

BISC 150: The Nature of Human Health & Disease Fall 2024 (4 units)

Lectures (in-person only/no Zoom recording)

Tuesday & Thursday – 9:30-10:50 AM

ZHS 159

Labs (in-person only)

Mon, 10–11:50 AM, 12–1:50 PM, 2–3:50 PM

Tues, 12–1:50 PM, 2–3:50 PM

Wed, 10–11:50 AM

ZHS 458

Instructor: Raffaella Ghittoni, Ph.D.

Office: ZHS 256

Office Hours: Tues. from 3 to 4 pm and Wed from 10 to 11 am

Contact Info: rghitton@usc.edu

Instructor: Rory Spence, Ph.D.

Office: ZHS 256

Office Hours: Th 11-1 ZHS 256 or by zoom appointment

Contact Info: rspence@usc.edu

Lab Manager: Celeste Chong-Cerrillo, Ph.D.

Office: ZHS 450 or Zoom 'meeting room'

Office Hours: By appointment

Contact Info: chongcer@usc.edu (Subject line should state "BISC 150")

Lab Instructors (LIs):

Office Hours: TBD

Office Hours Location: Zoom 'meeting room' or ZHS 458

Required Texts

Biology 2e. Openstax access, free digital platform. <https://openstax.org/details/books/biology-2e>

The Nature of Human Health & Disease Laboratory Manual, Fall 2024 (USC Custom Publishing)

Course Description

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

Prerequisite(s): no prerequisites

Course Notes

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

Learning Objectives

- Students will understand basic human biology at the genetic, cellular and physiological levels.
- Students will know the human body maintains a healthy balance and how disturbances of this balance underlie diseases.
- Students will be able to make informed contributions to discussions of contemporary and global issues in health and disease with their peers.
- Students will be able to make rational decisions on personal, ethical and political issues in their health.

Grading Breakdown

The course grade will be based upon **700 possible points**:

Assignment	Points	% of Grade
Midterm Exam 1	100	14.3%
Midterm Exam 2	100	14.3%
Final Exam	100	14.3%
Lectures Participation	40	5.7%
Attendance of Guest Lectures	60	8.6%
Disease Presentation Project	100	14.3%
Laboratory Grade (see lab syllabus)	200	28.6%
Total	700	100%

Grading Scale

Course final grades will be determined using the following scale:

A	90.1 - 100
A-	86.7 - 90
B+	83.3 - 86.6
B	80 - 83.2
B-	76.7 - 79.9
C+	73.3 - 76.6
C	70 - 73.2
C-	66.7 - 69.9
D+	63.3 - 66.6
D	60 - 63.2
D-	56.7 - 59.9
F	≤56.6

LECTURE: Description, Assessment and Submission Policy of Assignments

Exams. There will be 2 midterm exams during the semester and 1 final exam. Exams will be administered during lecture, will be 60 min long, and will consist of multiple choice, short answer, matching or fill-in-the-blank questions. Exams are NOT open book nor open notes. A student is not allowed to start an exam after the first student has left ANY exam room. Each exam is worth 100 points. Grades for Midterm Exams will be posted within one calendar week following the exam date.

Lecture Participation. Each lecture will require students to take a short multiple choice quiz (2 or 3 questions each quiz) posted on Brightspace after each lecture. The quiz will be available for 48h. Students must complete all quizzes to collect a total of 40 points.

Attendance of Guest Lectures. Each guest lecture (6 in total) will require mandatory attendance and count a total of 60 points. Signing in will occur within the first 10 minutes of class, afterwards no credit will be given.

Disease Presentation Project. Your Disease Presentation Project consists of 2 components: Outline and Oral Presentation, each receiving a grade. Refer to the "*Guidelines for Disease Presentation Project*" document on Brightspace for details and specifics regarding this project. Your topic must first be approved by your LI. You will need to submit 3 different topics no later than 5 p.m. Friday, September 27, 2024 in order to get your final topic approved. Topics will be approved on a first come first basis (that means if you submit a topic that has already been approved, you may have to present your 2nd or 3rd choice). For each day the topic is submitted late, 1½ pts/day will be deducted from your overall Disease Presentation Project grade. The Outline, consisting of *PowerPoint slides*, is due no later than 5 p.m. Friday October 18, 2024. Both the Topics and PowerPoint Outline will be submitted through "Assignments" on your LAB Brightspace site; you cannot email your topics nor outline to your LI.

Oral presentations will be given in the lab during the last 3 weeks of class; the schedule will be determined in the lab. 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. Please see the *Missed Presentations* policy if you wish for us to make an accommodation. If you do not have a valid (medical) excuse, it will be at the discretion of the Laboratory Manager to determine whether you will be able to make up the Presentation, if time allows; however, the maximum possible points you may receive may be reduced by 50%.

The entire Disease Presentation Project must be an **ORIGINAL WORK** by the student involved. The slide presentation should not be text-heavy; overly text-heavy presentations may be analyzed through Turnitin for its originality. Plagiarism is strictly forbidden and will be treated with the usual University rules if it is encountered. You are also NOT allowed to use a presentation you have given for a previous course or submitted to another instructor from ANY educational institution (including high school).

You must attend ALL your labs, **in-person**, during the presentation weeks. If you do not have a valid excuse for missing lab, *3 points will be deducted from YOUR presentation score for EACH presentation you miss* (i.e., if 5 students present, 15 points will be deducted from your presentation grade). Attending a lab remotely will NOT count for presentation attendance and you will still be considered absent. If you have a compelling reason for needing to attend lab remotely (whether you are a spectator or presenter), it must be pre-approved by the Lab Manager and accompanied by official written documentation (refer to the *Missed Presentations* policy on documentation). If remote attendance is approved, you will be required to keep your camera on for every presentation. If your camera is off, we will assume you are not present and the above policy will apply (-3 pts/presentation).

Missed Presentations (presenter or spectator). If you miss a lab during presentation week due to a true emergency and wish for us to make an accommodation, official written documentation (what you feel is appropriate to demonstrate a legitimate reason for missing lab) which MUST include your name and a date, should be submitted to the Lab Manager within 36 hrs of the missed lab session. With respect to student privacy we will not dictate what sort of documentation needs to be provided; however, our decision to grant an accommodation will ultimately be based on what documentation we do receive. Even if we judge your excuse to be valid, you will still be responsible for making up the missed presentations by attending another lab section's presentations. If you fail to do this, points will still be deducted regardless of excuse. Students will only be excused for one missed presentation lab with a valid excuse.

Please note: The Engemann Student Health Center has changed their medical excuse policy. They will no longer provide: 1) class excuse notes for illness, 2) clinical appointments for class excuse, and 3) authentication of outside physician certificates. The *Absence of Class - Self Verification* Form provided by the Student Health Center is *insufficient documentation* for our purposes.

LABORATORY

Please refer to the Laboratory Syllabus and Policies regarding assignments and grade breakdown of 200 points.

EXTRA CREDIT

Joint Educational Partnership. There will be an opportunity for a small percentage of the class to participate in a K-12 educational program with the Joint Educational Project (JEP) at USC. This is a semester-long commitment and you will receive extra credit in the class based on your performance in the program. The maximum amount of extra credit points a student can receive is 50 points and participation is capped at 10% of class enrollment.

ADDITIONAL POLICIES

Missed Exams. There are ***no makeup exams*** in the course. If a student misses an exam due to a true emergency, official written documentation (what you feel is appropriate to demonstrate a legitimate reason for missing said exam) should be submitted to the instructors, Dr. Ghittoni or Dr. Spence, **within two (2) days of the missed exam**. Students will only be excused for ONE exam with a valid excuse. If it is a medical excuse, 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. (Note that neither you nor the physician need to tell us the nature of your illness.) 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 may, at their discretion, permit the use of the student's performance on other exams in determining the missed exam grade. If your excuse is judged not to be valid, or you do not provide it within the allotted time, you will receive a score of zero for the missed exam.

Please note: the Student Health Center has changed their medical excuse policy. The Student Health Center will **no longer provide:** 1) class excuse notes for illness, 2) clinical appointments for class excuse, and 3) authentication of outside physician certificates. The Absence of Class - Self Verification Form provided by the Student Health Center is ***insufficient documentation*** for our purposes.

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 Regrade Request Form in which you have thoroughly explained (typewritten) why you think your answer deserves more credit, to your LI 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 or used white-out, 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.

Late Policy. For every 12-hour increment any assignment is handed in late, you will lose 10% of the total possible points [i.e., if the assignment is 5 days (120 hrs) late, you will receive a zero (0) for that assignment]. Saturdays, Sundays, and University holidays ARE counted. The Labster simulations adhere to the policy as stated in the Lab Syllabus.

Brightspace and Posting of Grades. Brightspace (<https://brightspace.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. Brightspace is a convenient system to communicate grades; however, ***those grades are not authoritative***. It is the student's responsibility to notify your LI or Lab Manager ASAP in the event of any mistakes in your posted grade.

Please remember that (1) the course mean given on Brightspace is also NOT authoritative, and (2) that only the total number of points earned determines your course grade. We will be glad to discuss your performance, and your possible grades, at any time throughout the course. Help provided in this way should be considered only provisional. Your later performance may change (sometimes dramatically) the best-meant extrapolation.

Email Communication. To ensure privacy, only student's USC email accounts may be used for email communications. Students are responsible for understanding the content of email messages that the instructor sends to their USC accounts. Therefore, each student must check their USC email regularly and make sure their account is not over quota, so new messages can be received.

Course Schedule: The Nature of Human Health and Disease

Wk	Date	Lecture Topic	Reading	Lecturer
1	27-Aug	Homeostasis and Health of The Human Body	Ch. 33.3	Spence
	29-Aug	Diseases of Genetic Origin - Large Aberrations	Ch. 13	Spence
2	3-Sep	Diseases of Genetic Origin - Small Aberrations	Ch. 13	Spence
	5-Sep	Chemical Injury - Alcohol and Nicotine		Spence
3	10-Sep	Chemical Injury - Illicit Drugs and Toxins		Spence
	12-Sep	Cancer and the Environment	Ch. 10	Spence
4	17-Sep	Cancer and the Environment	Ch. 10	Spence
	19-Sep	Neurological Disorders - AD, Dementia, and Aging	Ch. 35	Spence
5	24-Sep	Neurological Disorders - MS, Parkinsons	Ch. 35	Spence
	26-Sep	Midterm 1		Spence
6	1-Oct	Stem cells	https://learn.genetics.utah.edu/content/stemcell/	Ghittoni
	3-Oct	Immune system part I	Ch. 42	Ghittoni
7	8-Oct	Immune system part II	Ch. 42	Ghittoni
	10-Oct	FALL RECESS		Ghittoni
8	15-Oct	Infectious Diseases Viruses	Ch.21	Ghittoni
	17-Oct	Infectious Diseases -Bacteria	Ch.22	
9	22-Oct	Infectious Diseases -Protist & Fungi	Ch 23 + 24	Ghittoni
	24-Oct	Human Microbiome	https://learn.genetics.utah.edu/content/microbiome/	Ghittoni
10	29-Oct	The digestive system	Ch. 34	Ghittoni
	31-Oct	The respiratory system	Ch. 39	Ghittoni
11	5-Nov	Midterm 2		
	7-Nov	Global Health - Disparities		
12	12-Nov	Global Health - Viruses		
	14-Nov	Mental Health		
13	19-Nov	Mental Health		
	21-Nov	Hypertension and Stroke	Ch. 40	
14	26-Nov	Diabetes	Ch. 37	
	28-Nov	THANKSGIVING HOLIDAY		
15	3-Dec	TBD		
	5-Nov	TBD		
	12-Dec	FINAL EXAM 11:00 am - 12:00 pm		

Statement on Academic Conduct and Support Systems

Academic Conduct

Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Part B, Section 11, “Behavior Violating University Standards” <https://policy.usc.edu/scampus-part-b/>. Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct, <http://policy.usc.edu/scientific-misconduct>.

Support Systems

Student Counseling Services (SCS) - (213) 740-7711 – 24/7 on call

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention. <https://engemannshc.usc.edu/counseling/>

National Suicide Prevention Lifeline - 1-800-273-8255

Provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week. <http://www.suicidepreventionlifeline.org>

Relationship and Sexual Violence Prevention Services (RSVP) - (213) 740-4900 - 24/7 on call

Free and confidential therapy services, workshops, and training for situations related to gender-based harm. <https://engemannshc.usc.edu/rsvp/>

Sexual Assault Resource Center

For more information about how to get help or help a survivor, rights, reporting options, and additional resources, visit the website: <http://sarc.usc.edu/>

Office of Equity and Diversity (OED)/Title IX Compliance – (213) 740-5086

Works with faculty, staff, visitors, applicants, and students around issues of protected class. <https://equity.usc.edu/>

Bias Assessment Response and Support

Incidents of bias, hate crimes and microaggressions need to be reported allowing for appropriate investigation and response. <https://studentaffairs.usc.edu/bias-assessment-response-support/>

Office of Student Accessibility Services (OSAS)

Provides certification for students with disabilities and helps arrange relevant accommodations. <https://osas.usc.edu/>

Student Support and Advocacy – (213) 821-4710

Assists students and families in resolving complex issues adversely affecting their success as a student EX: personal, financial, and academic. <https://studentaffairs.usc.edu/ssa/>

Diversity at USC

Information on events, programs and training, the Diversity Task Force (including representatives for each school), chronology, participation, and various resources for students. <https://diversity.usc.edu/>

USC Emergency Information

Provides safety and other updates, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible, <http://emergency.usc.edu>

USC Department of Public Safety – 213-740-4321 (UPC) and 323-442-1000 (HSC) for 24-hour emergency assistance or to report a crime. Provides overall safety to USC community. <http://dps.usc.edu>