

COURSE SYLLABUS P BIO 375

Welcome to P BIO 375. This course is the first course in a 2-quarter series about human physiology. P BIO 376 continues the series in Winter Quarter. Topics this quarter include membrane dynamics, cellular communication, neurophysiology, muscle physiology, renal physiology, and immunology.

INSTRUCTORS

Anna E. Melby, course coordinator

Office: T-487

Office phone: 206-543-7362

email: amelby@uw.edu

Marc Binder

email: mbinder@uw.edu

CANVAS PAGE

<https://canvas.uw.edu/courses/1751116>

COURSE WEB PAGE

<http://courses.washington.edu/pbio375/>

TEXTBOOK

Human Physiology, An Integrated Approach, by Dee Silverthorn, 8th edition, 2019

The textbook is recommended, but not required.

LECTURES

Lectures are scheduled for Monday, Wednesday, and Friday at 10:30-11:20 in room T-639 of the Health Sciences Building. Please note that the Health Sciences Building is locked and that you need your Husky card to gain access to the building.

ZOOM AND LECTURE RECORDING

Each lecture will also be scheduled as a Zoom meeting, allowing students to attend remotely if necessary. The Zoom meeting link can be found on the course Canvas page. Lectures will be recorded and posted to the course Canvas page later that day.

LECTURE SLIDES

The slides for each lecture will be made available before the lecture to use during class and for later study. Click on Modules on the Canvas page to see the lectures scheduled for that week and to find lecture slides.

LECTURE SCHEDULE

Readings: chapter section numbers from Human Physiology: An Integrated Approach by Dee Silverthorn, (8th edition, 2019)

Lecturers: AM=Anna Melby, MB=Marc Binder

Class day	Date	Lecturer	Topic	Reading
1	9/25	AM	Water and the Membrane Barrier	1.4 & p.122-126
2	9/27	AM	Membrane Transport	5.4 & 5.6
3	9/30	AM	Ionic Gradients and Membrane Potential	5.7
4	10/2	AM	Cell Signaling I	Chapter 6
5	10/4	AM	Cell Signaling II	See lecture
6	10/7	AM	Graded Potentials	8.1 & 8.2
7	10/19	AM	Action Potentials	p. 234-7
8	10/11	AM	Action Potential Conduction; Synapses	p. 237-249
9	10/14	AM	Synaptic Transmission	8.4 & 8.5
10	10/16	AM	Synaptic Plasticity and a Model for Learning	p. 264-5 & p. 298-9
11	10/18		MIDTERM 1	
12	10/21	MB	General Properties of Sensory Systems	10.1
13	10/23	MB	Somatic Sensation	10.2
14	10/25	MB	Gustation and Olfaction	10.3
15	10/28	MB	Audition	10.4
16	10/30	MB	Vestibular System	10.5
17	11/1	MB	Vision	10.6
18	11/4	MB	Skeletal Muscle	12.1 & 12.2
19	11/6	MB	Somatic Motor Systems I	11.2
20	11/8	MB	Somatic Motor Systems II	13.3 & 13.4
	11/11		HOLIDAY	
21	11/13		MIDTERM 2	
22	11/15	AM	Overview of Kidney Function	19.1-19.3
23	11/18	AM	Filtration	19.4
24	11/20	AM	Reabsorption and Secretion	19.5 & 19.6
25	11/22	AM	Water Balance	20.1 & 20.2
26	11/25	AM	Sodium Balance and ECF Volume	20.3 & 20.6
27	11/27	AM	Immune System Overview	24.1 & 24.2
	11/29		HOLIDAY	
28	12/2	AM	Antibodies and T-cell Receptors	24.3 & 24.4
29	12/4	AM	Pathogens and the Immune Response	24.5
30	12/6	AM	Drugs and the Immune System	24.6-24.8
	12/9		FINAL EXAM 8:30am	

LECTURE QUIZZES

Each week, there will be a graded Canvas quiz based on the lecture material up to that point (LQ quizzes). Each quiz is worth 2 points. You can take the quiz as many times as you like, and your grade for the quiz will be your highest score. The quizzes will expose you to the type of questions you might encounter on a midterm or on the final exam. These quizzes will usually be posted on Friday afternoon and be **due by Monday at midnight**.

The goal of the LQ quizzes is to challenge your understanding of the lectures and to provide practice answering exam-type questions. The time-limited assignment window is designed to make you do the quizzes in a timely manner so that you keep abreast of the lecture material.

LECTURE EXAMINATIONS

The first midterm will cover the material presented in lectures on class days 1-10; the second midterm will cover the material presented in lectures on class days 12-20. 60 points of the final exam will cover the material presented in lectures on class days 22-30, with 40 points based on material covered in the two midterms.

Exams will be multiple-choice; you will need to bring a purple Standard Answer Sheet (from the Office of Educational Assessment) to each exam. These purple answer sheets are available at the University Book Store.

The first midterm is scheduled for **Friday, October 18th** during the scheduled class time. The second midterm is scheduled for **Wednesday, November 13th**, also during class. The final exam is scheduled for **8:30 am on Monday, December 9th**. You are expected to attend class on those days (see TEST ATTENDANCE below).

QUIZ SECTIONS

The quiz sections are where we will study anatomy, histology, and clinical examples that are pertinent to the physiology being studied in lecture.

Quiz section meetings are once a week on either Tuesday or Thursday. Quiz sections **DO NOT** meet in the first week of the quarter (9/25-9/27) and the tenth week of the quarter (11/25-11/27; week of the Thanksgiving holiday).

QUIZ SECTION SCHEDULE

The colored shading indicates the topics tested on each quiz section test.

Topic (class meeting dates)	PQ quiz due	Test dates
1. Structure of Epithelia; Epithelial Transport; Cystic Fibrosis (10/1 & 10/3)	10/7	
2. Neurons; Brain and Spinal Cord Anatomy; Organization of the Peripheral Nervous System; Autonomic Nervous System (10/8 & 10/10)	10/14	Quiz Section Test 1 10/8 & 10/10 (20 pts)
Midterm 1 Review (10/15 & 10/17)	10/21	
		Midterm 1--10/18
3. Bone Anatomy; Skeletal Tissue Histology; Knee Joint Anatomy (10/22 & 10/24)	10/28	Quiz Section Test 2 10/22 & 10/24 (20 pts)
4. Muscle Histology; Muscle Anatomy; Spinal Reflexes (10/29 & 10/31)	11/4	Quiz Section Test 3 10/29 & 10/31 (10 pts)
5. Kidney Anatomy; Kidney Histology; Polyuria in Diabetes Mellitus (11/5 & 11/14)	11/18	Quiz Section Test 4 11/5 & 11/7 (10 pts)
Midterm 2 Review (11/7 & 11/12)		
		Midterm 2--11/13
5. Water Balance; Patient Case—Diabetes Insipidus; Renal Clearance (11/19 & 11/21)	11/25	
No class the week of 11/25; Thanksgiving Holiday on 11/28 & 11/29; PQ review quiz due Monday after holiday	12/2	
		Quiz Section Test 5 12/3 & 12/5 (20 pts)
		Final Exam--12/9

MATERIAL TO STUDY AND PQ QUIZZES

For each quiz section, there will be a link to a page at the bottom of the Canvas module. This page gathers together all the sources of information for that quiz section. It will list the learning objectives, provide quiz section lecture slides, lecture videos, and links to supporting reading.

A graded quiz (PQ quiz) will be posted on Canvas most weeks and due the following Monday at midnight. Like the LQ quizzes, you can take each PQ quiz multiple times until you get full credit. Canvas will record your highest score. These quizzes are designed to help you prepare for the quiz section tests.

QUIZ SECTION TESTS

You will be evaluated with several quiz section tests worth 10 or 20 points each. These tests will occur at the beginning of your scheduled quiz section time on the designated test day. Each quiz section test will cover only the block of material covered in the specified quiz sections leading up to that test (color coded in the quiz section schedule).

MIDTERM REVIEW SESSIONS

The quiz section periods on 10/15 and 10/17 will be dedicated to review for midterm 1, and the quiz section periods on 11/7 and 11/12 will be dedicated to review for midterm 2.

TEST ATTENDANCE

You are expected to attend all lecture exams and quiz section tests on the day and time assigned. If you are too ill that day, or you have some other legitimate reason that makes it impossible for you to be present on test day, you must inform Dr. Melby BEFORE the test is scheduled to take place, or AS SOON AS POSSIBLE after the test begins. **Students who fail to attend a test on time without a legitimate excuse will lose 10 points for a lecture exam and 5 points for a quiz section test.** Under such circumstances, a make-up test will be arranged for the earliest reasonable time. Please use email (amelby@uw.edu) to contact me.

GRADING

The point values for all exams and quizzes are as follows:

Midterm 1	60
Midterm 2	60
Comprehensive Final Exam	100
Quiz Section Tests (total)	80
10 LQ Quizzes (2 pts. each)	20
8 PQ Quizzes (2.5 pts. each)	20
TOTAL	340

Your final grade in the course will be based on the percentage of points received on all tests and quizzes. The minimum passing grade is 60%. The course is not graded on a curve.

Approximate Grading Scale (not all possible decimal grades are shown):

Percentage	95-100	90	85	80	75	70	60	< 60
Grade	4.0	3.7	3.2	2.7	2.2	1.7	0.7	0.0

ACCESSIBILITY AND ACCOMMODATIONS

DISABILITY RESOURCES FOR STUDENTS

Your experience in this class is important to me. It is the policy and practice of the University of Washington to create inclusive and accessible learning environments.

If you have already established accommodations with Disability Resources for Students (DRS), please communicate your approved accommodations to Dr. Melby at your earliest convenience so that we can discuss your needs in this course.

If you have not yet established services through DRS, but have a temporary health condition or permanent disability that requires accommodations, you are welcome to contact DRS. Conditions include (but are not limited to): mental health, attention-related, learning, vision, hearing, physical, or health impacts.

Disability Resources for Students contact information:

phone: 206-543-8924

email: uwdrs@uw.edu

web site: <http://depts.washington.edu/uwdrs/>

RELIGIOUS ACCOMMODATION

Washington state law requires that UW develop a policy for accommodation of student absences or significant hardship due to reasons of faith or conscience, or for organized religious activities. The UW's policy, including more information about how to request an accommodation, is available at [Religious Accommodations Policy \(https://registrar.washington.edu/staffandfaculty/religious-accommodations-policy/\)](https://registrar.washington.edu/staffandfaculty/religious-accommodations-policy/)

Accommodations must be requested within the first two weeks of this course using the [Religious Accommodations Request form \(https://registrar.washington.edu/students/religious-accommodations-request/\)](https://registrar.washington.edu/students/religious-accommodations-request/)