

THE NATURE OF HUMAN HEALTH AND DISEASE
Biological Sciences 150Lg
Lecture Syllabus, Fall 2012

The Nature of Human Health and Disease course is designed to bring students to a level of understanding of modern biomedical science that will enable them to make rational decisions on personal, ethical, and political issues in health and disease. This level will be reached through lectures, reading of texts and news media, and laboratory experiments.

Topics include:

- Nutrition and nutritional diseases
- The molecular and genetic nature of man
- Genetic diseases
- Infectious diseases
- Cancer prevention and drug design
- Infection and the immune response
- HIV, HIV therapy and AIDS

BISC 150Lg is a participatory course. A research project will lead students to become true experts in a subject of their choice and laboratory experiments will give an appreciation of biotechnology.

Lecturers: **John Petruska, Ph.D.**

Office: RRI 119B

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Office Hours: T/Th, 12 – 2 pm (RRI 221)

Robert Baker, Ph.D.

Office: RRI 104A

Phone: (213) 740-5565

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Office Hours: TBA

Lecture: ZHS 159, Tues. & Thurs., 9:30 am – 10:50 a.m.

Required Texts: Human Genetics: Concepts and Applications, 10th ed., Ricki Lewis (McGraw Hill)
BISC 150Lg Laboratory Manual, Fall 2012 (USC Custom Publishing)

Laboratory Director: **Celeste Chong-Cerrillo, Ph.D.**

Office: ZHS 450

Phone: (213) 740-6085

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Office Hours: By appointment only

Laboratory: ZHS 458, Monday 10:00 – 11:50 am
12:00 – 1:50 pm
2:00 – 3:50 pm
Tuesday 12:00 – 1:50 pm
2:00 – 3:50 pm
Wednesday 10:00 – 11:50 am

Web Site: Blackboard (<https://blackboard.usc.edu/>)

Grading

Final letter grades are assigned on a curve, determined entirely by the total number of points earned on lecture exams, course assignments and in the laboratory. **Only the TOTAL number of points earned by the END of the course will determine the final letter grade. There will be no opportunities for extra credit.** The distribution of points is as follows:

4 Midterms (50 pts. each)	200
Final Exam	25
Term Research Project	
Outline	10
Research Paper	75
Presentation	25
<u>Laboratory Grade (see Lab Syllabus for distribution)</u>	<u>205</u>
Total	540

Exams. There will be 4 midterm exams during the semester and 1 final exam. The fourth midterm exam, which will cover material from the last half of the course, will be given during the day of the final exam. The final exam portion will cover material from the entire course. Exams are short answer and essay format. Exams are NOT open book nor open notes. You will be required to write your full name on EACH page of the exam. If you fail to do so, 1 point will be deducted for each page missing a full name.

Missed exams. Make-up exams will normally NOT be permitted. Making up an exam will only be allowed with a valid medical excuse. You must present to the Laboratory Director, **within two (2) days of the missed exam**, official written documentation that you were seen by a doctor. You must also state *in writing* (a) the doctor's name and phone number and (b), a signed statement authorizing us to discuss with the doctor

whether you were too ill to take the exam. If you were seen at the USC Student Health Center, you must sign an “Authorization for Disclosure of Medical Information” form and *list Dr. Chong-Cerrillo’s name* on the form. (Note that neither you nor the physician need to tell us the nature of your illness.) Please note that your physician has to be licensed to practice medicine by the State of California (www.medbd.ca.gov) and that it’s considered unethical and unwise for a physician to provide medical care for a family member. We will contact the doctor and decide whether you have a valid excuse. If you do, the instructors will decide on an appropriate make-up. If you don’t have a valid excuse (or fail to provide it within the allotted time), you will receive a zero for that exam.

Re-grades of exam questions. Your midterm exams will be handed back either in lab or lecture and the answer key will be posted. If you feel an error was made in the grading of your exam, you must submit your exam, along with a thoroughly written explanation of why you think your answer deserves more credit, to your TA within 1 week of the time it was returned to the entire class. Oral and email requests will not be considered. If you took the exam in pencil, we will not grant regrade requests. The entire answer will be re-graded, not just the part you think deserves more credit. Your score may increase or decrease as a result of a re-grade.

Term Research Project. Your Research Project consists of 3 components: Outline, Paper, and Presentation, each receiving a grade. Refer to the “Guidelines for Term Research Project” document for details regarding this assignment. Your topic must be approved by your TA no later than Friday, September 21, 2012. The Outline is due on Thursday, October 4, 2012 and the Paper is due on Tuesday, November 6, 2012. The Outline must be submitted in class, not in lab, and we will NOT accept electronic copies. An electronic copy of your Research paper will be submitted through your LAB Blackboard site, under “Assignments”; you cannot email your paper to your TA. For each day the Outline or Paper is handed in late, 20% of the total possible points will be deducted from your grade (e.g., if the report is past 5 days late, you will receive no points for that assignment). Presentations will be given in lab during the last 3 weeks of class. Once you have signed up for a date to give your presentation, you will not be able to change it unless you have a valid medical emergency. If you do not have a valid medical excuse, it will be at the discretion of the Laboratory Director to determine whether you will be able to make up the Presentation, if time allows; however, the maximum possible points you may receive will be reduced by 50%.

You must attend ALL your labs during the presentation weeks. If you do not have a valid excuse for missing lab (with official written documentation presented to the Laboratory Director, within two (2) days of the missed lab), *2 points will be deducted from your presentation score for EACH presentation you miss* (i.e., if 5 students present, 10 points will be deducted from YOUR presentation grade).

Posting of Grades. Blackboard (<https://blackboard.usc.edu/>) lists BISC 150 lecture and lab sections as “separate courses”. All grades (lecture and lab) are posted in your LAB section. However, be sure to check for additional postings and announcements both in the lecture section and the lab section on a weekly basis. It is the student’s

responsibility to notify your TA or Lab Director ASAP in the event of any mistakes in your posted grade.

Academic Accommodations. Students requesting academic accommodations based on a learning disability are required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP when adequate documentation is filed. Please be sure the letter is delivered to Dr. Chong-Cerrillo as early in the semester as possible. In addition, an Exam Request Form must be filled out, signed by Dr. Chong-Cerrillo, and returned to DPS 7 days prior to a midterm exam and 14 days prior to the final exam. DSP is open Monday-Friday, 8:30 am - 5:00 pm, Student Union 301, Phone: (213) 740-0776.

The Nature of Human Health and Disease
BISC 150Lg
Lecture Schedule, Fall 2012

Wk	Date	Topic	Reading	Lecturer
1	Aug. 28	Chemical Bonds Between Atoms (A-B) in Molecules of Life		Petruska
	Aug. 30	Food Calories Released in Mitochondria by Oxidation of C-C,C-H	p. 5-8, 21-30	
2	Sep. 4	Aspects of Nutrition: Vitamins and Essential Amino Acids	p. 60-66, 139-141, 188-196	
	Sep. 6	Malnutrition, Anemia	p. 30, 199-202, 393-395	
3	Sep. 11	Obesity, Diabetes	p. 144-146, 337-339; 378-379	
	Sep. 13	Atherosclerosis, Cardiovascular Disease	p. 133	
4	Sep. 18	Osteoporosis, Allergies	p. 8, 29-30, 337	
	Sep. 20	Cells, Organelles and Cell Division	Ch. 2	
5	Sep. 25	Midterm 1 (Petruska)		
	Sep. 27	Genetics: DNA information and Use	Ch. 1, (9,10)	
6	Oct. 2	Genetic Diseases	Ch. 12, (13)	
	Oct. 4	Sexual Development and Human Development	Ch. 3, 6	
7	Oct. 9	Pathogens: Diseases, Bioweapons, and Vaccines	p. 288-289, 325-328, 340-341, 344-345	
	Oct. 11	Sexually Transmitted Diseases	p. 334-336	
8	Oct. 16	Immunity: Innate Response	p. 328-329	
	Oct. 18	Genes, DNA structure, and Replication	Ch. 9	
9	Oct. 23	Midterm 2 (Petruska)		
	Oct. 25	Protein Synthesis: Genetic Code, Transcription, Translation	Ch. 10, 11	
10	Oct. 30	Protein Synthesis (cont'd)	Ch. 10, 11	
	Nov. 1	Viruses, including HIV	p. 62, 212, 289-290, 327, 334-336	
11	Nov. 6	Viruses (con't)	p. 62, 212, 289-290, 327, 334-336	
	Nov. 8	Immunology and Vaccines	Ch. 17	
12	Nov. 13	Midterm 3 (Baker)		
	Nov. 15	Human Disease: Cancer Oncogenes, Suppressor Genes	Ch. 18	
13	Nov. 20	Human Disease (cont'd)	Ch. 18	
	Nov. 22	<i>Thanksgiving Holiday</i>		
14	Nov. 27	Human Disease (cont'd)	Ch. 18	
	Nov. 29	Biotechnology, Genetic Engineering and Gene Therapy	Ch. 19, 20	
15	Dec. 4	Biotechnology (cont'd)	Ch. 19, 20	
	Dec. 6			

Important Dates to Remember	
Friday, September 14	Last day to register and add classes Last day to drop without a "W" Last day to elect P / NP grading
Friday, November 16	Last day to drop with a "W"
December 7	Fall semester classes end
Thursday, December 13	Final Exam (11 am - 1 pm)