

BISC 220 (General Biology: Cell Biology and Physiology), Summer 2022

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

Nancy Castro, PhD

online via zoom

ncastro@usc.edu

Office hours: by appointment

Laboratory Manager

Brett Spatola, PhD spatola@usc.edu

Office hours: ZHS 362, open door policy

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, courserelated activities. Use for other purposes will result in disciplinary action.

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.

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 20**. 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	100	1	100	Lab = 300 pts
	Lab Assignments	-	-	200	
					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/studentaffairs/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-andappropriate-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.

OSAS Accommodations

Any student requesting academic accommodations is required to register with the *Office of Student Accessibility Services (OSAS)* each semester. A letter of verification for approved accommodations can be obtained from OSAS and should be delivered to the Lab Manager early in the semester, preferably by May 24, 2022. 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 OSAS office at least 2 weeks before the exam date. For more information, you can visit the OSAS office in GFS 120 (8:305:00, 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:

Week Day Lecture Chapter
Readings

1	Wed	May 18	1	Introduction, Biomolecules, Water	1-5
	Thu	May 19	2	The Cell	6
	Fri	May 20	3	Cell Membranes *	7
2	Tue	May 24	4	Cell Communication	11
	Wed	May 25	5	Metabolism part 1 of 2	8
	Thu	May 26	EXAM 1 (Lectures 1-5)		
	Fri	May 27	6	Metabolism part 2 of 2 *	8,9
3	Tue	May 31	7	Photosynthesis	10
	Wed	June 1	8	Cell Cycle	12
	Thu	June 2	9	Mitosis	12
	Fri	June 3	10	Meiosis *	13
4	Tue	June 7	EXAM 2 (Lectures 6-10)		
	Wed	June 8	11	Cardiovascular system	42.1-42.4
	Thu	June 9	12	Respiration	42.5-42.7
	Fri	June 10	13	Immune System *	43
5	Tue	June 14	14	Fluid and electrolyte balance	44
	Wed	June 15	EXAM 3 (Lectures 11-14)		
	Thu	June 16	15	Endocrine system	45
	Fri	June 17	16	Reproduction *	46
6	Tue	June 21	17	Nervous system	48
	Wed	June 22	18	Nervous system	49
	Thu	June 23	19	Motor system	50.5
	Fri	June 24	EXAM 4 (Lectures 15-19)		

B. Laboratory Syllabus

Lab Manager: Brett Spatola, PhD

spatola@usc.edu

Office hours: ZHS 362, open door policy

Laboratory Schedule:

Lab #	Date	Laboratory	Assignment
1	May 19	Lab safety and syllabus	
2	May 24	Macromolecules	
3	May 26	Experimental Design	Scientific reading due
4	May 31	Enzymes	Macromolecule homework due
5	June 2	Photosynthesis and pigment Extraction	
6	June 7	Fermentation	Photosynthesis homework due
7	June 9	DNA/restriction enzymes	
8	June 14	Cell membrane/transport	DNA homework due
9	June 16	Blood types and antibodies	
10	June 21	Cardiovascular function	Fermentation lab report due
11	June 23	Classic Literature Presentation	
12	June 28	Lab exam	

Lab schedule may be subject to change.

LABORATORY POINT DISTRIBUTION

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

- 🌐 Lab manual and participation– 80 pts (4 x 10 x 2)
- 🌐 Homework/post-labs – 30 pts
- 🌐 Scientific Reading – 15 pts
- 🌐 Lab Report – 40 pts
- 🌐 Presentation – 30 pts
- 🌐 Lab Exam – 105 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 during the scheduled lab time. It is a student's responsibility to follow up with their Lab Instructor if they have any questions related to specific lab activities.

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](#).

PRESENTATION

This assignment will be done in groups of 2-3. You will have to prepare PPT slides and present during the lab. 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 (spatola@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 (spatola@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.