class, which is based on the material in the textbook. You are not permitted to videotape or photograph lectures without an SAS Accommodation Letter explicitly stating otherwise. **Some updates to the syllabus (i.e., class schedule) may occur throughout the semester.** Always check the syllabus file on Canvas for the most up-to-date version of the syllabus.

iClicker: We will be using location-enabled iClicker throughout the semester for assessing participation during lectures. It is the students' responsibility to ensure that their iClicker technology is functioning. **Join Link:** <https://join.iclicker.com/HMFA>

Grade Inquiries: Canvas may not calculate final grades for this course correctly. Students should calculate their grades manually following the Grading Scheme outlined in this syllabus or use the 'Grade Calculator' posted to Canvas. Any concerns about grades on a particular laboratory assignment, homework assignment, or midterm exam (e.g., questions you think may have been graded incorrectly, etc.) must be addressed before Pre-Finals week (Week 15), or they will not be considered. It is the students' responsibility to check scores carefully and promptly notify the instructor with any questions or concerns.

Textbook Inclusive Access Program: This course cooperates with the University Store and Pearson (textbook publisher) to deliver students required digital course materials at a reduced price. The charge for textbook materials is automatically billed by the University Store directly to students' Bursar accounts after the drop/add deadline. Students will be given until the end of drop/add to "opt out" before being billed. To opt-out, students must navigate to the 'Pearson eText' link on Canvas and select the "Opt Out" button under "Details". Students needed to opt back in (at a later date) should contact textbook@okstate.edu. For additional information regarding the Inclusive Access Program, please visit the [Inclusive Access](#) page on the University Store website. If you experience problems with your access, please contact textbook@okstate.edu.

Academic Integrity Policy: OSU is committed to the maintenance of the highest standards of integrity and ethical conduct of its members. This level of ethical behavior and integrity will be maintained in this course. Participating in a behavior that violates the [OSU Academic Integrity Policy](#) (e.g., unauthorized collaboration, plagiarism, multiple submissions, cheating on examinations, fabricating information [including the use of generative artificial intelligence], helping another person cheat, unauthorized advance access to examinations, altering or destroying the work of others, and fraudulently altering academic records, etc.) will result in sanctions. Violations may subject students to disciplinary action including the following: receiving a failing grade on an assignment, examination, or course, receiving a violation of academic integrity on your transcript,

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and being suspended or dismissed from the University. **Please Note:** *Exams are closed-resource. Violations of the Academic Integrity Policy during exams include, but are not limited to, having AI extensions installed on your computer/browser during the exam (regardless of whether you are observed using them), looking up answers on the internet.*

Student Accessibility Services: According to the Americans with Disabilities Act, each student with a disability is responsible for notifying the university of the disability and requesting accommodations. Students with a qualifying disability seeking accommodation should contact the [Office of Student Accessibility Services](#) to start the registration process and to ensure the timely implementation of appropriate accommodations. To receive services, students must submit appropriate documentation and complete an intake process to verify the existence of a qualified disability and identify reasonable accommodations. Faculty are obligated to respond to official notice of accommodations but are not obligated to provide retroactive accommodations.

Important Dates and Course Policies Established by OSU: Please see the “Syllabus Attachment” on Canvas or this link: <https://academicaffairs.okstate.edu/site-files/documents/spring-2025-syllabus-attachment-12-04-24.pdf>

LECTURE SYLLABUS – BIOL3204: Physiology

Class Schedule

Wk	Lec	Date	In-Class Content	Ch	Hw	
1	1	Mon, Jan 13	Introduction to Course	1	Prac	
	2	Wed, Jan 15	Biomolecules	2		
	3	Fri, Jan 17	Molecular Interactions	2		
2		Mon, Jan 20	University Holiday Martin Luther King Jr. Day		1	
	4	Wed, Jan 22	Compartmentation, Cells, and Tissues	3		
	5	Fri, Jan 24	Energy and Cellular Metabolism	4		
3	6	Mon, Jan 27	Energy and Cellular Metabolism	4	2	
	7	Wed, Jan 29	Membrane Dynamics	5		
	8	Fri, Jan 31	Membrane Dynamics	5		
4	9	Mon, Feb 3	Practice Midterm & Unit I Review			
		Wed, Feb 5	Midterm 1: Unit I Lec 1–9			
5	10	Fri, Feb 7	Cellular Communication	6	3	
	11	Mon, Feb 10	Endocrine System	7, 22, 23		
	12	Wed, Feb 12	University Closed Inclement Weather			
6	13	Fri, Feb 14	Endocrine System	7, 22, 23	4	
	14	Mon, Feb 17	Neurons: Cellular and Network Properties	8		
	15	Wed, Feb 19	University Closed Inclement Weather			
7	16	Fri, Feb 21	Neurons: Cellular and Network Properties	8	5	
	17	Mon, Feb 24	Central Nervous System	9		
	18	Wed, Feb 26	Afferent (Sensory) and Efferent (Motor) Divisions	10, 11		
8	19	Fri, Feb 28	Muscles	12	6	
	20	Mon, Mar 3	Unit II Review			
		Wed, Mar 5	Midterm 2: Unit II Lec 10–20			
9	21	Fri, Mar 7	Cardiovascular Physiology, Heart	14	7	
	22	Mon, Mar 10	Cardiovascular Physiology, Heart	14		
	23	Wed, Mar 12	Blood Flow and the Control of Blood Pressure	15		
10	24	Fri, Mar 14	No Class I Have a good break!			
		Mar 17 - 21	Spring Break			
	25	Mon, Mar 24	Blood	16		
11	26	Wed, Mar 26	Mechanics of Breathing	17	8	
	27	Fri, Mar 28	Gas Exchange and Transport	18		
	28	Mon, Mar 31	Unit III Review			
12		Wed, Apr 2	Midterm 3: Unit III Lec 21–28			
	29	Fri, Apr 4	Urinary System, Kidneys	19	9	
	30	Mon, Apr 7	Urinary System, Kidneys	19, 20		
31	Wed, Apr 9	Urinary System, Kidneys	19, 20			
13	32	Fri, Apr 11	Digestive System	21	10	
	33	Mon, Apr 14	Digestive System	21		
	34	Wed, Apr 16	Reproductive System	26		
14	35	Fri, Apr 18	Reproductive System	26	10	
	36	Mon, Apr 21	Unit IV Review			
		Wed, Apr 23	Midterm 4: Unit IV Lec 29–36			
15	37	Fri, Apr 25	Immune System	24	10	
	38	Mon, Apr 28	Immune System	24		
	39	Wed, Apr 30	Immune System	24		
16	40	Fri, May 2	Comprehensive Review			
		Fri, May 9	Final Exam, 2-3:50PM 30% Lec 37-40 & 70% Comprehensive			

Please note: This schedule is subject to be updated as needed and announcements of any changes will be made to Canvas.