

BISC 220 (General Biology: Cell Biology and Physiology), Summer 2021

A. General Course Description and Policies

Catalog Description

Biological Sciences 220L – General Biology: Cell Biology and Physiology

In-depth survey of key topics related to advances in our knowledge of cellular biology and physiology; cell composition/metabolism; gene action; organism structure and function.

(Duplicates credit in BISC 110L, BISC 111L, and BISC 221L.) *Recommended preparation:* high school chemistry; BISC 120L or BISC 121L.

Instructor

Bruce Yazejian HNB B20 Phone 213-740-2220 yazejian@usc.edu

Office hours: by appointment

Laboratory Manager

Gorjana Bezmalinovic, bezmalin@usc.edu

Office hours: Zoom chat upon email request

Textbooks

Campbell Biology, by Urry et al., 12th edition, 2020.

N.B. – Although the 12th edition is the official textbook for the class, it is not substantially different from the 11th edition. Students interested in saving money may opt for the older version. However, such students should consult the newer version to transpose the reading assignments and check for differences.

Website <https://blackboard.usc.edu/>

All course materials, information, recordings, announcements, and grades will be posted on Blackboard until Commencement Day. Blackboard is to be used only for appropriate, course-related activities. Use for other purposes will result in disciplinary action.

Lectures

Pre-recorded lectures will be posted to Blackboard at 10:00 AM TWThF. Live one-hour-long Q&A sessions will be held via Zoom beginning at 12:15 PM every Wednesday and Friday. These sessions will give students opportunities to gain clarification on the lecture material. The only exceptions will be Wednesday June 16 and Friday June 25 when exams are scheduled.

Laboratory (See Part B below for the complete laboratory syllabus)

The lab portion of the course is held on Tuesdays/Thursdays from 1:00 – 3:50 pm. Due to labs being online, students will be able to do the Labster simulations prior to attending the lab Zoom sessions, so the actual lab instruction will be shorter.

The laboratory is an integral and essential component of the course, intended to give you hands-on experience with the processes, tissues, and concepts discussed in the lecture part of the class, and to deepen your understanding of the scientific literature and science as a process.

The purposes, policies, and procedures of the laboratory are fully explained in Part B of this syllabus.

Performance in the laboratory will account for one-third of each student's grade. The laboratory grade will be based on post-lab quizzes, homework assignments, lab report, lab exam and a group presentation. See the Grading Table below for point values of each of these components.

Lecture Exams

Lecture exams will consist of multiple-choice questions and will be administered through Blackboard. You will be required to be on Zoom while taking the test. Not following the exam instructions (talking during the test, having headphones on, disappearing from Zoom, *etc.*) will result in an F for the course (see Appendix A posted on Bb).

Online Quizzes

Five lecture quizzes (each worth 12 points) will be administered online via Blackboard. The quizzes will be posted by 2:00 pm on Fridays and must be completed by 9:00 am the following Monday. The first quiz will be posted on **May 21**. Questions will cover the previous week's material. Answers to quiz questions will be posted at the end of each quiz period.

Grading

	Item	Pts Each	Number	Total	Portion Totals
Lecture	Lecture Exams	160	4	640	Lecture = 700 pts
	Online quizzes	12	5	60	
Lab	Lab Exam	120	1	120	Lab = 300 pts
	Lab Assignments	-	-	180	
					Course total =1000

After each lecture exam, an advisory curve will be posted to help students gauge their standing in the class. Final grades will be determined according to a curve.

Points will only be given for the items listed above. No extra credit will be given.

Impairments Affecting Your Performance

Students occasionally encounter difficulties that affect their academic performance, such as illness, accidents, bereavement, depression, anxiety, learning disabilities, and other problems. If you encounter such difficulties, please bring them to the attention of one of the instructors. We can refer you to sources of help and may be able to offer accommodations. All such

discussions will be confidential. Please seek help as soon as you feel your performance is being affected. Specific policies regarding exams are explained in the next section.

Exam Policies

If you feel an error was made in the grading of an exam question, you may submit the question for a re-grade. To request a re-grade, you must submit a re-grade request to your instructor through email and attach a screenshot of the question and your answer. Re-grade requests must be submitted to the instructor within 2 days of the time scores were released on Blackboard, along with an explanation of why you think your answer deserves credit. Note that the instructor might review the grading of the entire exam to check for errors in grading. Your grade may go up or down because of this re-examination.

No make-up exams will be given.

You may be excused from an exam in the event of a documented illness, emergency, or other serious problem beyond your control. ***No other excuses for missing exams will be accepted.*** If you miss an exam or quiz for a legitimate reason, and wish to ask for an accommodation, you should proceed as follows. Within 48 hours of the start of the missed exam, email to the Lab Manager a request that you be excused. In the case of illness, this request must include either an official letter from your doctor stating that you were too sick to take the exam, or your doctor's name and contact information with permission for us to contact the doctor for a limited discussion of your condition. Note that neither you nor the doctor need tell us the nature of your illness. If you miss an exam for non-illness related reasons, you must provide similarly convincing documentation of the emergency to the Lab Manager within a week. If we judge your excuse to be valid, we will give you a grade for the missed exam equal to the "curved" average of your grades for the equivalent exams that you did take. Except in extraordinary circumstances, we will make accommodations for only one missed lecture exam. 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.

If you miss Exam 4 and you provide a convincing, well-documented excuse to the Lab Manager within 48 hours of the start of the scheduled exam time, a course grade of Incomplete (IN) will be assigned. It will be your responsibility to contact the instructors to arrange for a make-up version of Exam 4 so that a final grade can be assigned. You will have a year to complete the requirements for removal of the IN. After this, your grade will change to an IX (Lapsed Incomplete), which counts as an F in the GPA. If you miss Exam 4 and do not submit a valid excuse, a course grade will be calculated based on your other scores and a zero for Exam 4.

Academic Integrity

Our university depends on honesty, integrity, and ethical behavior among its members. Among other things, students' ethical behavior includes respecting the intellectual property of others,

submitting individual work unless otherwise directed by the instructor, protecting one's own academic work from misuse by others, and avoiding the use of another's work as one's own.

We have reliable, time-tested methods for detecting cheating, plagiarism, and other violations of academic integrity. *Please note that sanctions for violations are severe.* This is necessary to protect the integrity of grades and the academic process. The minimum sanction is usually an F for the course. Suspension or expulsion from the university is also possible in egregious cases or for repeat offenses.

Resources on academic integrity standards, policies, and expectations:

1. Trojan Integrity Guide: <http://www.usc.edu/student-affairs/SJACS/forms/tio.pdf>
2. Guide for Avoiding Plagiarism: <http://www.usc.edu/student-affairs/SJACS/forms/tig.pdf>
3. Overview of Academic Integrity: <http://www.usc.edu/student-affairs/SJACS/forms/AcademicIntegrityOverview.pdf>
4. Tutorial on Academic Integrity: http://www.usc.edu/libraries/about/reference/tutorials/academic_integrity/index.php
5. SCampus (University Governance, paragraph 11): <http://web-app.usc.edu/scampus/1100-behavior-violating-university-standards-and-appropriate-sanctions/>
6. Scientific Misconduct: <http://policy.usc.edu/scientific-misconduct/>

Other Conduct Issues

Discrimination, sexual assault, and harassment are not tolerated by the university. You are encouraged to report any incidents to the *Office of Equity and Diversity* (<http://equity.usc.edu/>) or to the *Department of Public Safety* (<http://capsnet.usc.edu/department/department-public-safety/online-forms/contact-us>). Call DPS at 213-740-4321 if you need immediate assistance or to report a crime. Reporting such incidents is important for the safety of the whole USC community. Another member of the university community – such as a friend, classmate, advisor, or faculty member – can help initiate the report, or can initiate the report on behalf of another person. The *Center for Women and Men* (<http://www.usc.edu/student-affairs/cwm/>) provides 24/7 confidential support, and the Sexual Assault Resource Center webpage (<http://sarc.usc.edu>) describes reporting options and other resources.

Students with Disabilities

Any student requesting academic accommodations based on a disability is required to register with the *Office of Disability Services and Programs* (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP and should be delivered

to the Lab Manager early in the semester, preferably by May 25, 2021. If a student's approved accommodation is limited to extra time on examinations, the teaching staff of BISC 220 will provide the accommodation. For any other accommodation, such as a private room, reader, scribe, etc., students must make arrangements with the DSP office at least 2 weeks before the exam date. For more information, you can visit the DSP office in GFS 120 (8:30-5:00, M-F), call at 213-740-0776, email at ability@usc.edu, or go to their website: http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html.

Lecture schedule:

Day	Lecture	Chapter Readings
Wed May 19	1 Introduction, Biomolecules, Water	1-5
Thu May 20	2 The Cell	6
Fri May 21	3 Cell Membranes	7
Tue May 25	4 Cell Communication	11
Wed May 26	5 Metabolism part 1 of 2	8
Thu May 27	EXAM 1	
Fri May 28	6 Metabolism part 2 of 2	8,9
Tue June 1	7 Photosynthesis	10
Wed June 2	8 Cell Cycle	12
Thu June 3	9 Mitosis	12
Fri June 4	10 Meiosis	13
Tue June 8	EXAM 2	
Wed June 9	11 Cardiovascular system	42.1-42.4
Thu June 10	12 Respiration	42.5-42.7
Fri June 11	13 Immune System	43
Tue June 15	14 Fluid and electrolyte balance	44
Wed June 16	EXAM 3	
Thu June 17	15 Endocrine system	45
Fri June 18	16 Reproduction	46
Tue June 22	17 Nervous system	48
Wed June 23	18 Nervous system	49
Thu June 24	19 Motor system	50.5
Fri June 25	EXAM 4	

B. Laboratory Syllabus

Lab Manager: Gorjana Bezmalinovic
bezmalin@usc.edu

Office hours: Open door policy – ‘Zoom chat’ upon email request

Laboratory Schedule:

Lab #	Date	Laboratory
1	May 20	Lab Safety & Pipetting*
2	May 25	Cell Membrane and Transport
3	May 27	Experimental Design* / Scientific Reading*
4	June 1	Cellular Respiration (Homework #1 due)
5	June 3	Pigment Extraction*
6	June 8	Cardiovascular Function During Exercise*
7	June 10	Antibodies*
8	June 15	Renal Physiology
9	June 17	Endocrinology* / Lab report due
	June 22	Disease Presentation
10	June 24	Action Potential
	June 29	Lab Exam

* Exercise for which 5-7 pages, typed lab report is required.

* Exercise for which there is a homework/pre-lab/post-lab assignment.

Some minor changes might occur during the semester.

All lab materials will be posted on [Blackboard](#).

LABORATORY POINT DISTRIBUTION

The laboratory portion (**300 points**) will count for **30%** of your final course grade, distributed as follows:

- Lab activities (virtual labs) – 55 pts (11 x 5)
- Homework/post-labs – 40 pts
- Scientific Reading – 15 pts
- Lab Report – 40 pts
- Disease Presentation – 30 pts

Lab Exam – 120 pts

LAB SCORES

Scores for all the lab assignments will be posted on Blackboard – <https://blackboard.usc.edu/>, under your **LAB SECTION**. It is the student's responsibility to immediately notify their Lab Instructor or Lab Manager in the event of any mistakes, so please check your Blackboard scores weekly.

LABORATORY ATTENDANCE

You are required to attend your Lab Instructor's '**Zoom lab sessions**' during the scheduled lab time. Those who cannot be present due to time zone constraints will be excused and will be able to watch the recordings. It is a student's responsibility to follow up with their Lab Instructor if they have any questions related to specific virtual lab activities.

LABSTER VIRTUAL LABS

You will be required to do virtual lab simulations. You will be asked questions throughout the virtual lab activities and your scores will be transferred to Blackboard (Bb) after you complete each lab.

HOMEWORK / POST-LAB ASSIGNMENTS

You will have several homework/post-lab assignments, based on the material you learned in the lab, or data obtained in your lab experiments. Assignments will be posted on Bb.

LAB REPORT

After one of the lab activities you will have to write a scientific lab report. Lab report guidelines will be posted on Bb in the beginning of the semester. Lab report will be submitted on Blackboard through the [turnitin link](#).

DISEASE PRESENTATION

This assignment will be done in pairs. You will have to prepare a presentation about a specific disease and share it with your labmates through Zoom. Detailed guidelines will be posted on Bb.

LAB EXAM

The cumulative lab exam will test your understanding of the topics, concepts and activities covered during the entire semester. This 90-minute test will be administered on Bb. It will consist of multiple-choice questions, T/F, fill in the blanks, matching and short answers.

It is your responsibility to take the lab exam during the scheduled exam time.

-  If you miss a lab exam due to a serious illness, you must present a valid excuse to the Lab Manager (bezmalin@usc.edu) **within 24 hours** of the missed exam. A valid excuse is considered to be an official note from your doctor, or the summary of your visit from the USC Student Health Center. Note that

neither you, nor your doctor, need to tell us the nature of your illness – we just want to verify whether you were too ill to take the exam.

- If you miss an exam for non-illness related reasons, you must provide similarly convincing documentation of the emergency to the Lab Manager within 24 hours. If we judge your excuse to be valid, you will be allowed to take the make-up lab exam. If you do not have a valid excuse or fail to provide it within the allotted time, you will receive a zero.
- Students who miss a lab exam due to the observance of a religious holy day should be aware of the University's policy on such absences, published at: <http://orl.usc.edu/religiouslife/holydays/absences.html>. Requests for such absences should be made by email addressed to the Lab Manager (bezmalin@usc.edu) at least 2 weeks in advance of the absence. If the absence is approved, the student will be allowed to take the make-up lab exam.
- Student-athletes who will have to miss the lab exam due to a previously scheduled NCAA competition should bring the SAAS excuse letter to the Lab Manager at least 2 weeks in advance so alternatives can be arranged.

LAB SCORE NORMALIZATION

The lab scores will be normalized at the end of the semester by the Lab Manager to correct for differences in grading between Lab Instructors/TAs.

STUDENTS WITH DISABILITIES

Students requesting academic accommodations based on a disability are required to register with the Office of Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Be sure that the letter is delivered to the Laboratory Manager as early in the semester as possible, [preferably by May 25, 2021](#). DSP is located in GFS 120 and is open from 8:30 a.m. to 5:00 p.m., Monday through Friday. Their telephone number is 213-740-0776. If a student's approved accommodation is limited to extra time on exams, the teaching staff of BISC 120 will provide the accommodation. For any other accommodation, such as a private room, reader or a scribe, students must make prior arrangements with the DSP office 2 weeks before the exam date. For more information please visit the following website:

http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html.