

BISC 220 (General Biology: Cell Biology and Physiology), Spring 2019
Schedule for MWF 9 am & 10 am Lectures (Sections 13011 & 13012)

Date	Day	Topic	Campbell Biology – 11 th Ed.	Lecturer
Jan 7	M	01 Introduction	Ch 1 - 4	Watts
Jan 9	W	02 Biomolecules	Ch 4, Ch 5	Watts
Jan 11	F	03 Biomolecules	Ch 5	Watts
Jan 14	M	04 The Cell 1	Ch 6	Watts
Jan 16	W	05 The Cell 2	Ch 6	Watts
Jan 18	F	06 The Cell 3	Ch 6	Watts
Jan 21	M	<i>Holiday (MLK Day)</i>	---	---
Jan 23	W	07 Cell membranes 1	Ch 7	Watts
Jan 25	F	08 Cell membranes 2 *	Ch 7	Watts
Jan 28	M	09 Cell communication 1	Ch 11	Watts
Jan 30	W	10 Cell communication 2	Ch 11	Watts
Feb 1	F	11 Metabolism 1	Ch 8	Watts
Feb 4	M	12 Metabolism 2	Ch 8	Watts
Feb 6	W	13 Metabolism 3	Ch 8	Watts
Feb 8	F	14 Metabolism 4 / EXAM 1 (lectures 1-10)	Ch 9	Watts
Feb 11	M	15 Metabolism 5	Ch 9	Watts
Feb 13	W	16 Photosynthesis 1	Ch 10	Watts
Feb 15	F	17 Photosynthesis 2	Ch 10	Watts
Feb 18	M	<i>Holiday (President's Day)</i>	---	---
Feb 20	W	18 Photosynthesis 3	Ch 10	Watts
Feb 22	F	19 The cell cycle **	Ch 12	Watts
Feb 25	M	20 Mitosis	Ch 12	Watts
Feb 27	W	21 Meiosis	Ch 13	Watts
Mar 1	F	22 Intro. to Physiology; Cardiovascular System 1	Ch 40.1, 40.2; 42.1 - 42.4	Herrera
Mar 4	M	23 Cardiovascular System 2	Ch 42.1 - 42.4	Herrera
Mar 6	W	24 Cardiovascular System 3	Ch 42.1 - 42.4	Herrera
Mar 8	F	25 Respiration 1 / EXAM 2 (lectures 11-21)	Ch 42.5 - 42.7	Herrera
Mar 11	M	<i>Spring Break</i>	---	---
Mar 13	W	<i>Spring Break</i>	---	---
Mar 15	F	<i>Spring Break</i>	---	---
Mar 18	M	26 Respiration 2	Ch 42.5 - 42.7	Herrera
Mar 20	W	27 Immunity 1	Ch 43	Herrera
Mar 22	F	28 Immunity 2	Ch 43	Herrera
Mar 25	M	29 Immunity 3	Ch 43	Herrera
Mar 27	W	30 Fluid & Electrolyte Balance 1	Ch 44	Herrera
Mar 29	F	31 Fluid & Electrolyte Balance 2	Ch 44	Herrera
Apr 1	M	32 Fluid & Electrolyte Balance 3	Ch 44	Herrera
Apr 3	W	33 Endocrine System 1	Ch 45	Herrera
Apr 5	F	34 Endocrine System 2 / EXAM 3 (lectures 22-32) ***	Ch 45	Herrera
Apr 8	M	35 Endocrine System 3	Ch 45	Herrera
Apr 10	W	36 Reproduction 1	Ch 46	Herrera
Apr 12	F	37 Reproduction 2	Ch 46	Herrera
Apr 15	M	38 Nervous System 1	Ch 48	Herrera
Apr 17	W	39 Nervous System 2	Ch 48	Herrera
Apr 19	F	40 Nervous System 3	Ch 49	Herrera
Apr 22	M	41 Nervous System 4	Ch 49	Herrera
Apr 24	W	42 Motor System 1	Ch 50.5	Herrera
Apr 26	F	43 Motor System 2	Ch 50.5	Herrera

* Friday, January 25 is the last day to drop without a mark of "W" and with tuition refund

** Friday, February 22 is the last day to drop without a mark of "W" and without tuition refund

*** Friday, April 5 is the last day to drop with a mark of "W"

May 1	W	EXAM 4, 9-10 am (lectures 33-43)
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BISC 220 (General Biology: Cell Biology and Physiology), Spring 2019
Schedule for TuTh 8 am Lecture (Section 13028)

Date	Day	Topic	Campbell Biology – 11 th Ed.	Lecturer
Jan 8	Tu	01 Introduction; Biomolecules	Ch 1, Ch 2, Ch.4, Ch 5	Spence
Jan 10	Th	02 Water	Ch 3	Spence
Jan 15	Tu	03 The Cell 1	Ch 6	Spence
Jan 17	Th	04 The Cell 2	Ch 6	Spence
Jan 22	Tu	05 Cell membranes	Ch 7	Spence
Jan 24	Th	06 Cell communication 1 *	Ch 11	Spence
Jan 29	Tu	07 Cell communication 2	Ch 11	Spence
Jan 31	Th	08 Metabolism 1	Ch 8	Spence
Feb 5	Tu	09 Metabolism 2	Ch 8	Spence
Feb 7	Th	10 Metabolism 3	Ch 9	Spence
Feb 8	F	EXAM 1 (lectures 1-7)	---	---
Feb 12	Tu	11 Metabolism 4	Ch 9	Spence
Feb 14	Th	12 Photosynthesis	Ch 10	Spence
Feb 19	Tu	13 The cell cycle; Mitosis	Ch 12	Spence
Feb 21	Th	14 Microtubules **	Ch 12	Spence
Feb 26	Tu	15 Meiosis	Ch 13	Spence
Feb 28	Th	16 Cardiovascular system 1	Ch 42.1 - 42.4	Spence
Mar 5	Tu	17 Cardiovascular system 2	Ch 42.1 - 42.4	Spence
Mar 7	Th	18 Respiration	Ch 42.5 - 42.7	Spence
Mar 8	F	EXAM 2 (lectures 8-15)	---	---
Mar 12	Tu	Spring Break	---	---
Mar 14	Th	Spring Break	---	---
Mar 19	Tu	19 Immunity 1	Ch 43	Spence
Mar 21	Th	20 Immunity 2	Ch 43	Spence
Mar 26	Tu	21 Fluid and electrolyte balance 1	Ch 44	Spence
Mar 28	Th	22 Fluid and electrolyte balance 2	Ch 44	Spence
Apr 2	Tu	23 Endocrine system 1	Ch 45	Spence
Apr 4	Th	24 Endocrine system 2	Ch 45	Spence
Apr 5	F	EXAM 3 (lectures 16-22) ***	---	---
Apr 9	Tu	25 Reproduction 1	Ch 46	Spence
Apr 11	Th	26 Reproduction 2	Ch 46	Spence
Apr 16	Tu	27 Nervous system 1	Ch 48	Spence
Apr 18	Th	28 Nervous system 2	Ch 49	Spence
Apr 23	Tu	29 Motor system 1	Ch 50.5	Spence
Apr 25	Th	30 Motor system 2	Ch 50.5	Spence

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May 1	W	EXAM 4, 9-10 am (lectures 23-30)
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BISC 220 (General Biology: Cell Biology and Physiology), Spring 2019
Schedule for TuTh 9:30 am Lecture (Section 13022)

Date	Day	Topic	Campbell Biology – 11 th Ed.	Lecturer
Jan 8	Tu	01 Introduction; Biomolecules	Ch 1, Ch 2, Ch.4, Ch 5	Yazejian
Jan 10	Th	02 Water	Ch 3	Yazejian
Jan 15	Tu	03 The Cell 1	Ch 6	Yazejian
Jan 17	Th	04 The Cell 2	Ch 6	Yazejian
Jan 22	Tu	05 Cell membranes	Ch 7	Yazejian
Jan 24	Th	06 Cell communication 1 *	Ch 11	Yazejian
Jan 29	Tu	07 Cell communication 2	Ch 11	Yazejian
Jan 31	Th	08 Metabolism 1	Ch 8	Yazejian
Feb 5	Tu	09 Metabolism 2	Ch 8	Yazejian
Feb 7	Th	10 Metabolism 3	Ch 9	Yazejian
Feb 8	F	EXAM 1 (lectures 1-7)	---	---
Feb 12	Tu	11 Metabolism 4	Ch 9	Yazejian
Feb 14	Th	12 Photosynthesis	Ch 10	Yazejian
Feb 19	Tu	13 The cell cycle; Mitosis	Ch 12	Yazejian
Feb 21	Th	14 Microtubules **	Ch 12	Yazejian
Feb 26	Tu	15 Meiosis	Ch 13	Yazejian
Feb 28	Th	16 Cardiovascular system 1	Ch 42.1 - 42.4	Yazejian
Mar 5	Tu	17 Cardiovascular system 2	Ch 42.1 - 42.4	Yazejian
Mar 7	Th	18 Respiration	Ch 42.5 - 42.7	Yazejian
Mar 8	F	EXAM 2 (lectures 8-15)	---	---
Mar 12	Tu	Spring Break	---	---
Mar 14	Th	Spring Break	---	---
Mar 19	Tu	19 Immunity 1	Ch 43	Yazejian
Mar 21	Th	20 Immunity 2	Ch 43	Yazejian
Mar 26	Tu	21 Fluid and electrolyte balance 1	Ch 44	Yazejian
Mar 28	Th	22 Fluid and electrolyte balance 2	Ch 44	Yazejian
Apr 2	Tu	23 Endocrine system 1	Ch 45	Yazejian
Apr 4	Th	24 Endocrine system 2	Ch 45	Yazejian
Apr 5	F	EXAM 3 (lectures 16-22) ***	---	---
Apr 9	Tu	25 Reproduction 1	Ch 46	Yazejian
Apr 11	Th	26 Reproduction 2	Ch 46	Yazejian
Apr 16	Tu	27 Nervous system 1	Ch 48	Yazejian
Apr 18	Th	28 Nervous system 2	Ch 49	Yazejian
Apr 23	Tu	29 Motor system 1	Ch 50.5	Yazejian
Apr 25	Th	30 Motor system 2	Ch 50.5	Yazejian

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A. General Course Description and Policies

Catalog Description

Biological Sciences 220L – General Biology: Cell Biology and Physiology (4, Sp)

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.

Instructors

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

Alan Watts HNB 416 Phone 213-740-1497 watts@usc.edu

Albert Herrera HNB 116 Phone 213-740-9177 aherrera@usc.edu

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

Rory Spence RRI 404B rspence@usc.edu

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

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

Laboratory Manager

Gorjana Bezmalinovic, ZHS 362, bezmalin@usc.edu, Phone/Fax 213-740-6078

Office hours: Open door policy

Textbooks

- *Campbell Biology*, by Reece et al., 11th edition, 2016.
N.B. – Although the 11th edition is the official textbook for the class, it is not substantially different from the 10th 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. A few copies of the 11th edition will be placed in Bio-Space (ZHS 360A).
- SPRING 2019 BISC 220 General Biology Laboratory Manual. (PDF posted on Blackboard.)
- Optional: *Van de Graaff's Photographic Atlas for the Biology Laboratory*, by Adams and Crawley, 8th Edition, Morton Publishing Company.
- Optional: *A Short Guide to Writing About Biology*, by Pechenik, 9th edition, Pearson.

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

- MWF 9:00-9:50, MWF 10:00-10:50, and TuTh 9:30-10:50 lectures will be given in THH 101.
- TuTh 8:00-9:20 lectures will be given in ZHS 159.
- Our intention is for all 4 lecture sections to cover the same material, in the same order, at about the same pace. It is likely, however, that lectures will occasionally be slightly out of sync.
- The 9 am MWF lectures, the 8:00 am TuTh lecture, and the 9:30 am TuTh lecture will be recorded and made available in streaming video format. Links to the download sites will be posted on Blackboard.

- We do not recommend these recordings as a substitute for regular attendance at lecture. They are best used for filling gaps in your notes, reviewing difficult material, and as a substitute for the occasional missed lecture. A particularly effective approach would be to view the recordings in small groups, so that you can pause and discuss the material as you proceed. *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 is held at various times, Tuesday - Friday, in ZHS 361, 363, and 365. *There will be no labs during the first week of the semester.*
- 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 and in the Laboratory Manual.
- Performance in the laboratory will account for one-third of each student's grade. The laboratory grade will be based on lab practical exams, lab reports, lab quizzes, lab participation, completeness of the lab manual, a group presentation on a classic scientific paper, and discussion of other students' presentations. See the Grading Table below for point values of each of these components.

Lecture Exams

- Lecture exams 1 - 3 will be given during the quiz period (section 13120R), 2:00 - 3:00 pm on the following 3 Fridays: Feb 8, Mar 8, and Apr 5. This quiz period will only be used on these 3 dates; it will not be used at any other time during the semester. Lecture exam 4 will be given at 9:00 - 10:00 am on Wednesday, May 1. Each of the 4 lecture exams will cover approximately one-quarter of the lectures. See the lecture schedules for details of exam coverage. There will not be a comprehensive final.
- Exam 1: Friday, Feb 8, 2:00 - 3:00 pm
Exam 2: Friday, Mar 8, 2:00 - 3:00 pm*
Exam 3: Friday, Apr 5, 2:00 - 3:00 pm
Exam 4: Wednesday, May 1, 9:00 - 10:00 am

*** In order to balance the coverage on each exam, Exam 2 must be given on March 8, which is the Friday before Spring Break. Note that Spring Break does not begin until Sunday, Mar 10. Be sure that any travel plans you make do not conflict with Exam 2.**

- To ensure that students' exams fairly cover the material presented in the section in which they are registered, each instructor will compose a separate exam for his section(s).
- Lecture exams will be composed entirely of multiple choice questions. Answers will be submitted on Scantron forms, which will be supplied. These exams will cover lecture subjects only; laboratory subjects will not be covered. The emphasis will be on using the lecture information to solve novel problems (see comments on quizzes below).
- Exam locations will be announced a week before each exam.
- Students must remain in the exam room until the 60-minute period is over. *Students who arrive late may start the exam when they arrive but must stop at the end of the 60-minute period.*

Instructor-Led Exam Reviews

- For Exams 1-3, the pertinent instructors will hold an exam review on the preceding Wednesday, *i.e.*, on Feb 6, Mar 6, and Apr 3, at 3:00 - 5:00 pm at locations to be announced. The review for Exam 4 will be held on Monday, April 29, at a time and place to be announced.
- Exam reviews will be recorded and archived like the lectures.

Twice Weekly Question & Answer Sessions

1. Tuesday 11-12, Prof. Yazejian, in HNB 100
 2. Friday 2-3, Prof. Spence, ZHS 252
 3. Friday 3-4, Prof. Watts (1st half of semester) or Prof. Herrera (2nd half of semester), in HNB 100
- The Friday Q&A sessions will be cancelled on exam days.
 - For the best learning experience, we recommend that you attend Q&A sessions in person. Some Q&A sessions may be recorded and archived so you can review them later.
 - *Please attend the Q&A sessions, even if you have never done so before. 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...". Q&A sessions are also great opportunities to get to know the faculty instructors better. Besides answering questions and clarifying lecture material, you will find that we have valuable advice to offer on studying, time management, preparing for medical school and other graduate/professional programs, finding 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 instructors directly for office hour appointments. Office hours are 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

- A small percentage of the overall grade will be based on 13 quizzes, administered online via Blackboard. The quizzes will be posted by 1:00 pm each Friday beginning January 18 and continuing through April 19, excepting March 15. Quizzes must be completed by 9:00 am the following Monday. Questions will cover the previous week's material. Answers to most quiz questions will be revealed and discussed in the Q&A sessions in the week following the Monday deadline. Quiz results that are particularly pertinent to our teaching and learning goals may be discussed in class during the first lecture after the deadline. Prior to each lecture exam, all preceding quiz answers will be posted.
- 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.

Grading

	Item	Pts Each	Number	Total	Portion Totals
Lecture	Lecture Exams	150	4	600	Lecture = 639 pts
	Online Quizzes	3	13	39	
Lab	Lab Exam (labs 1-11)	101	1	101	Lab = 361 pts
	Lab Reports	40	2	80	
	Peer-review	10	1	10	
	Pre-lab Quizzes	5	10	50	
	Homework	6	4	28	
	Lab Participation	2	10	20	
	Lab Manual	2	10	20	
	Classic Literature Presentation	56	1	56	
					Course total = 1000 pts

- 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.
- 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. Any score within 10 points of the next highest grade will be considered a borderline grade. In such cases, instructors will consider whether to add up to 10 points to increase the grade to the next step. These points will be awarded based on a subjective evaluation of factors such as participation in the laboratory, attendance at Q&A sessions, effort, achievement relative to abilities, background, record of improvement, and other mitigating circumstances.
- 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 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 according to the following procedure. First, prepare a written statement explaining why your answer deserves more credit, using the Regrade Request Form available on Blackboard. Second, submit this statement and your entire original exam to your Teaching Assistant within one week of

when the exam was returned to you. *The entire answer will be re-graded, not just the part you think deserves more credit. In addition, the instructors will review the grading of the entire exam to check for errors in grading. Your grade may go up or down as a result of this re-examination.* Be aware that we usually make copies of corrected exams before we return them, to ensure that students do not alter their answers before submitting them for a re-grade. Altering an answer is considered a serious violation of academic integrity. Please see the section on Academic Integrity (below) for additional information.

- 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 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. 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 assigned Exam 4 time.

Supplemental Instruction

- We strongly recommend that students participate actively in the peer-led Supplemental Instruction (SI) program. The SI leaders will hold regular study sessions 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://dornsife.usc.edu/supplemental-instruction/>.
- Supplemental Instruction leaders for BISC 220 will be Xochi, Amrita, Taylor and Mia. All can be contacted at bisc220sileaders@gmail.com. The schedules for SI sessions and exam reviews will be posted at www.dornsife.usc.edu/session-schedules. Our SI leaders excelled in BISC 220 in the recent past. They were selected for their overall academic strength, success in advanced study in biology, and their communication and people skills. We highly recommend them.

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.

- *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.
- We have reliable, time-tested methods for detecting cheating, plagiarism, and other violations of academic integrity. For example, our method for detecting when students copy exam answers from other students is so robust that the Office of Student Judicial Affairs and Community Standards has upheld every case of exam copying that we have submitted to them.
- Below is a partial list of actual violations that have been committed 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). After adjudication by the Office of Student Judicial Affairs and Community Standards, most of these students received grades of F.
 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 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 Title IX webpage (<https://titleix.usc.edu/>) describes reporting options and other resources. Another website that discusses misconduct perpetrated or experienced by students, resources that can help, and reporting options is <https://policy.usc.edu/student/student-misconduct/>.

Students with Disabilities

Any student requesting academic accommodations based on a disability must 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 three weeks before Exam 1. If a student's approved accommodation is extra time on examinations, the staff of BISC 220 will provide the accommodation. For other accommodations, 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 (8:30-4:30, M-F), call at 213-740-0776, email at ability@usc.edu, or go to their website: <https://dsp.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 must provide the instructor with an Excused Absence Letter from Student-Athlete Academic Services (SAAS). Information about such letters can be found on the SAAS website (<https://saas.usc.edu/>). The letter must certify that the student-athlete is participating in a University-sponsored event that deserves accommodation. Accommodations will not be made for other types of conflicting events. More information on the University's policy on student-athletes can be found at https://www.provost.usc.edu/oaaaa_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, and so should check their USC email regularly.

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, video/audio recording, 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 and/or download the mobile safety app to facilitate communication during emergencies. These resources can be found at <https://emergency.usc.edu/>.

B. Laboratory Syllabus

<u>Lab #</u>	<u>Date</u>	<u>Laboratory</u>
	Jan 8 – 11	NO LAB THIS WEEK
1	Jan 15 – 18	Introduction to BISC 220 Labs & Assignments Laboratory Safety
2	Jan 22 – 25	Macromolecules*
3	Jan 29 – Feb 1	Scientific Investigation*
4	Feb 5 – 8	Enzymes*
5	Feb 12 – 15	Cell Membranes and Transport
6	Feb 19 – 22	Photosynthesis* (Lab Report 1 due)
7	Feb 26 – Mar 1	Fermentation* (Lab Report 1 peer review due)
8	Mar 5 – 8	DNA & Restriction Enzymes*
	Mar 12 – 15	NO LAB – SPRING BREAK
9	Mar 19 – 22	The Cardiovascular System
10	Mar 26 – 29	Blood and Blood Typing (Lab Report 2 due)
11	Apr 2 – 5	The Nervous System
	Apr 9 – 12	LAB EXAM
	Apr 16 – 19	Classic Literature Presentations (Week 1)
	Apr 23 – 26	Classic Literature Presentations (Week 2)

*Exercise for which a type-written lab report is required.

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

The Lab Manager reserves the right to make some adjustments to the lab syllabus during the semester.

REQUIRED TEXTBOOK

SPRING 2019 BISC 220 General Biology Laboratory Manual. PDF will be **posted on Blackboard** and chapter printouts must be brought to lab each week.

RECOMMENDED TEXTBOOKS

Adams & Crawley (2018). *Van De Graaff's Photographic Atlas for the Biology Laboratory*, 8th ed.
Pechenik. *A Short Guide to Writing About Biology*. 9th ed.

LABORATORY POINT DISTRIBUTION

The laboratory portion (**361 points**) will count for **~36%** of your final course grade, distributed as follows:

Lab Quizzes (10 – 5 points each)	50 pts
Homework (4 – 6 points each)	24 pts
Identifying the Unknowns (Macromolecules, Exercise #3)	4 pts
Lab Report (2 – 40 points each)	80 pts
Lab Report 1 Peer review	7 pts
Lab Exam	100 pts
Classic Literature Presentation	56 pts
Lab Manual (2 points per chapter)	20 pts
Lab Participation (2 points per lab)	20 pts

LABORATORY PERFORMANCE GUIDELINES

You are required to attend all lab sessions. Any unexcused absences will seriously affect your evaluation and lab participation points. Come to lab on time. You are also to remain for the entire lab session or until excused by your instructor. DO NOT make any other appointments for the time you are scheduled to be in lab.

You are required to wear closed toe shoes, long pants and a knee-length lab coat. Goggles will be provided in lab. Before you begin the lab exercise, make sure that you remove all unnecessary materials from your work area. At the end of the lab session, clean and return all supplies to their proper place, clean your work area, and slide your chair under the table. Check with your instructor before leaving.

NO EATING OR DRINKING IS ALLOWED IN THE LABORATORY UNDER ANY CIRCUMSTANCES.

PRE-LAB QUIZZES

Each student will take a **Blackboard pre-lab quiz** prior to coming to lab each week. Quizzes will consist of multiple choice questions. Questions will test your knowledge of the material you will be covering that week in lab.

LAB MANUAL

During each lab students need to record their results (drawings, observations, calculations) in their lab manual. Tables need to be filled and all post-lab questions answered. Each student is required to show his/her Lab Instructor the lab manual before leaving the lab and obtain their signature. Lab manuals will be checked periodically throughout the semester.

HOMEWORK/PRE-LAB ASSIGNMENTS

During the semester you will have four homework assignments, based on the data you obtain in your lab experiments. Assignments are explained in the lab manual and more information can be found on Bb.

LAB REPORTS

Two lab reports will be written during the semester. Lab reports must be posted on Blackboard (*Lab Reports turnitin* link) and a hard copy turned in at the beginning of the lab session. Lab report guidelines will be posted on Bb (<https://blackboard.usc.edu/>) in the beginning of the semester.

FIRST LAB REPORT PEER REVIEW

Each student will review one of their lab-mates' lab reports. Instructions will be posted on Blackboard once the semester starts.

CLASSIC LITERATURE PRESENTATIONS

The last two lab meetings of the semester are reserved for PowerPoint presentations on classic papers from the cell biology/physiology literature and their relation to modern papers. The goals of this assignment are to give you a greater appreciation of the scientific literature and science as a process, as well as to work and communicate collaboratively with fellow students.

Briefly, groups of 3 students will pick one classic paper from a list of several dozen papers that will be provided. All these papers are widely recognized as having had a major impact on the evolution of our understanding of cell biology or physiology. Each group must then find a recent paper (published within the past 5 years) that directly follows from the classic paper. In the PowerPoint presentation, groups must explain the findings in the classic and modern paper, explain the connection between the two papers, discuss the significance of both studies, and suggest some follow-up experiments that should be done.

Complete and detailed instructions for this assignment will be presented during the first lab meeting and can be found in the document “*Classic Literature Presentation and Participation*” posted on Blackboard.

Credit will be assigned to each group based on the clarity of their presentation, understanding of the material, fulfillment of all aspects of the assignment, and their abilities to lead a discussion on the topic and to answer questions. Credit will also be given to non-presenting students based on their participation in discussing the presentations of others.

LAB EXAM

The cumulative lab exam will test your comprehension of the topics, concepts and exercises covered during the semester. Emphasis will be on application and analysis.

MISSED LAB EXAM

It is your responsibility to be present on the days of the lab exams. If you miss a lab exam due to a serious illness, you must present a valid excuse to the Lab Manager Gorjana Bezmalinovic (bezmalin@usc.edu) **within 48 hours** of the missed exam. A valid excuse is considered to be an official note from your doctor. 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. If we judge your excuse to be valid, you will be allowed to take the lab exam in another lab section that week. If you do not have a valid excuse or fail to provide it within the allotted time, you will receive zero points for the missed lab exam.

MISSED LABS

If you miss a scheduled lab exercise **due to illness or emergency**, please contact the Lab Manager (bezmalin@usc.edu) to see whether it will be possible to make up the exercise by attending an alternative lab section. For logistical reasons, it will not be possible to make up a missed lab exercise after Friday afternoon of the week in question. Therefore, students with labs scheduled on Fridays will have little or no alternative should they miss lab unexpectedly. Only a few requests for alternative labs can be accommodated, because few sections have available space. Therefore, it is very important for you to attend your scheduled lab section.

Students who wish to miss a lab for observance of a religious holy day should be aware of the University’s policy on such absences, published at: <https://orl.usc.edu/life/calendar/absences/>. 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 instructors will determine a reasonable accommodation for the student.

Student-athletes who must miss occasional labs for legitimate reasons should bring the SAAS excuse letter to the Lab Manager at least 2 weeks in advance so alternatives can be arranged. **Please note that no lab make-ups will be allowed** during the week prior to a holiday, spring break and for school-unrelated activities.

LAB SCORES

You can find scores for all of your lab assignments on Blackboard: <https://blackboard.usc.edu>. Your lab scores will be posted under your **LAB SECTION**. Be sure to check for additional postings on a regular basis. It is the student’s responsibility to immediately notify his/her Lab Instructor or Lab Manager in the event of any mistakes, so please check your Blackboard scores weekly.

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. In this procedure, the mean total score of all students in each Lab Instructor's lab section is compared to the mean total score of the entire class and each student's score is adjusted.

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 January 25, 2019](#). 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 examinations, 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: <https://dsp.usc.edu/>.

CHANGING A LAB SECTION

During the first three weeks of classes you can switch into a new lab section only if it is open (if it has less than 20 students). If a lab section is currently closed, you must wait until a spot opens up before you can switch into that section. You can change your lab section through *USC Web registration System* by un-scheduling your current section and adding your new choice. No changes are allowed after the third week of classes (*i.e.*, after the second week of lab). You are responsible for printing out your grade report from Blackboard before changing sections, as scores may irrevocably disappear from the Blackboard system when students change sections. The same applies if changing a lecture section.

SOME DATES TO REMEMBER

January 7	First day of Spring semester classes
January 21	Martin Luther King Day, University Holiday
January 25	Last day to register, add classes, and drop without a mark of "W" with tuition refund
February 18	Presidents' Day, University Holiday
February 22	Last day to drop without a mark of "W" without tuition refund
March 11-15	Spring Break
April 5	Last day to drop with a mark of "W"
Apr 26	Last day of Spring semester classes
Apr 27-30	Study days
May 1	Lecture Exam 4 for all lecture sections, 9-10 am

FINAL THOUGHTS

- Please forgive the length and detail of this syllabus. In a class as large as 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.