

BIPN 100 MAMMALIAN PHYSIOLOGY I

Winter, 2013.

MWF 4:00-4:50 pm, Peterson 108

INSTRUCTOR: P. A. George Fortes pfortes@ucsd.eduTEXT: Human Physiology 6th ed. by Silverthorn. The 5th ed. may be used. On reserve at the biomed library.

COURSE SCHEDULE

<u>Week:</u>	<u>Topic:</u>	Reading 6 th ed:	Reading 5 th ed:
<i>Membranes & Neurophysiology</i>			
1,2	Diffusion, Osmosis, Transporters, Channels, Ion Pumps, Resting Potentials: Graded & Action Potentials: Synaptic Transmission:	pp. 132-150, pp. 150-160, pp. 161-168, 248-251 pp. 251- 266 pp. 266-282, 186-188	133-141, 158-163, 141-151, 154-157, 164-171, 255-258 258-273 273-287, 186-190
2,3	Central Nervous System:	pp. 289-319, 320	299-307, 309-318, 320-326
3	Sensory Receptors & Pathways: Autonomic Nervous System:	pp. 326-342 pp. 378-391	334-348 386-398
3,4	Motor Pathways and Reflexes:	pp. 391-394, 442-459	396-401, 447-463

FRIDAY, February 1	1st MIDTERM EXAM	4:00-4:50 pm
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<i>Cell Signaling & Endocrine System</i>			
4,5	Hormones, Receptors, and Transducers:	pp. 175-194, 207-219	181-195, 226-228
5	Hypothalamus-Pituitary-Gland axes:	pp. 219-230	228-240
<i>Muscle Physiology</i>			
5,6	Skeletal Muscle:	pp. 399-425	408-432
6	Smooth & Cardiac Muscle:	pp. 426-435	432-440
<i>Cardiovascular Physiology</i>			
6,7	Anatomy of the Heart & Circulation: Myocardial Potentials & Contractions: Pacemaker Action Potentials: Conduction System and ECG: Cardiac Cycle and Cardiac Output:	pp. 463-475 pp. 475-481 pp. 481-482 pp. 483-490 pp. 490-502	476-480 481-485 485-487 487-495 494-505
7, 8	Blood Flow: Blood Pressure: Capillary Exchange & Lymphatics:	pp. 509-513 pp. 513-528, pp. 132-139, 528-533	468-478, 513-516 516-526, 532-535 526-532

FRIDAY, March 1	2nd MIDTERM EXAM	4:00-4:50 pm
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<i>Renal Physiology</i>			
9,10	Functions of the Kidney:	pp. 627-651	623-644, 654-661
10	Fluid, Electrolyte, & Blood Pressure Regulation	pp. 658-679	651-654, 657-672

FRIDAY, MARCH 22	FINAL EXAM	3-6 pm
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EXAMS AND GRADES:

The grade for the course will be computed from each midterm exam (20%) and the comprehensive final exam (60%). The exams will consist of short-answer or multiple-choice questions and problems and will cover material from lectures and from the assigned readings.

No calculators are allowed in exams.

The midterm exams ARE NOT OPTIONAL. If you MISS ANY MIDTERM EXAM a SCORE OF ZERO will be averaged towards your final score.

No rescheduling of Midterm or Final Exams will be allowed.

OFFICE HOURS:

Dr. Fortes' office hours are: immediately after every class in or outside Peterson 108 or by appointment.

SECTIONS:

Discussion sections will start the second week of classes. TA assignments and office hours will be announced in class and posted in the course web site by the end of the first week. Attendance to sections is optional. Choose the section that fits best in your schedule, or shop around for the section you like best. The sections will present problems and questions to review and clarify lecture material.

WEB SITE:

A web site for the course is available. The URL is: TED.ucsd.edu. Registered students may login using your ucsd e-mail login and password. The website contains updated information on the course, supplementary course material, web-links, TA section notes, old exams and problems, and answer keys and grade histograms.

ACADEMIC DISHONESTY:

Cheating will not be tolerated. If you obtain or provide information in an exam or submit an altered exam for regrading you will be given a grade of F in the course and you will be reported to the Office of Academic Integrity, which may affect negatively your academic future.

PODCASTS:

By popular demand from the students the lectures will be recorded and available at podcast.ucsd.edu. Podcasting will be done on an experimental basis and is not meant to be an alternative to attending lectures. If class attendance is decreased as evidenced by a significantly decreased number of students in lecture podcasting will be canceled.

HOW TO SUCCEED IN A PHYSIOLOGY COURSE:

Attend, lectures and faculty and TA office hours and sections. Ask questions to yourself, to the faculty and TAs and to your friends.

Read in advance the textbook to familiarize yourself with the lecture topic. After the lecture, read again the textbook and the class notes. Study the figures. Try to follow the sequence of events in a process by picturing the process in your mind, see if you get stuck somewhere, go back to the book and notes, and correct the problem. THINK about what would happen if something were increased, decreased, or blocked. Physiology is very logical, which makes it easy to work out, understand, and remember even complex processes.

Memorize only the relevant factors. ROTE MEMORIZATION DOES NOT WORK in Physiology, it is time-consuming, inefficient (one tends to forget unless the items are taken in context of their function), treacherous (frequent mistakes are made), and boring. Memorize the relevant items in context with their function.

Work out the problems in old exams, textbooks and TA sections.

Good knowledge and good thinking will help you learn, retain, and use Physiology, and will earn an A!