

Syllabus: PSL 432 Human Physiology II, 4 Credits

Lecture Meeting Time/Place: M, W, F, 1:50 – 2:40 PM, B115 Wells Hall

Final Exam Time/Place: Monday May 1st, 3 - 5 PM, B115 Wells Hall

Textbook: Human Physiology: From Cells to Systems, by Lauralee Sherwood, Cengage Publishing; 9th edition. ISBN 978-1337382564

- This is a soft-cover textbook that is bundled with access to MindTap.
- MindTap is a learning resource that WILL be used in this course and can be accessed via D2L. You can also access a digital version of the textbook.

Goal of this Class: To understand the basic molecular, cellular and tissue-level processes that underlie physiological regulation of the human body. Emphasis in PSL 432 is on renal physiology, immunology, gastrointestinal physiology, endocrinology, and reproductive physiology.

Instructors: PSL 432 is a *team-taught* course. There are 3 instructors for the semester. Dr. Karl Olson is the Course Coordinator. He is responsible for organizing the content of the course, examinations, and the grading of the course. If you have questions or comments about aspects of the course, please direct them to [Dr. Olson](#). Specifically, make-up exams or other accommodations related to the time or place of exams, answering questions about exam grading, or final grades should be directed to Dr. Olson.

Instructor	Phone	Email	Office	Office Hours	Role
Karl Olson, Ph.D.	884-5116	olsonla@msu.edu	3164 BPS	Wednes 10-12pm	Coordinator, Lecturer
Nara Parameswaran, Ph.D.	884-5115	paramesw@msu.edu	3165 BPS	by appt.	Lecturer
Susanne Mohr, Ph.D.	884-5114	mohrs@msu.edu	3175 BPS	by appt.	Lecturer

Teaching Assistants & Recitations

TA	Section	Day	Time	Place	Email	Office Hours
Brandon Coughlin	1	W	10:20AM	126 Chemistry	coughl33@msu.edu	By Appt.
	3	W	11:30PM	109 Olds Hall		
	4	W	3:00PM	152 Natural Resources		
Jonathan Kasper	5	Th	11:30AM	A158 Plant & Soil Sciences	kasperjo@msu.edu	By Appt.
	6	Th	12:40PM	119 Farrall Ag Eng Hall		
Michael Steury	7	Th	1:50PM	011 Olds Hall	steurymi@msu.edu	By Appt.
	8	Th	6:30PM	152 Natural Resources		

Tutors: Contact Dr. Olson if you are interested in working with a tutor.

Important Dates

- 02/03/17: Drop Deadline with Tuition Refund. No Grade Reported.
- 03/01/17: Drop Deadline, No Tuition Refund, No Grade Reported.
- After 03/01/17 a grade will be reported for all students registered in the course, regardless of whether they complete the course.

Access Course Materials via D2L:

- To access course materials, go to [D2L](#) and select “**FS16-PSL-432-Human Physiology II – ALL SECTIONS**”. Available materials and information include
 - Lecture Notes
 - Recitation Materials (Required and Graded)
 - Aplia/MindTap Questions on D2L (Required and Graded)
 - Practice Exams and Questions
 - Lecture Recordings
 - Points/Grades
- Lectures and Recitation materials may be in PowerPoint, Microsoft Word or PDF format (depending on instructor).

Lecture Format:

- Lectures are delivered live by the instructors during the scheduled class periods. Lectures will be recorded and posted for viewing on D2L.
- Glitches sometimes occur with lecture recordings and we do not guarantee that all lectures will be recorded or posted. Therefore, if you do not attend the live lecture, you are at the risk of missing material. It is recommended that you download lecture materials from D2L and take notes “in your own words” to facilitate your personal understanding.
- Course materials are the copyrighted property of the instructors and Michigan State University. Students are therefore not permitted to make, post, or otherwise distribute recordings of lectures or other course material without the advance written permission of the course instructor.

Classroom Participation:

- We will be using REEF Polling to monitor student understanding of course material and promote class attendance.
- Students are responsible for purchasing and maintaining their own REEF polling-compatible device and **ensuring that it is properly registered**. REEF Polling-compatible devices include iClickers, laptops, iPhones, iPads, and other smart devices. It is your responsibility to have your device charged and to carry extra batteries.
- Instructions for use of REEF Polling will be provided in class. Instructions are also available on the REEF website under the “Support” tab (<http://support.reef-education.com/>) or by simply clicking on “Register Your Device” in the pop-up window. There is also a module entitled “iClicker and REEF Polling” on the SS17 PSL 432 D2L website to help you set up REEF.
- **Bonus points for participation: Maximum 20 pts. Bonus points are based on participation. Correctness of the answer is not considered. Participation for REEF questions can get you a**

maximum of 20 points if you have 100% participation (all classes, all questions). Partial participation will fetch you only partial credit. For example, if you participate in 90% of the classes you will receive 90% of the 20 points and so forth.

Recitation Format:

- Recitations are led by TAs and focus on challenging concepts from the previous lectures. Recitations will enable you to “actively exercise” concepts to enhance your learning.
- Download Recitation materials and work through them PRIOR to coming to Recitation.** Preparing ahead of time will help you get the most out of the recitation.
- There is a 10-point quiz at the end of each recitation section over the material that is covered in recitation.** Please note there are no quizzes the week of an exam. Your lowest quiz score (out of 10) will be dropped. No make-up quizzes will be given.

Honors Option (Only for Honors College Students)

Contact [Dr. Olson](#) no later than February 3rd if you want to complete an Honors Option in PSL 432. Any PSL 432 instructor may supervise an Honors Option and selection is based on the student’s and instructor’s interest.

GRADING

There are 610 total points in this class. These come from:

Item	Points	#Questions	Notes	% of Grade
10 Review Quizzes	25	variable	5 Topics, 2 Review Quizzes per Topic	4%
10 Recitation Quizzes	90	5 per Quiz	100 pts, but drop 1 Quiz	15%
Exam 1	75	25	3 pts per Question	12%
Exam 2	75	25	3 pts per Question	12%
Exam 3	75	25	3 pts per Question	12%
Exam 4	75	25	3 pts per Question	12%
Cumulative Final	195	65	3 pts per Question	32%
Total Points	610			

Review Quizzes (25 points)

- There will be 2 review quizzes per topic domain (Renal, Immuno/Skin, GI, Endo, Repro) for a total of 10 quizzes.
- Each quiz is offered during an ~4-day “release window” during which you can take the quiz twice. After the release window closes the quiz CANNOT be made up.
- The review quizzes are designed to reward you for studying the topic materials in a timely fashion.

Recitation Quizzes (90 points)

- There will be 2 quizzes per topic domain (Renal, Immuno/Skin, GI, Endo, Repro) for a total of 10 quizzes. The quizzes will be administered during the final 10 minutes of the recitation period (please see schedule).

- Quiz material will consist of material that you are required to prepare for recitation (e.g. worksheet, table) and that is **covered** during the recitation. **If you prepare for recitation and pay attention during recitation you should be able to do well on the quiz.**
- Each quiz will be composed of 5 multiple-choice questions, 2 points each
- **The lowest quiz score will be dropped in computing the course total score** (90 total points).

Lecture Exams (300 points)

- There will be 4 lecture exams, each worth 75 points (300 total points)
- Exams will be composed of 25 multiple-choice questions, each worth 3 points.

Final Exam (195 points)

- The Final will be on **Monday May 1st, 3 – 5 PM, B115 Wells Hall**
- The Final will consist of 33 multiple-choice questions from the final section of the course (Reproductive Physiology) **plus** 32 multiple-choice cumulative questions (e.g. questions from the first 4 sections of the course.)
- Each question is worth 3 points

Course Grades

- Grades (4.0, 3.5, 3.0, etc.) will be determined by the points earned out of the total possible 610 points based on a “curve.”
- The ‘curve’ will be determined by the faculty. In general:
 - The top 10-12% of the class will receive 4.0s
 - The top 1/3 of the class will receive grades of 3.0 or better
 - The top 75% of the class will receive grades of 2.0 or better
 - The faculty reserve decision on the minimum score for each grade and how to apportion the grades among the bottom 25% of the class.
- Petitions to re-evaluate a course grade will be considered in writing only (e-mail) and must be submitted to Dr. Olson within one week after the beginning of the semester following completion of 2016 PSL 432, according to University guidelines.

Make-Up Exams:

- Make-Up Exams are only possible if a student has a legitimate health emergency (serious illness, not a cold).
- **Documentation** of the emergency must be provided by a legitimate physician on their letterhead with their signature and contact information. Dr. Olson reserves the right to contact the physician regarding the legitimacy of the illness/condition that caused the student to miss the exam.
- **Contact Dr. Olson as soon as possible if you must miss an exam due to a serious emergency, ideally before the exam or at latest within 24 hr of the exam. Make-ups will be negotiated solely with Dr. Olson.**
- Note that a make-up exam may not be the same as the exam given during the normal exam period. Instructors reserve the right to use an alternate exam/final.

Policy on Overlapping Finals:

- Per University policy you may be eligible to take the final exam at an alternative time **IF** a) You have 2 final exams scheduled at the same time; **OR** b) you have 3 final exams scheduled on the same calendar day (e.g. 3 final exams on the same Friday; does not apply if the 3 finals are scheduled within a 24 hr period over adjacent days.)

- If either of these situations applies to you, contact Dr. Olson **BEFORE THE FINAL WEEK OF CLASSES** and he will schedule an alternate time for you to take the final exam.
- Note: when a conflict as described above arises because of use of a common final (as in some multi-section chemistry courses), the course utilizing the common final will normally be responsible for scheduling an alternate for those students for whom conflicts arise (as per official MSU exam scheduling policy.)

Rules for Exams and Final:

- No electronic devices are permitted to be out on your desk during the exam/final. This includes cellular phones, music players/iPods, tablets, computers or any sophisticated personal calculators that exceeds a Four-Function capability (e.g. add, subtract, multiply, divide.)
- No questions on content will be answered during the exams. This policy is necessary because the exams will be given in two different locations with different proctors and we wish to avoid any room/proctor bias.
- Exams are computer scored based on answers on Scantron sheet. Exam results will be sent by email directly from the MSU Scoring Office to each enrolled student, usually within 1 wk of the exam date. It is the responsibility of the student to assure that his/her exam was graded correctly. These scores will be uploaded into the D2L gradebook.
- Any appeals for additional credit on an exam because of a scoring error or student appeal to re-evaluate individual questions must be submitted in writing (email) to the relevant instructor and Dr. Olson within 1wk of the time exam results are distributed. Appeals must provide justification for why the scoring issue or alternate answer deserves to receive credit. You cannot appeal a question that you failed to answer on the scantron sheet.

Academic Honesty:

- Article 2.3.3 of the Academic Freedom Report states “The student shares with the faculty the responsibility for maintaining the integrity of scholarship, grades and professional standards.” In addition, the Department of Physiology adheres to the policies on academic honest as specified in General Student Regulations 1.0, *Protection of Scholarship and Grades*; the All-University Policy on *Integrity of Scholarship and Grades*; and Ordinance 17.00, Examinations.
- **You are expected to complete all quizzes, exams and the final without assistance from any source. Students who violate MSU rules may receive a penalty grade including, but not limited to, a failing grade on the quiz/exam/final or in the course.**
- Remember: the course is graded on a curve. If you help your fellow students cheat, you are sabotaging the curve and your own grade. **DON'T DO IT.**

Grief Absence Policy:

Michigan State University is committed to ensuring that the bereavement process of a student who loses a family member during a semester does not put the student at an academic disadvantage in their classes. If you require a grief absence, contact [Dr. Olson](#) and the Associate Dean of your

college no later than one week after knowledge of the circumstance. Together, the Associate Dean and student determine the expected period of absence. Dr. Olson will then work with you to make appropriate accommodations so that you are not penalized due to a verified grief absence.

Who to Contact If You Have Questions About.....

- **Exams and Grading:** Contact [Dr. Olson](#). He will handle questions about make-up exams, other issues related to the time/place of the exam, exam grading and final grades.
- **D2L Issues and Lecture Recordings:** Contact [Chris Shaltry](#) and [Dr. Olson](#) regarding technical aspects of the course, including access to D2L and lecture recordings.
- **Course Content:** Contact the Instructor who taught the particular lecture/concept that you have a question about.
- **Adding, Dropping or Other Registration Issues:** Contact both [Dr. Olson](#) and [Kim Crain](#).
- **Recitation:** Contact TA of your section via their email address.
- **Attending a Different Recitation Section:** Please attend your assigned recitation section. If you have a good reason for needing to attend a different recitation section (e.g. illness, unavoidable travel conflict, etc.) then **you must get permission from [Dr. Olson](#) PRIOR to attending any other recitation section.** Note that there are no make-up quizzes.

Accommodations for Students with Disabilities:

- It is the responsibility of the student to make arrangements with [Dr. Olson](#) and/or the RCPD Office (Room 120, Bessey Hall) regarding exam accommodations.
- Contact [Dr. Olson](#) regarding accommodations at the beginning of the semester. Requests for accommodations must be made at least 2 weeks prior to the exam or final, otherwise the accommodation request may not be honored.
- You will need to provide Dr. Olson with your VISA issued by the Resource Center for Persons with Disabilities (RCPD) in order to arrange for accommodations. Students **must** be registered with RCPD in order to obtain a VISA. For an appointment with an RCPD disability specialist, call 884-7273 or visit the [RCPD website](#).

Course and Instructor Evaluation:

- The SIRS Online system will be used for evaluation of PSL 432
- Students are encouraged to submit their opinions of the course and individual instructors at the end of each semester via SIRS Online: <https://sirsonline.msu.edu>
- Students will be required to complete the SIRS Online form OR to indicate within that form that they decline to participate. Otherwise, final grades will be sequestered for seven days following the course.
- An "Opt Out" option is possible and Student anonymity is carefully protected.

TIPS TO SUCCEED IN PSL 432:

- 1) READ the chapter to be covered before each class so you are prepared for the lecture. Having some idea of the concepts will help you make the most of the lecture period.

- 2) REVIEW your notes *after each class and before the next class*. Spending an hour out of class for each hour in class will help immeasurably
- 3) STAY CURRENT: because each concept builds upon the one before, you need to keep up with the material. DO NOT wait until the day before an exam to study--- you will be lost.
- 4) PUT IT INTO YOUR OWN WORDS. Don't just passively look at lecture notes or listen to a lecture, that won't help you. **You** need to actively work with the content and format it in a way that will enable you to learn it. Past students suggest the following techniques to master the material:
 - Re-write and/or make your own slides that explain concepts in **your own** words.
 - Draw pictures or diagrams
 - Think about how a change (e.g. loss or gain of a receptor, cell, protein) would change function of a pathway or tissue function.
 - Write an essay to describe a concept
 - Explain a concept and/or teach it to a friend (this will test if you really know it)
 - Actively work with the material. Doing so will allow you to learn it at a much deeper level which is important because you need to be able to...
- 5) INTEGRATE CONCEPTS. Simply memorizing the notes will **not** enable you to pass this class. Really. You need to be able to deeply understand the pathways, mechanisms and **connect** them to other topics/mechanism.
- 6) PRACTICE MULTIPLE CHOICE QUESTIONS. The format of the exams/quizzes can sometimes trip students up at first. Practice with sample multiple choice questions in advance. Tips for this:
 - Carefully read the question. What is it asking for?
 - Examine **each** foil: is it true or false? Reason through why or why not.
 - Identify the right foil by understanding why the others are **not** right.
- 7) ASK QUESTIONS: Let your instructor or TA know if you are having trouble with a concept: we can't help if we don't know that there is a problem.

LECTURE & RECITATION SCHEDULE:

L# = Lecture Number (Dates in Red are Fridays)

- Note Recitation Grouping: Indicates which lectures will be covered in that weeks' recitation and whether there is a quiz that week.

Lecture Topic Key
Renal
Immunology/Skin
GI
Endocrine
Reproduction

Dates	L#	Lecture Topic	Instructor	Reading	Recitation #	Quiz
9-Jan	1	Renal anatomy and function	Parameswaran	p491-96		
11-Jan	2	Renal anatomy and function	Parameswaran	p496-505		
13-Jan	3	Glomerular filtration	Parameswaran	p505-517		
16-Jan		Martin Luther King Day - No Class				
18-Jan	4	Glomerular filtration and tubular transport	Parameswaran	p517-520	1	
20-Jan	5	Tubular transport	Parameswaran	p535-547	Lectures 1,2,3	Yes
23-Jan	6	Urinary excretion and Clearance	Parameswaran	p507-517, 520-28, 535-547		
25-Jan	7	Regulation of sodium and water balance	Parameswaran	p507-517, 520-28, 535-547	2	
27-Jan	8	Regulation of sodium and water balance	Parameswaran	p507-517, 520-28, 535-547	Lectures 4, 5, 6	Yes
30-Jan	9	Immunology	Parameswaran	p380-85		
1-Feb	10	Immunology	Parameswaran	p385-394	3	
3-Feb		Exam 1: Covers lectures 1 - 8			Lectures 7, 8	No
6-Feb	11	Immunology	Parameswaran	p404-07, 415-431		
8-Feb	12	Immunology	Parameswaran	p395-400, 413-415	4	
10-Feb	13	Immunology	Parameswaran	p408-412, 431-438	Lectures 9,10,11	Yes
13-Feb	14	Skin	Olson	p439-441, 51, 61		
15-Feb	15	Wound Repair	Olson	p397-399, D2L	5	
17-Feb	16	Thermal Regulation	Olson	p627-635	Lectures 12, 13, 14	Yes
20-Feb	17	Overview of gastrointestinal physiology	Olson	p565-570		
22-Feb	18	Regulation and integration of gut function	Olson	p113-129, 233-241, 571-573	6	
24-Feb		Exam 2: Covers lectures 9 - 16			Lectures 15, 16	No
27-Feb	19	Gastrointestinal motility	Olson	p573-582, 598-599, 610-613		
1-Mar	20	Gastrointestinal secretion	Olson	p574-575, 582-592	7	
3-Mar	21	Gastrointestinal secretion	Olson	p574-575, 582-592	Lectures 17,18,19	Yes
6-Mar		Spring Break				
8-Mar		Spring Break				
10-Mar		Spring Break				

19-Mar		Spring Break				
13-Mar	22	Digestion and absorption	Olson	p60-77, 358-360, 595-610		
15-Mar	23	Digestion and absorption	Olson	p60-77, 358-360, 595-610	8	
17-Mar	24	General principals of endocrinology	Olson	p638-643	Lectures 20, 21, 22	Yes
20-Mar	25	Hypothalamus and pituitary I	Olson	p646-652		
22-Mar	26	Hypothalamus and pituitary II, Growth hormone	Olson	p652-660	9	
24-Mar	Exam 3: Covers lectures 17 - 24		Exam 3 (8 lectures)		Lectures 23, 24	No
27-Mar	27	Thyroid	Olson	p665-671		
29-Mar	28	Adrenal	Olson	p672-682	10	
31-Mar	29	Endocrine pancreas & whole body metabolism	Olson	p685-701, 619-627	Lectures 25, 26, 27	Yes
3-Apr	30	Endocrine pancreas & whole body metabolism	Olson	p685-701, 619-627		
5-Apr	31	Regulation of food intake	Olson	p685-701, 619-627	11	
7-Apr	32	Calcium and phosphate metabolism	Olson	p701-712	Lectures 28, 29, 30	Yes
10-Apr	33	Reproduction: physiology + development	Mohr	Readings on D2L		
12-Apr	34	Sexual development	Mohr	p716-723	12	
14-Apr	Exam 4: Covers lectures 25 - 32		Exam 4 (8 lectures)		Lectures 31, 32	No
17-Apr	35	Spermatogenesis	Mohr	p723-732		
19-Apr	36	Oogenesis and ovulation	Mohr	p736-752	13	
21-Apr	37	Ovarian and uterine cycles	Mohr	p736-752	Lectures 33, 34, 35	Yes
24-Apr	38	Coitus and evolution of human sexuality	Mohr	p732-736		
26-Apr	39	Fertilization, implantation, placentation	Mohr	p752-763	14	
28-Apr	40	Parturition and lactation	Mohr	p763-770	Lectures 36, 37, 38	Yes
1-May	Final Exam: Covers lectures 33 - 40 plus cumulative material					