

**Prof. Castro**  
**BISC 220 (General Biology: Cell Biology and Physiology), Spring 2021**  
**Schedule for TuTh 6:30 pm Lecture (Section 13032)**  
***Tentative Lecture Schedule – Subject to Revision***

Date	Day	Topic	Campbell Biology – 11 <sup>th</sup> Ed.	Lecturer
Jan 19	Tu	01 The Cell 1	Ch 6	Castro
Jan 21	Th	02 The Cell 2	Ch 6	Castro
Jan 26	Tu	03 Cell membranes	Ch 7	Castro
Jan 28	Th	04 Cell communication 1 *	Ch 11	Castro
Feb 2	Tu	05 Cell communication 2	Ch 11	Castro
Feb 4	Th	06 Metabolism 1	Ch 8	Castro
Feb 9	Tu	07 Metabolism 2	Ch 8	Castro
Feb 11	Th	08 Metabolism 3	Ch 9	Castro
Feb 16	Tu	09 Metabolism 4	Ch 9	Castro
Feb 18	Th	10 Photosynthesis	Ch 10	Castro
Feb 19	F	<i>EXAM 1 (lectures 1-7)</i>	---	Castro
Feb 23	Tu	11 The cell cycle; Mitosis	Ch 12	Castro
Feb 25	Th	12 Microtubules **	Ch 12	Castro
Mar 2	Tu	13 Meiosis	Ch 13	Castro
Mar 4	Th	14 Cardiovascular system 1	Ch 42.1 - 42.4	Castro
Mar 9	Tu	15 Cardiovascular system 2	Ch 42.1 - 42.4	Castro
Mar 11	Th	16 Respiration	Ch 42.5 - 42.7	Castro
Mar 16	Tu	17 Immunity 1	Ch 43	Castro
Mar 18	Th	18 Immunity 2	Ch 43	Castro
Mar 19	F	<i>EXAM 2 (lectures 8-15)</i>	---	Castro
<b>Mar 23</b>	<b>Tu</b>	<b>Wellness Day – No Lecture</b>	---	Castro
Mar 25	Th	19 Fluid and electrolyte balance 1	Ch 44	Castro
Mar 30	Tu	20 Fluid and electrolyte balance 2 ***	Ch 44	Castro
Apr 1	Th	21 Endocrine system 1	Ch 45	Castro
Apr 6	Tu	22 Endocrine system 2	Ch 45	Castro
Apr 8	Th	23 Reproduction 1	Ch 46	Castro
Apr 9	F	<i>EXAM 3 (lectures 16-21)</i>	---	Castro
Apr 13	Tu	24 Reproduction 2	Ch 46	Castro
Apr 15	Th	25 Nervous system 1	Ch 48	Castro
Apr 20	Tu	26 Nervous system 2	Ch 49	Castro
<b>Apr 22</b>	<b>Th</b>	<b>Wellness Day – No Lecture</b>	---	Castro
Apr 27	Tu	27 Motor system 1	Ch 50.5	Castro
Apr 29	Th	28 Motor system 2	Ch 50.5	Castro

\* Friday, February 5 is the last day to drop without a mark of W.

\*\* Friday, April 9 is the last day to drop with a mark of W

May 5	W	<i>EXAM 4 (lectures 22-28); 8:00 - 9:00 am</i>
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**Profs. Watts & Herrera**  
**BISC 220 (General Biology: Cell Biology and Physiology), Spring 2021**  
**Schedule for MWF 9 am & 10 am Lectures (Sections 13011 & 13012)**  
***Tentative Lecture Schedule – Subject to Revision***

Date	Day	Topic	Campbell Biology – 12 <sup>th</sup> Ed.	Lecturer
Jan 15	F	01 Biomolecules 1	Chs 1-4	Watts
Jan 18	M	<i>Holiday (MLK Day)</i>	-----	-----
Jan 20	W	02 Biomolecules 2	Chs 1-4	Watts
Jan 22	F	03 Biomolecules 3	Chs 4-5	Watts
Jan 25	M	04 The Cell 1	Chs 4-5	Watts
Jan 27	W	05 The Cell 2	Ch 6	Watts
Jan 29	F	06 The Cell 3	Ch 6	Watts
Feb 1	M	07 Cell membranes 1	Ch 6	Watts
Feb 3	W	08 Cell membranes 2	Ch 7	Watts
Feb 5	F	09 Cell communication 1*	Ch 7	Watts
Feb 8	M	10 Cell communication 2	Ch 11	Watts
Feb 10	W	11 Metabolism 1: Introduction to Energetics	Ch 11	Watts
Feb 12	F	12 Metabolism 2: Enzymes	Ch 8	Watts
Feb 15	M	<i>Holiday (President's Day)</i>	-----	-----
Feb 17	W	13 Metabolism 3: Glycolysis	Ch 8	Watts
Feb 19	F	14 Metabolism 4: Pyruvate Oxidation > Citric Acid Cycle > Electron Transport >/ EXAM 1 (lectures 1-10)	Ch 9	Watts
Feb 22	M	15 Metabolism 5: ATP synthase. Anaerobic respiration. Control of metabolism	Ch 9	Watts
Feb 24	W	16 Photosynthesis 1	Ch 9	Watts
Feb 26	F	17 Photosynthesis 2	Ch 10	Watts
Mar 1	M	18 Photosynthesis 3	Ch 10	Watts
Mar 3	W	19 The cell cycle	Ch 10	Watts
Mar 5	F	20 Mitosis	Ch 12	Watts
Mar 8	M	21 Meiosis	Ch 12	Watts
Mar 10	W	22 Intro to Physiology; Cardiovascular System 1	Chs 40.1, 40.2; 42.1 - 42.4	Herrera
Mar 12	F	<i>Wellness Day</i>	-----	-----
Mar 15	M	23 Cardiovascular System 2	Ch 42.1 - 42.4	Herrera
Mar 17	W	24 Cardiovascular System 3	Ch 42.1 - 42.4	Herrera
Mar 19	F	25 Respiration 1 / EXAM 2 (lectures 11-21)	Ch 42.5 - 42.7	Herrera
Mar 22	M	26 Respiration 2	Ch 42.5 - 42.7	Herrera
Mar 24	W	27 Immunity 1	Ch 43	Herrera
Mar 26	F	28 Immunity 2	Ch 43	Herrera
Mar 29	M	29 Immunity 3	Ch 43	Herrera
Mar 31	W	30 Osmoregulation & Excretion 1	Ch 44	Herrera
Apr 2	F	31 Osmoregulation & Excretion 2	Ch 44	Herrera
Apr 5	M	32 Osmoregulation & Excretion 3	Ch 44	Herrera
Apr 7	W	<i>Wellness Day</i>	-----	-----
Apr 9	F	33 Endocrine System 1**/ EXAM 3 (lectures 22-31)	Ch 45	Herrera
Apr 12	M	34 Endocrine System 2	Ch 45	Herrera
Apr 14	W	35 Endocrine System 3	Ch 45	Herrera
Apr 16	F	36 Reproduction	Ch 46	Herrera
Apr 19	M	37 Nervous System 1	Ch 48	Herrera
Apr 21	W	38 Nervous System 2	Ch 48	Herrera
Apr 23	F	39 Nervous System 3	Ch 49	Herrera
Apr 26	M	40 Motor System 1	Ch 50.5	Herrera
Apr 28	W	41 Motor System 2	Ch 50.5	Herrera
Apr 30	F	<i>Wellness Day</i>	-----	-----

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May 5	W	EXAM 4 (lectures 32-41); 8:00 - 9:00 am
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**Profs. Yazejian & Hires**  
**BISC 220 (General Biology: Cell Biology and Physiology), Spring 2021**  
**Schedule for TuTh 9:30 am Lecture (Section 13022)**  
***Tentative Lecture Schedule – Subject to Revision***

Date	Day	Topic	Campbell Biology – 11 <sup>th</sup> Ed.	Lecturer
Jan 19	Tu	01 Introduction; Biomolecules	Ch 1, Ch 2, Ch.4, Ch 5	Yazejian
Jan 21	Th	02 Water	Ch 3	Yazejian
Jan 26	Tu	03 The Cell 1	Ch 6	Yazejian
Jan 28	Th	04 The Cell 2	Ch 6	Yazejian
Feb 2	Tu	05 Cell membranes	Ch 7	Yazejian
Feb 4	Th	06 Cell communication 1 *	Ch 11	Yazejian
Feb 9	Tu	07 Cell communication 2	Ch 11	Yazejian
Feb 11	Th	08 Metabolism 1	Ch 8	Yazejian
Feb 16	Tu	09 Metabolism 2	Ch 8	Yazejian
Feb 18	Th	10 Metabolism 3	Ch 9	Yazejian
Feb 19	F	<i>EXAM 1 (lectures 1-7)</i>	---	---
Feb 23	Tu	11 Metabolism 4	Ch 9	Yazejian
Feb 25	Th	12 Photosynthesis	Ch 10	Yazejian
Mar 2	Tu	13 The cell cycle; Mitosis	Ch 12	Yazejian
Mar 4	Th	14 Microtubules **	Ch 12	Yazejian
Mar 9	Tu	15 Meiosis	Ch 13	Yazejian
Mar 11	Th	16 Cardiovascular system 1	Ch 42.1 - 42.4	Hires
Mar 16	Tu	17 Cardiovascular system 2	Ch 42.1 - 42.4	Hires
Mar 18	Th	18 Respiration	Ch 42.5 - 42.7	Hires
Mar 19	F	<i>EXAM 2 (lectures 8-15)</i>	---	---
<b>Mar 23</b>	<b>Tu</b>	<b>Wellness Day – No Lecture</b>	Ch 43	Hires
Mar 25	Th	19 Immunity	Ch 43	Hires
Mar 30	Tu	20 Fluid and electrolyte balance 1	Ch 44	Hires
Apr 1	Th	21 Fluid and electrolyte balance 2 ***	Ch 44	Hires
Apr 6	Tu	22 Endocrine system 1	Ch 45	Hires
Apr 8	Th	23 Endocrine system 2	Ch 45	Hires
Apr 9	F	<i>EXAM 3 (lectures 16-21)</i>	---	---
Apr 13	Tu	24 Reproduction 1	Ch 46	Hires
Apr 15	Th	25 Reproduction 2	Ch 46	Hires
Apr 20	Tu	26 Nervous system 1	Ch 48	Hires
<b>Apr 22</b>	<b>Th</b>	<b>Wellness Day – No Lecture</b>	Ch 49	Hires
Apr 27	Tu	27 Nervous System 2	Ch 50.5	Hires
Apr 29	Th	28 Motor System	Ch 50.5	Hires

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\*\* Friday, April 9 is the last day to drop with a mark of W

May 5	W	<i>EXAM 4 (lectures 22-28); 8:00 - 9:00 am</i>
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**Prof. Spence**  
**BISC 220 (General Biology: Cell Biology and Physiology), Spring 2021**  
**Schedule for TuTh 8 am Lecture (Section 13028)**  
***Tentative Lecture Schedule – Subject to Revision***

Date	Day	Topic	Campbell Biology- 11/12ed	Lecturer
Jan 19	Tu	01 Introduction; Biomolecules	Ch 1, Ch 2, Ch.4, Ch 5	Spence
Jan 21	Th	02 Water	Ch 3	Spence
Jan 26	Tu	03 The Cell 1	Ch 6	Spence
Jan 28	Th	04 The Cell 2	Ch 6	Spence
Feb 2	Tu	05 Cell membranes	Ch 7	Spence
Feb 4	Th	06 Cell communication 1 *	Ch 11	Spence
Feb 9	Tu	07 Cell communication 2	Ch 11	Spence
Feb 11	Th	08 Metabolism 1	Ch 8	Spence
Feb 16	Tu	09 Metabolism 2	Ch 8	Spence
Feb 18	Th	10 Metabolism 3	Ch 9	Spence
Feb 19	F	<i>EXAM 1 (lectures 1-7)</i>	---	Spence
Feb 23	Tu	11 Metabolism 4	Ch 9	Spence
Feb 25	Th	12 Photosynthesis	Ch 10	Spence
Mar 2	Tu	13 The cell cycle; Mitosis	Ch 12	Spence
Mar 4	Th	14 Microtubules **, <i>First Group Project Due at 5pm</i>	Ch 12	Spence
Mar 9	Tu	15 Meiosis	Ch 13	Spence
Mar 11	Th	16 Cardiovascular system 1	Ch 42.1 - 42.4	Spence
Mar 16	Tu	17 Cardiovascular system 2	Ch 42.1 - 42.4	Spence
Mar 18	Th	18 Respiration	Ch 42.5 - 42.7	Spence
Mar 19	F	<i>EXAM 2 (lectures 8-15)</i>	---	Spence
<b>Mar 23</b>	<b>Tu</b>	<b>Be Well Today</b>		Spence
Mar 25	Th	19 Fluid and electrolyte balance 1	Ch 44	Spence
Mar 30	Tu	20 Fluid and electrolyte balance 2	Ch 44	Spence
Apr 1	Th	21 Endocrine system 1***	Ch 45	Spence
Apr 6	Tu	22 Endocrine system 2	Ch 45	Spence
Apr 8	Th	23 Reproduction 1	Ch 46	Spence
Apr 9	F	<i>EXAM 3 (lectures 16-21)</i>	---	Spence
Apr 13	Tu	24 Reproduction 2	Ch 46	Spence
Apr 15	Th	25 Nervous system 1	Ch 48	Spence
Apr 20	Tu	26 Nervous system 2	Ch 49	Spence
<b>Apr 22</b>	<b>Th</b>	<b>This is another day to be well</b>		Spence
Apr 27	Tu	27 Motor system 1	Ch 50.5	Spence
Apr 29	Th	28 Motor system 2, <i>Second Group Project Due at 5pm</i>	Ch 50.5	Spence

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\*\* Friday, April 9 is the last day to drop with a mark of W

May 5	W	<i>EXAM 4 (lectures 22-28); 8:00 - 9:00 am</i>
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## A. General Course Description and Policies

### Catalog Description

Biological Sciences 220Lg – General Biology: Cell Biology and Physiology (4 units)  
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. *Recommended preparation:* high school chemistry; BISC 120Lg or BISC 121Lg. Duplicates credit in BISC 110L, BISC 111L, and BISC 221L.

### Note on scheduled times

All times listed are those in Los Angeles, i.e., Pacific Standard Time until March 14, then Pacific Daylight Time after March 14.

### Instructors

For MWF 9:00-9:50 am (Section 13011R) and MWF 10:00-10:50 am (Section 13012R):

Alan Watts                    [watts@usc.edu](mailto:watts@usc.edu)  
Albert Herrera                [aherrera@usc.edu](mailto:aherrera@usc.edu)

For TuTh 9:30-10:50 am (section 13022R):

Bruce Yazejian                [yazejian@usc.edu](mailto:yazejian@usc.edu)  
Andrew Hires                 [shires@usc.edu](mailto:shires@usc.edu)

For TuTh 8:00-9:20 am (section 13028R):

Rory Spence                  [rspence@usc.edu](mailto:rspence@usc.edu)

For TuTh 6:30-7:20 pm (section 13032R):

Nancy Castro                 [ncastro@usc.edu](mailto:ncastro@usc.edu)

To meet with instructors:

Q&A Sessions will be held twice weekly to discuss course material (see below).  
Office hours for discussion of confidential matters will be held by appointment, via Zoom.

### Laboratory Manager

Gorjana Bezmalinovic, ZHS 362, [bezmalin@usc.edu](mailto:bezmalin@usc.edu), Phone/Fax 213-740-6078  
Office hours: Zoom 'chat' available upon email request

### Laboratory Instructors

TBA

### Textbooks

- *Campbell Biology*, by Urey et al., either the 12<sup>th</sup> edition or 11<sup>th</sup> edition. The 12<sup>th</sup> edition has slightly newer content but the 11<sup>th</sup> edition would be less expensive.

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

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

### Lectures

- Lectures will be given via live (synchronous) Zoom sessions at the designated times. The sessions will start with students' video and audio muted, but students can turn on their cameras and audio at any time they wish. Questions during lecture are encouraged. Instructors will specify whether they prefer

to interact verbally or via the text chat window in Zoom. Video and audio recordings of lectures will be posted on Blackboard the same day.

- We do not recommend these recordings as a substitute for regular participation in the live lectures. They are best used for filling gaps in your notes, reviewing difficult material, and as a substitute for the occasional missed lecture. *It would be a serious mistake to use the recordings as an excuse to procrastinate. Given the breadth and depth of the material, you must not fall behind. Keep up with the lecture schedule!*

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

- The lab portion of the course will be offered online at various times, Tuesday - Friday. See the Schedule of Classes for section numbers and times.
- The laboratory is an integral and essential component of the course, intended to give you 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 and in the Laboratory Manual.
- Performance in the laboratory will account for one-third of each student's grade. See the Grading Table below for a complete description of how lab points will be assigned.

### Lecture Exams

- Times and coverage of lecture exams are as follows.

	Date	Time	MWF Coverage	TuTh Coverage
Exam 1	Friday, Feb 19	2:00-3:05 pm	lectures 1-11	lectures 1-7
Exam 2	Friday, Mar 19	2:00-3:05 pm	lectures 12-21	lectures 8-15
Exam 3	Friday, Apr 9	2:00-3:05 pm	lectures 22-31	lectures 16-21
Exam 4	Wednesday, May 5	8:00-9:05 am	lectures 32-41	lectures 22-28

Note that Exam 4 will be given at an exception to the usual time.

- Lecture exams will be given via Blackboard and will consist entirely of multiple choice and true/false questions. The exams are closed-book, i.e., you may not consult books, notes, internet sources, other references, or other persons during the exams. Exams will be proctored remotely with *Respondus LockDown Browser*. Only lecture subjects will be covered on lecture exams; laboratory subjects will be covered on separate lab exams and assignments. Please note: *Exam questions will not ask for rote repetition of information that can be easily memorized or looked up. Rather, questions will require you to use the lecture information to solve novel problems (see comments on quizzes below). Be prepared!*
- All students in United States time zones must take their exams at the scheduled times. If a **substantial** difference between the exam time and a student's local time makes this impossible, an alternative, later time on the same day may be arranged. Any student who feels they have such a conflict should present their case to their instructor via email at least 1 week prior to the exam, but preferably as early in the semester as possible.

### Instructor-Led Exam Reviews

- For all 4 lecture exams, instructors will hold online review sessions via Zoom just before the exam. Dates and times of these review sessions will be announced. Exam reviews will be recorded and archived.

### Twice Weekly Question & Answer Sessions

- Each instructor will host a live Q&A session once a week via Zoom. Any student, regardless of which lecture section they are registered in, may attend any of the Q&A sessions. All these sessions will be recorded and posted on Blackboard. The Q&A schedule is as follows.

Q&A Times	First Half of Semester	Second Half of Semester
Tuesdays, 11 am - 12 pm	Yazejian	Hires
Fridays, 3 - 4 pm	Watts	Herrera
Fridays, 2 – 3:20 pm	Spence	Spence
Tuesdays, 12 - 1 pm	Castro	Castro

- Although they are not required, it is highly recommended that you participate in the Q&A sessions as often as you can. Don't feel pressure to ask "good" questions, or any questions at all. Just listening is fine, as is asking straightforward questions like "Can you re-explain...", or "I just don't understand...". These are also great opportunities to get to know your instructor better. Besides answering questions, advice may be given on studying, time management, preparing for medical school and other graduate/professional programs, research opportunities, etc. Frequent attendance at Q&A sessions is one of several factors that favor boosting your grade in borderline cases (see Grading, below).*

### Instructor Office Hours

Please contact your instructor directly for individual office hour appointments via Zoom. Office hours are intended for discussion of individual, confidential matters such as grades. Course subject matter and other public issues should be discussed in Q&A sessions so all students can benefit from the interchange.

### Lecture Quizzes (all sections except 13028)

- A small percentage of the overall grade will be based on 12 quizzes, administered online via Blackboard. The quizzes will be posted by 1:00 pm each Friday beginning January 29 and continuing through April 23. Quizzes must be completed by 9:00 am the following Monday (Tuesday for Quiz 3 – see table below). For each quiz, questions will cover the previous week's material. Answers to most quiz questions will be revealed and discussed in the Q&A session following the Monday deadline or anytime thereafter. Quiz results that are particularly pertinent to our teaching and learning goals may be discussed in class during the first lecture after the deadline. After each deadline, quiz answers will be posted.
- Here is the quiz schedule:

Quiz Number	Posted by 1 pm on Friday	Deadline 9 am on ...
1	Jan 29	Monday, Feb 1
2	Feb 5	Monday, Feb 8
3	Feb 12	Tuesday, Feb 16*
4	Feb 19	Monday, Feb 22
5	Feb 26	Monday, Mar 1
6	Mar 5	Monday, Mar 8
7	Mar 12	Monday, Mar 15
8	Mar 19	Monday, Mar 22
9**	Apr 2	Monday, Apr 5
10	Apr 9	Monday, Apr 12
11	Apr 16	Monday, Apr 19
12	Apr 23	Monday, Apr 26

\*Note that the deadline is extended for quiz 3 due to a Monday holiday.

\*\*Quiz 9 is 2 weeks after quiz 8.

- Our intention is to make these lecture quizzes challenging, to help you prepare for the more point-heavy lecture exams. *Being able to look up answers and memorize is only the first step. To do well in this course, you must also be able to apply your knowledge to solve novel problems.* The quizzes are designed to give you low-stakes practice at this and thus gauge your level of preparation for exams.
- *This approach will only work, however, if you take the quizzes seriously and responsibly.* You may consult your textbook and any other printed or electronic material. You may also discuss the quiz questions with fellow students, if those discussions focus on understanding the underlying principles. You should not simply share or reveal your answers to other students, for several reasons. First, you will not know until after the deadline whether your answer is correct. Second, you will deprive that student of a learning opportunity. Third, you will diminish your own chances for a better grade by broadcasting your hard-won answers. The quizzes will require a disproportionately large amount of effort – on our part to craft challenging questions, and on your part to discern and understand the correct answers. It is likely that students who cheat by merely copying other students' quiz answers will pay a price on exam days. Please don't be one of those students.
- In recent years, most students came to see the quizzes as one of the most challenging parts of the course, but also one of the most valuable. If you take the quizzes seriously, we think you will come to the same conclusion.

### **Group Projects (section 13028 only)**

Group projects will consist of 3 students randomly assigned together. The 3 of you will make a video of a biological process or system you have learned thus far. It is very open ended and will require you to think creatively. I will put a grading rubric up before the due dates, so you understand how to achieve 30 points for each of the 2 group projects. See schedule for due dates. Note: there will be no quizzes for lecture.

### **Grading**

- All grades will be posted on Blackboard. Points associated with the lecture (exam scores, online quiz points) will be posted on the Blackboard site for the lecture. Points associated with the lab (lab practical exams, lab reports, quizzes, participation and lab manual, presentation, discussion of other presentations) will be posted on the Blackboard site for the laboratory. We will try diligently to maintain these Blackboard gradebooks accurately, but mistakes may occur. Please check your scores often and notify your Lab Instructor or the Lab Manager as soon as possible if you notice errors.
- Final grades are based on the total points earned in the course. Course grades will be determined according to the following scale:

A	93-100
A-	90-92
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76
C-	70-72
D+	67-69
D	63-66
D-	60-62
F	59 and below

Instructors reserve the right to change the grading scale at the end of semester.



- If necessary, laboratory scores will be adjusted to correct for differences in grading between Laboratory Instructors.
- Points will only be given for the items listed below. No extra credit will be given.

	Item	Pts Each	Number	Total	Portion Totals
<b>Lecture</b>	Lecture Exams	160	4	640	Lecture = 700 pts
	Online Quizzes	5	12	60	
<b>Lab</b>	Lab Exam	100	1	100	Lab = 300 pts
	Lab Report	40	1	40	
	Peer-review	10	1	10	
	Pre-lab Simulations	5	12	60	
	Homework/post-lab quizzes	-	4	45	
	Scientific Reading	1	15	15	
	Disease Presentation	30	1	30	
					Course total = 1000 pts

### 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 contact one of the support services listed below, or bring them to the attention of one of the instructors. We may be able to offer accommodations. All such discussions will be confidential. Please seek help as soon as you feel your performance or well-being is affected.

### Support Services

- Discrimination, sexual assault, and harassment are not tolerated by the university. You are encouraged to report any incidents as soon as possible. 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. A list of offices to which one can report such incidents, as well as sources of support for other issues, follows.
- Student Health Counseling Services (213) 740-7711 – on call 24/7 [engemannshc.usc.edu/counseling](http://engemannshc.usc.edu/counseling)  
Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.
- National Suicide Prevention Lifeline (800) 273-8255 – on call 24/7 [suicidepreventionlifeline.org](http://suicidepreventionlifeline.org)  
Free and confidential emotional support to people in suicidal crisis or emotional distress.
- Relationship & Sexual Violence Prevention Services (213) 740-4900 – on call 24/7 [engemannshc.usc.edu/rsvp](http://engemannshc.usc.edu/rsvp)  
Free and confidential therapy services, workshops, and training for situations related to gender-based harm.
- Office of Equity and Diversity - Title IX (213) 740-5086 [equity.usc.edu](http://equity.usc.edu), [titleix.usc.edu](http://titleix.usc.edu)  
Information about how to get help or help a survivor of harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants. The university prohibits discrimination or harassment based on the following protected characteristics: race, color, national origin, ancestry, religion, sex, gender, gender identity, gender expression, sexual orientation, age, physical disability, medical condition, mental disability, marital

status, pregnancy, veteran status, genetic information, and any other characteristic which may be specified in applicable laws and governmental regulations.

- Bias Assessment Response and Support (213) 740-2421 [studentaffairs.usc.edu/bias-assessment-response-support](http://studentaffairs.usc.edu/bias-assessment-response-support). Avenue to report incidents of bias, hate crimes, and microaggressions for appropriate investigation and response.
- Office of Disability Services and Programs (213) 740-0776 [dsp.usc.edu](http://dsp.usc.edu)  
Support and accommodations for students with disabilities. Services include assistance in providing readers/notetakers/interpreters, special accommodations for test taking needs, assistance with architectural barriers, assistive technology, and support for individual needs. Please see section below entitled “Students with Disabilities” for important course-specific information.
- USC Support and Advocacy (213) 821-4710 [studentaffairs.usc.edu/sssa](http://studentaffairs.usc.edu/sssa)  
Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.
- Diversity at USC (213) 740-2101 [diversity.usc.edu](http://diversity.usc.edu)  
Information on events, programs and training, the Provost’s Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.
- USC Emergency - UPC: (213) 740-4321, HSC: (323) 442-1000 – on call 24/7 [dsp.usc.edu](http://dsp.usc.edu), [emergency.usc.edu](http://emergency.usc.edu)  
Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.
- USC Department of Public Safety - UPC: (213) 740-6000, HSC: (323) 442-120 – 24/7 on call [dsp.usc.edu](http://dsp.usc.edu)  
Non-emergency assistance or information.

### Exam Policies

- If you feel an error was made in the grading of an exam question, you may submit a re-grade request. Re-grade requests must be submitted to the instructor within 1 week of the time exam scores were released on Blackboard. A screenshot of the question and your answer should be included in your email along with an explanation of why you think your answer deserves credit.
- **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.
- Each student must take Exam 4 at the designated time, according to the regular final examinations schedule. Keep this in mind as you plan your studying for this and other courses during the final exam period. Do not make travel plans that conflict with your designated Exam 4 time.

### Supplemental Instruction

- We strongly recommend that students participate actively in the peer-led Supplemental Instruction program (<http://dornsife.usc.edu/supplemental-instruction/>). The SI leaders will hold regular study sessions via Zoom, beginning in the second week of classes. They will also conduct review sessions before each exam. Further information about the SI program as well as schedules and weekly worksheets can be found at <http://www.usc.edu/si>.
- The Supplemental Instruction Leaders for BISC 220 will be announced during the first lecture. They may be contacted at [bisc220si@gmail.com](mailto:bisc220si@gmail.com). The schedules for SI sessions and exam reviews will be posted at [www.dornsife.usc.edu/session-schedules](http://www.dornsife.usc.edu/session-schedules). SI leaders are selected for the high grades they earned in assigned courses and for their overall academic strength, success in advanced biological studies, and superior communication skills. We highly recommend them as sources of academic and pre-professional advice.

### 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.
- Here is a partial list of actual violations that have been perpetrated by BISC 220 students in recent years. The numbers in parentheses refer to relevant paragraphs in the University Governance section of SCampus (see resource 5 in the list below). *Most of these students received grades of F and were reported to the Office of Student Judicial Affairs and Community Standards.*
  1. Copying answers from other students during lecture or lab exams. (11.13)
  2. Submitting lab reports containing substantial portions plagiarized from other students. (11.11, 11.12)
  3. Use of Blackboard resources for commercial gain (11.19)
  4. Selling class notes and material downloaded from Blackboard to a web-based company that re-sells such material. (11.12B)
  5. Re-submission of a lab report written by the same student in an earlier semester. (11.16)
  6. Altering answers on a graded exam and submitting the altered exam for re-grading. (11.13B)
  7. Continuing to write answers on an exam after time has been called. (11.21)
  8. Unauthorized use of personal electronic devices, e.g., smartphones, during exams. (11.13)
  9. Students using multiple clickers to gain participation points for non-attending students. (11.18)

- All of these offenses were considered serious and resulted in disciplinary action. Do not do them!

- Resources on academic integrity standards, policies, and expectations:
  1. Trojan Integrity: A Guide to Understanding and Avoiding Academic Dishonesty: <https://sjacs.usc.edu/files/2015/03/tio.pdf>
  2. Trojan Integrity: A Guide for Avoiding Plagiarism: [https://dornsife.usc.edu/assets/sites/903/docs/Trojan\\_Integrity\\_-\\_Guide\\_to\\_Avoiding\\_Plagiarism.pdf](https://dornsife.usc.edu/assets/sites/903/docs/Trojan_Integrity_-_Guide_to_Avoiding_Plagiarism.pdf)
  3. Overview of Academic Integrity: <https://sjacs.usc.edu/files/2015/11/Academic-Integrity-sheet-2013.pdf>
  4. Tutorials on Academic Integrity: <https://libraries.usc.edu/research/reference-tutorials>
  5. SCampus (see especially sections 11, 13, 15 and Appendix A): <https://policy.usc.edu/student/scampus/>
  6. Scientific Misconduct: <http://policy.usc.edu/scientific-misconduct/>

### **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, at least one week before Exam 1. 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, consult the DSP website (<https://dsp.usc.edu/>) for their remote access procedures. You can also call them at 213-740-0776, or email them at [ability@usc.edu](mailto:ability@usc.edu).

### **Policies Concerning Student-Athletes**

Student-athletes may not be penalized when University-sanctioned competitions conflict with course activities or examinations. When a class will be missed for a sanctioned competition, it is the student-athlete's responsibility to approach the instructor in advance. The student-athlete must provide the instructor with a letter from Denise Kwok, Director of *Student-Athlete Academic Services* (SAAS) <https://saas.usc.edu/academic-support-services/travel/excused-absence-letter/>. The letter must certify that the competition is a University-sponsored event that deserves accommodation. Accommodations will not be made for other types of conflicting events. Details on the University's policy can be found at: [https://www.provost.usc.edu/ocaaa\\_guidelines/](https://www.provost.usc.edu/ocaaa_guidelines/). Arrangements for the accommodation must be agreed upon in advance of the event. If multiple team members will be absent, each must make an individual arrangement with the instructor. If an assignment is due on the date when class is missed, the instructor may require that it be turned in before the missed class or at the first class meeting after the student returns. If a test has been scheduled for the date when class is missed, the instructor may arrange with SAAS to have the test administered by an academically qualified proctor (not a coach) during the trip. Alternatively, the instructor may agree to pro-rate the exam score, i.e., substitute the missing exam score with a score based on the average of the student's scores for the other exams compared to the class average for those exams.

### **Email Communication**

To ensure privacy, only students' USC accounts (*usc.edu* domain name) can be used for email communications regarding confidential matters. Other email accounts cannot be used. Students are responsible for understanding the content of official messages that instructors send 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.

### **Emergency Preparedness / Course Continuity**

If an officially declared emergency makes travel to campus infeasible, *USC Emergency Information* (<http://emergency.usc.edu/> or 213-740-9233) will provide information related to safety and course continuity. We expect that instruction will be continued by means of Blackboard, teleconferencing, and other technologies. Alternative assignments may be given if classes are canceled for prolonged periods. If you have not already done so, please register with TrojansAlert (<https://trojansalert.usc.edu/>) to facilitate communication during emergencies.

### Students Who Are Repeating the Class

The faculty and staff of this course are dedicated to helping you succeed academically. If you are repeating this class because you had to withdraw, earned an unsatisfactory grade, or need to remove a mark of IN (Incomplete) from a previous semester, please take advantage of all the help we have to offer. You should try to attend every lecture, review the material promptly, complete all online and lab assignments to the best of your ability, prepare early for exams, and be ready to change your approach if initial results are not satisfactory. Above all, manage your time to maximize your academic and personal success. Please identify yourself and seek help from the instructors, the Lab Manager, and your SI Leader. We are here to help!

## B. Laboratory Syllabus

### Laboratory Schedule

Lab #	Date	Laboratory
	Jan 19 - 22	No lab this week
1	Jan 26 - 29	Lab Safety & Pipetting
2	Feb 2 - 5	Introduction to Food Macromolecules
3	Feb 9 - 12	Experimental Design* / Scientific Reading
4	Feb 16 - 19	Cell Membrane and Transport
5	Feb 23 - 26	Cellular Respiration
6	Mar 2 - 5	Pigment Extraction*
7	Mar 9 – 12*	Cardiovascular Function During Exercise**
8	Mar 16 - 19	Antibodies*
9	Mar 23 - 26*	Renal Physiology (lab report due)
10	Mar 30 – Apr 2	Endocrinology* (peer review due)
11	Apr 6 - 9*	Action Potential
	Apr 13 - 16	Lab Exam
	Apr 20 - 23*	Disease Presentations (Week 1)
	Apr 27 - 30*	Disease Presentations (Week 2)

Some minor changes might occur during the semester.

\* Exercise for which there is a homework assignment.

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

\* 'Wellness Days' that affect lab schedule:

- **Friday, March 12** – no lab for FRI lab sections/watch the Zoom recording/simulations due on Saturday
- **Tuesday, March 23** – no lab for TUE lab sections/watch the Zoom recording/lab reports due on Wednesday (24 hours later) for all TUE sections
- **Wednesday, April 7** – no lab for WED lab sections/watch the Zoom recording/ simulations due on Thursday for all WED sections
- **Thursday, April 22** – no lab for THU lab sections/everyone will present the following THU, on the 29<sup>th</sup>
- **Friday, April 30** – no lab for FRI lab sections/everyone will present a week earlier, on FRI the 23<sup>rd</sup>

### Laboratory Point Distribution

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

Activity	Points
Virtual lab exercises	60 (12 x 5)
Homework / post-lab quizzes	45
Scientific reading	15
Lab report	40
Lab report peer review	10
Lab exam	100
Disease presentation	30

#### 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 recorded on Blackboard (Bb) after you complete each simulation.

#### HOMEWORK & POST-LAB QUIZZES

You will have one homework assignment and three post-lab quizzes, based on the material you covered in lab, or data obtained in your lab experiments. Assignments will be posted on Bb.

#### PRE-LAB ASSIGNMENT – SCIENTIFIC READING

You will have to read a peer-reviewed scientific paper and answer questions on Bb before you come to lab. You are expected to participate in a lab discussion of the paper with your lab instructor and your labmates.

#### 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](#).

### LAB REPORT PEER REVIEW

Each student will review one of their lab-mates' lab reports. Instructions will be posted on Blackboard. This assignment will be done on Blackboard.

### 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 with 30 questions will be administered on Bb and students will have to be on Zoom during the exam. The exam 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](mailto: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. 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](mailto: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 Jan 29, 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](http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html).

## CHANGING A LAB SECTION

During the first three weeks of classes you can change your lab section by dropping your current section and adding your new choice through *USC Web registration System*. You can switch into a new lab section only if it is open. If a lab section is currently closed, you must wait until other students drop before you can switch into that section. No changes are allowed after the third week of classes. You are responsible for taking a screenshot of your scores from Blackboard **before** changing sections and emailing it to your lab manager so your scores can be transferred to the new section.

## SOME DATES TO REMEMBER

Jan 15	First day of Spring semester classes
Feb 5	Last day to register, add classes, and drop without a mark of "W" with tuition refund
Jan 18	Martin Luther King Day, university holiday
Feb 15	Presidents' Day, university holiday
Mar 5	Last day to drop without a mark of "W", on transcript only, without tuition refund
Apr 9	Last day to drop with a mark of "W"
Apr 30	Last day of Spring semester classes
May 1-4	Study days
May 5	Lecture Exam 4, 8:00 - 9:05 am

## FINAL THOUGHTS

- Please forgive the length and detail of this syllabus. In a class like ours, with so many graded assignments and with grades so important to our students' academic and career goals, we feel it is important for everyone to know exactly what to expect.
- Rules and disclaimers aside, we hope that you will enjoy our mutual exploration of cell biology and physiology. The mechanisms we will study are of fundamental importance in all living things, and highly relevant to the understanding of human health and disease. We instructors promise to apply our decades of experience in teaching and research, as well as some of the latest pedagogical techniques, to present an interesting and informative course, assign grades fairly, and prepare you well for future studies in biology.