COURSE SYLLABUS
Comparative Physiology – BIPN 106
Summer session 1, 2015

Instructor: Catalina Reyes
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TED site: ted.ucsd.edu
Announcements, lecture slides and grades will be posted here. PLEASE check on a regular basis

Lecture: Monday and Wednesday 11 AM – 1:50 PM, Center Hall 113

Discussion sessions: Monday and Wednesday 9 – 9:50 AM; 10 – 10:50 AM, Center Hall 203.
You should attend one of the discussion sessions.
TA office hours: To be determined

Textbook: Eckert Animal Physiology, 5th edition, Randall, Burggren and French
You are expected to do the readings assigned from the book.

Objectives for the course
1. Learn how different physiological adaptations allow animals to live and succeed in their environment
2. Learn anatomical and physiological terms
3. Learn anatomy and physiological process of a wide range of invertebrates and vertebrates
4. Learn how to read graphs and images
5. Ability to apply the knowledge acquired to solve physiological problems

To succeed in this course you have to do the following:
1. Work hard. Go over the material every week; do not try to learn everything the weekend before the exam.
2. Learn the terminology and concepts. There are two components important when learning physiology: memory and understanding. You will have to memorize anatomical and physiological terms, but to succeed you have to understand the concepts and physiological processes and learn to critically think about physiology.
3. Read through the power point presentations and the assigned readings before each class.
4. Print out the power point outlines and take your own notes on them.
5. Attend every lecture and take notes
6. Attend ONE or more discussion sections per week. You can choose which section better suits your schedule.

Grading:
Two midterm exams
Final exam: Friday 31st of July, 11:30 AM – 2:29 PM

Tentative schedule: this is a **tentative** schedule. The students in the classroom will determine the rate at which we can advance during this summer session.

Lecture	Date	Topic	Readings
1	June 29	• Introduction • Homeostasis • Cardiovascular. Circulatory function • How are materials distributed? (diffusion and convection)	--------- 7-11 473-481
2	July 1	• Open and closed circulatory systems • Vertebrate hearts and heart function • Heart rate, SV, CO, BP • Hemodynamics	488-494 482-485
3	July 6	• Regulation of cardiovascular function • Blood • Respiration: oxygen and CO_2 content in air and water • Gas laws • Transport of respiratory gases in the blood and respiratory pigments	525-529 529-535
4	July 8	• Cont. of Transport of respiratory gases in the blood and respiratory pigments • Respiratory surfaces and gas exchange with the environment • Regulation of respiration	525-539, 545-555, 557-562 564-568
5	July 13	• High altitude and diving • EXAM	568-571
6	July 15	• pH regulation • Body fluids: regulating osmolarity and water content in the body • Body fluids: regulating volume • Body fluids: the vertebrate kidney	539-544 579-593 593-607, 611-614
7	July 20	• Body fluids: other vertebrate regulatory mechanisms • Body fluids: invertebrate mechanisms • Handling nitrogenous wastes	615-621 621-624 624-628
8	July 22	• Using energy: BMR and the effects of body size • Temperature: environmental diversity	667-681 699-707
9	July 27	• Temperature: regulation vs. conforming • Temperature: adaptations to special circumstances • EXAM	707-725 730-735
10	July 29	• Acquiring energy: feeding, "farming", digestion • Acquiring energy: digestion and absorption	637-648, 659-665