

THE NATURE OF HUMAN HEALTH AND DISEASE
Biological Sciences 150Lg
Lecture Syllabus, Fall 2011

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, diabetes, atherosclerosis, and osteoporosis
- 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. Critical assignments will allow students to evaluate public and media views on controversial subjects; a research project will lead students to become true experts in a subject of their choice; and laboratory experiments will give an appreciation of modern biotechnology.

Lecturers: **Peter Shugarman, Ph.D.**
Office: AHF 133
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Email: shugarma@usc.edu
Office Hours: TBA

John Petruska, Ph.D.
Office: RRI 119B
Phone: (213) 740-5189
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Robert Baker, Ph.D.
Office: RRI 104A
Phone: (213) 740-5565
Email: baker@usc.edu
Office Hours: TBA

Lecture: SGM 123, Tues. & Thurs., 9:30 am – 10:50 a.m.

Required Texts: Human Genetics: Concepts and Applications, 9th ed., Ricki Lewis (McGraw Hill)
BISC 150Lg Course Reader, Fall 2011
BISC 150Lg Laboratory Manual, Fall 2011 (USC Custom Publishing)

Laboratory Director: **Celeste Chong-Cerrillo, Ph.D.**
Office: ZHS 450
Phone: (213) 740-6085
Email: chongcer@usc.edu
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
12:00 – 1:50 pm
2:00 – 3:50 pm
Thursday 2:00 – 3:50 pm

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
2 Critical Assignments (20 pts. each)	40
<u>Laboratory Grade (see Lab Syllabus for distribution)</u>	<u>205</u>
Total	580

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. Please note that your physician has to be licensed to practice medicine by the State of California (www.medbd.ca.gov). Also note 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 exam. 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.

It is the policy of the Student Health Center to **not** provide routine medical excuses (i.e., they will not issue a slip stating that you were seen at the health center). Simply going to the Health Center is not a valid reason for missing an exam. If you are seriously ill and are seen by a doctor (at the health center or elsewhere), you must turn in a written notification to the Laboratory Director as described above within 2 days of the missed 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 16, 2011. The Outline is due on Thursday, September 29, 2011 and the Paper is due on Tuesday, November 1, 2011. 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 (with official written documentation) for missing 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).

Critical Assignments (CA). You will be required to hand in 2 critical assignments which are short papers discussing current issues. The due dates for the Critical Assignments will be posted on Blackboard. An electronic copy of your Critical Assignments will be submitted through your LAB Blackboard site, under "Assignments"; you cannot email your paper to your TA. For each day a Critical Assignment is handed in late, the maximum possible points you may receive for that paper will be reduced by 20% (e.g., if the report is past 5 days late, you will receive no points for that assignment).

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. Shugarman or Dr. Chong-Cerrillo as early in the semester as possible. In addition, an Exam Request Form must be filled out, signed by Dr. Shugarman or 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 2011

Wk	Date	Topic	Reading L = Lewis CR = Course Reader	Lecturer	
1	Aug. 23	Human Disease Processes; Molecular Nature of Life		Shugarman	
	Aug. 25	Cell Dynamics, Structure and Substructure	L: pp. 21-30		
2	Aug. 30	Cell Chemistry	CR: pp.9-15		
	Sept. 1	Aspects of Nutrition	CR: pp.19-49		
3	Sept. 6	Nutritional Diseases: Diabetes	CR: pp.73-77		
	Sept. 8	Cardiovascular Disease	CR: pp.61-72		
4	Sept. 13	Osteoporosis	CR: pp.81-87		Petruska
	Sept. 15	Cells, Organelles and Cell Division	L: Ch. 2		
5	Sept. 20	Midterm 1			
	Sept. 22	Genetics: DNA information and Use	L: Ch. 1, (9,10)		
6	Sept. 27	Genetic diseases	L: 12, (13)		
	Sept. 29	Sexual Development and Human Development	L: Ch. 3, 6		
7	Oct. 4	Pathogens: Diseases, Bioweapons, and Vaccines	L: pp. 293-295, 333-336, 347-348, 351-352		
	Oct. 6	Sexually Transmitted Diseases	L: pp. 343-344		
8	Oct. 11	Immunity: Innate Response	L: pp. 333-338		
	Oct. 13	Genes, DNA structure, and Replication	L: Ch. 9		
9	Oct. 18	Midterm 2			
	Oct. 20	Protein Synthesis: Genetic Code, Transcription, Translation	L: Ch. 10, 11		
10	Oct. 25	Protein Synthesis (cont'd)	L: Ch. 10, 11		
	Oct. 27	Viruses, including HIV	L: pp. 62, 215, 294-295, 335, 342-344		
11	Nov. 1	Viruses (con't)	L: pp. 62, 215, 294-295, 335, 342-344		
	Nov. 3	Immunology and Vaccines	L: Ch. 17		
12	Nov. 8	Human Disease: Cancer Oncogenes, Suppressor Genes	L: Ch. 18		
	Nov. 10	Human Disease (cont'd)			
13	Nov. 15	Midterm 3			
	Nov. 17	Human Disease (cont'd)	L: Ch. 18		
14	Nov. 22	Biotechnology, Genetic Engineering and Gene Therapy	L: 19, 20		
	Nov. 24	<i>Thanksgiving</i>			
15	Nov. 29	Biotechnology (cont'd)	L: 19, 20		
	Dec. 1	Biotechnology (cont'd)			

Important Dates to Remember	
Friday, September 9	Last day to register and add classes Last day to drop without a "W" Last day to elect P / NP grading
Friday, November 11	Last day to drop with a "W"
December 2	Fall semester classes end
Thursday, December 8	Final Exam (11 am - 1 pm)

Introduction to the BISC 150Lg Laboratory Policies

Laboratory Location: ZHS 458

Laboratory Director: **Dr. Celeste Chong-Cerrillo, Ph.D.**
Office: ZHS 450
Phone: (213) 740-6085
Email: chongcer@usc.edu
Office Hours: By appointment only

Required Text: BISC 150Lg Laboratory Manual, Fall 2011

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

Laboratory Grade

The laboratory grade, worth 205 points, breaks down as follows:

10 Lab Exercises (15 points each)	150
3 Quizzes (15 points each)	45
<u>Subjective</u>	<u>10</u>
Laboratory Total	205

The points assigned for the lab exercises are mainly based on the outcome and/or results of your experiment. Coming to lab prepared can greatly reduce the possibility of making a mistake and ending up with erroneous data. Subjective points are TA assigned and based on attendance, participation, involvement, effort, initiative, and attitude. The Subjective points will also reflect any student presentations missed without a valid excuse. Laboratory scores will be standardized to correct for differences in grading between TAs. There will be no opportunities for extra credit.

Laboratory Policies

Mandatory Attendance of Labs. You are required to attend all lab sessions. You are also required to remain for the entire lab session or until excused by your TA. Please come to lab on time and do not schedule any appointments during your regular lab period. Also, come to lab prepared (i.e., read and know your lab exercise before you come).

If a student misses a lab due to a true emergency situation, you must provide acceptable written documentation that you were not able to attend school within 2 days to the Laboratory Director, Dr. Chong-Cerrillo. Then it will be at her discretion to determine whether the lab will be made up. However, if the week of the missed lab has already passed, you will not be able to make up the lab. In addition, if documentation is not received within this time frame, you will not be allowed to make up the missed lab.

Switching labs is not allowed. You must attend the lab section you are registered for. If you have a compelling reason for not being able to attend your lab section AND you speak to Dr. Chong-Cerrillo in advance (the sooner the better), exceptions may be allowed. TAs will NOT be able to grant any lab switching. If you attend another lab section but you have not spoken to Dr. Chong-Cerrillo in advance, you will still be marked absent for that lab and will not receive credit for that lab.

Lab Quizzes. Lab quizzes will be at the beginning of the lab session (within the first 15 min) and can cover material from previous labs or *material from that day's lab* (i.e., material from the introduction of the lab exercise).

If a student misses a quiz due to a true emergency (accompanied with an acceptable written excuse), it will be at the discretion of the Laboratory Director to either schedule a make-up or may permit the use of the average of other quizzes in determining the grade.

Your quizzes will be handed back to you and reviewed in lab. If you feel something should be reviewed for a re-grade, you must hand it back to your TA by the end of the lab session with a thoroughly written explanation for why you think it should be regraded. Anything brought out of the lab will NOT be regraded. Also, the entire question will be regraded, which may raise or lower your score.

Posted 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.

Lab Safety Contract. All students must sign and abide by the "Laboratory Safety Rules and Regulations". Failure to do so may result in removal from the lab.

Keep the ringers of your cell phones and pagers off. If you need to speak on the phone to anyone for any reason during class, take your conversations out of the room.

Academic Accommodations. Students requesting academic accommodations based on a 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. Shugarman or Dr. Chong-Cerrillo as early in the semester as possible. DSP is open Monday-Friday, 8:30 am - 5:00 pm, Student Union 301, Phone: (213) 740-0776.

Laboratory Schedule*

Wk	Dates	Ch	Laboratory	Lab Events
1	Aug. 22 - 25		NO LAB	
2	Aug. 29 - Sept. 1	1	Chirality in Drugs	
3	Sept. 5	Labor Day - University Holiday		
	Sept. 5 - 8		NO LAB	
	<i>Friday, Sept. 9</i>	<i>Last day to register and add classes Last day to drop a class without a mark of "W" Last day to change enrollment option to Pass/No Pass or Audit</i>		
4	Sept. 12 - 15	2	"Burning" Calories - The Energy in Food	
	<i>Friday, Sept. 16</i>	<i>Deadline for Approval of Research Paper Topic</i>		
5	Sept. 19 - 22	3	Your Genes in a Bottle	
	Tues, Sept. 20	Midterm 1		
6	Sept. 26 - 29	4	Human Genetics	Quiz #1
	<i>Thurs, Sept. 29</i>	<i>Research Outline Due</i>		
7	Oct. 3 - 6	5	Epidemiology of Communicable Diseases	
		6	Microbiological Analysis of Microorganisms, Part I	
8	Oct. 10 - 13	6	Microbiological Analysis of Microorganisms, Part II	
		7	Effects of Commercially Available Disinfectants and Antiseptics, Part I	
9	Oct. 17 - 20	7	Effects of Commercially Available Disinfectants and Antiseptics, Part II	
	Tues, Oct. 18	Midterm 2		
10	Oct. 24 - 27	8	Protein Synthesis	Quiz #2
11	Oct. 31 - Nov. 3	9	ELISA	
	<i>Tues, Nov. 1</i>	<i>Research Paper Due</i>		
12	Nov. 7 - 10		Research Project Presentations	
	Friday, Nov. 11	Last day to drop a class with a mark of "W"		
13	Nov. 12 - 17		Research Project Presentations	
	Tues, Nov. 15	Midterm 3		
14	Nov. 21 - 23		NO LAB	
	Nov. 24 - 25	Thanksgiving - University Holiday		
15	Nov. 28 - Dec. 1		Research Project Presentations	Quiz #3
	Thurs, Dec. 8	FINAL EXAM (11 am - 1 pm)		

*Periodically check Blackboard for any updates or changes in the lab schedule.