

IB 132 Human Physiology - Lecture Schedule Spring 2014

<i>week</i>	<i>lecture</i>	<i>topic</i>	<i>date</i>	<i>Reading*</i>	<i>Section**</i>	<i>lecturer</i>
1	1	Intro to homeostasis Control systems	1/21	Ch 1 pp 1-14	None	DK
	2	Control systems	1/23	Ch 1 pp 14-20		NC
2	3	Membrane dynamics	1/28	Ch 2 pp 32-61	CS (tonicity)	NC
	4	Communication	1/30	Ch 3 pp 70-82		NC
3	5	Membrane potential, resting potential	2/4	Ch 4 pp 113-124 and 146-152	PB (Nernst)	NC
	6	Cardiovasc 1	2/6	Ch 12 pp 392-408		NC
4	7	Cardiovasc 2	2/11	Ch 12 pp 408-431;	PB (cardiovasc)	NC
	8	Renal 1 - fluid & electrolyte balance	2/13	17		NC
5	9	Renal 2 - kidney anat & function	2/18	18	CS (cardiovasc)	NC
	10	Regulation of BP + hypertension	2/20	Ch 14		NC
6		MIDTERM 1	2/25		PB (renal)	
	11	Pulmonary 1 (gas exchange)	2/27	15		NC
7	12	Pulmonary 2 (mech. breathing)	3/4	16	PB (pulmonary)	NC
	13	Neurons, glia, signals	3/6	4 pp 102-131		DK
8	14	LTP, synaptic transmission	3/11	4 pp 131-153	CS (CNS 1)	DK
	15	CNS anatomy, function	3/13	5		DK
9	16	Sensory systems 1	3/18	6 pp 198-226	CS (CNS 2)	DK
	17	Sensory systems 2	3/20	6 pp 226-244		DK
		SPRING BREAK	3/24-28			
10	18	LTP, memory	4/1	No reading	CS ("Tingling" II)	DK
	19	Mind, sleep	4/3	No reading		DK
11		MIDTERM 2	4/8		Sleep journals (analysis)	
	20	Muscle, motor control	4/10	8,9		SL
12	21	Endocrine 1	4/15	10	PB (muscle)	DK
	22	Endocrine 2	4/17	11		DK
13	23	Reproduction 1	4/22	20 pp 659-683	CS (endocrine)	DK
	24	Reproduction 2	4/24	20 pp 683-695		DK
14	25	Metabolism (diabetes)	4/29	19	Review	DK
	26	Growth/ Aging	5/1			NC
15		RRR WEEK	5/7-11		Exam Review Q&A	

FINAL EXAM

5/15 7-10 pm location to be announced

Lectures: Professors Daniela Kaufer (DK) and Natalia Caporale (NC)

Sections and Lab: Professor Steve Lehman (SL)

GSI (sections): Aaron Friedman (110,111,118), Anna Geraghty (106,109,115), Jing Huang (104,112,116), Calliope Hologing (108,114,117), Austin Peck (103,105,113), Anna Vlasits (101,102,107)

*All readings are from the class textbook, Human Physiology: An Integrated Approach, D.U. Silverthorn, A custom edition for the University of California, Berkeley 2013

** CS= case studies; PB= problem-based

Course objective: Understanding mechanisms by which key physiological priorities are maintained in healthy humans. From a basis in elementary theories of information and control, we develop an understanding of homeostasis of cellular composition, structure, and energy metabolism. We then study neural and endocrine signaling in humans, and develop the key concepts of control and homeostasis in all the major organ and multi-organ systems, including cardiovascular, respiratory, renal, metabolic, reproductive, growth and development, and sensory and motor systems.

Textbook, access to course software, iClicker

For this course you will need:

- 1) Textbook (comes with Mastering A&P access code)
- 2) iClicker

Textbook: Human Physiology: An Integrated Approach, D.U. Silverthorn, A custom edition for the University of California, Berkeley, 2013 (ISBN 9781256953876).

Mastering A&P is a website administered by the publisher of the textbook that contains online tutorials, homework exercises, practice tests and online assessments. Access to Mastering A&P is included in the custom edition of the textbook, at a lower price than the current edition of the full textbook (5e).

iClickers will be used in class for in-class quizzes and to encourage interaction in lectures.

The ASUC bookstore sells the custom textbook, Mastering A&P access code and a \$10 iClicker rebate card bundled for \$160. They sell an iClicker for \$40 new or \$30 used, or rent a new iClicker for \$30 or a used one for \$15.

Office Hours, Email, Slides, Sections and Labs

Office hours:

Daniela Kaufer
LKS first floor
Monday 11-12
Thursday 10-11

Steve Lehman
5112 VLSB
Wednesday 3-4
Friday 3-4

Natalia Caporale
308 Barker Hall
Friday 8-9 am
Thursday 2-3pm

Email policy: Questions on lecture material will be answered in class and during office hours and in discussion

sections. Email is reserved for emergency purposes.

Lecture slides: Slides of each lecture's PowerPoint presentation will be posted in pdf format on the class bSpace site at 8 am on the day of each lecture.

Sections: Section meetings are an integral part of the class, and every student must be enrolled in a section. In section you will work in small groups to analyze case studies and to solve physiology problems. These active learning techniques are possible in small classes, but very challenging in the lecture class.

Labs: IB 132L, the laboratory course corresponding to IB 132, is synchronized with the lecture class, and is best taken concurrently. However, lab enrollment is severely constrained by space, equipment and GSI time, so only 176 lab seats are available each Spring. If you have a lab seat, please make use of it or drop the lab early, so that another student has the opportunity. Transfers between sections will not be allowed. Lab grades are determined by work in the lab, and are independent of the lecture class grade.

Grading

Grading

The course grade will be determined by scores on in-class quizzes, homework assignments two midterm exams, a final exam. The weighting of these five components will be:

10% - quizzes in class (using iClickers).

10% - discussion section participation and homework assignments

20 % midterm 1 (multiple choice test, in class)

20 % midterm 2 (multiple choice test, in class)

40% final exam (multiple choice test, cumulative)

Quizzes: A quiz on the day's assigned reading, using iClickers, will precede most lectures (starting in the third week of the semester). There will be 19 in class quizzes. Your quizzes grade will be based on the best 15. Missed quizzes will receive 0%.

Discussion section participation and homework assignments: Discussion sections will include group work analyzing case studies and solving problems. Some written assignments will be completed during sections and others will be assigned as homework.

There will be 12 section meetings; the grade will be determined from participation and homework from 10 of them. Missed case studies cannot be made up. Problem sets can AND should be submitted to your GSI even if you miss the section where it was introduced or the section they were due.

Homework assignments: There will be weekly assignments throughout the semester. Your grade will be based on written and oral assignments assigned in section. Missed homework assignments will receive 0%.

Midterm exams: Midterms will be multiple choice exams administered in class on the date listed in the lecture schedule. Midterms will be scored by scantron.

Final exam: The final will be a multiple choice exam, scored by scantron.

Letter grades:

If your final course score is: Your final letter grade will be:

≥ 95% A+

≥ 90% A

≥ 87% A-

≥ 83% B+

≥ 80% B

≥ 77% B-

≥ 73% C+
≥ 70% C
≥ 67% C-
≥ 63% D+
≥ 60% D
<60% F

Examinations

All exams will be closed book, closed notes. No electronic devices will be necessary or allowed during exams. Although most information to be tested is contained in the book, we present information in lectures that is not contained in the book, and there is often detail in the text that we will not test. Attending lectures allows you to judge how we will weight topics covered in the text, to learn material not covered in the text, and to interact with your classmates and us. To prepare, please read the relevant chapters before class.

DSP students: please contact one of the Profs or your GSI at least 2 weeks before the first midterm, so that we can plan the necessary accommodations.

Absence from exams: If you cannot attend an exam due to illness or other circumstances beyond your control, you must contact one of the instructors and explain the circumstances **before** the exam. You will need to provide documentation of the circumstances (in the case of illness, a doctor's note specifying why you could not attend the exam). There will be no makeup examinations, but we will consider the possibility of alternative assessment under justified and documented circumstances.

Honor Code: You will be asked to sign an Honor Code statement at each exam, stating that you will not give or receive aid in the examination. We will manifest our confidence in you by refraining proctoring examinations or taking unusual precautions to prevent cheating. The penalty for violating the Honor Code will be failing the course. A complete statement of our Honor Code is available under 'Resources' on the course bspace site.