

**BISC 220 (General Biology: Cell Biology and Physiology), Spring 2013**  
**Schedule for MWF Lecture Sections**

Date	Day	Topic	Campbell & Reece – 9 <sup>th</sup> Ed.	Lecturer
Jan 14	M	01 Introduction	Ch 1, Ch 2	Watts
Jan 16	W	02 Biomolecules	Ch 4, Ch 5	Watts
Jan 18	F	03 Biomolecules	Ch 3	Watts
Jan 21	M	<i>Holiday (MLK Day)</i>	---	---
Jan 23	W	04 The Cell 1	Ch 6	Watts
Jan 25	F	05 The Cell 2	Ch 6	Watts
Jan 28	M	06 The Cell 3	Ch 6	Watts
Jan 30	W	07 Cell membranes	Ch 7	Watts
Feb 1	F	08 Cell communication 1 *	Ch 11	Watts
Feb 4	M	09 Cell communication 2	Ch 11	Watts
Feb 6	W	10 Cell communication 3	Ch 11	Watts
Feb 8	F	11 Metabolism 1	Ch 8	Watts
Feb 11	M	12 Metabolism 2	Ch 8	Watts
Feb 13	W	13 Metabolism 3	Ch 8	Watts
Feb 15	F	14 Metabolism 4 / <i>EXAM 1 (lects. 1-11)</i>	Ch 9	Watts
Feb 18	M	<i>Holiday (President's Day)</i>	---	Watts
Feb 20	W	15 Metabolism 5	Ch 9	Watts
Feb 22	F	16 Metabolism 6	Ch 9	Watts
Feb 25	M	17 Photosynthesis	Ch 10	---
Feb 27	W	18 The cell cycle	Ch 12	Watts
Mar 1	F	19 Mitosis	Ch 12	Watts
Mar 4	M	20 Meiosis	Ch 13	Watts
Mar 6	W	21 Biology of Disease - Diabetes & Obesity	Ch 45.2	Watts
Mar 8	F	22 Intro. to Physiology; Cardiovascular System 1	Ch 40.1, 40.2; 42.1 - 42.4	Herrera
Mar 11	M	23 Cardiovascular System 2	Ch 42.1 - 42.4	Herrera
Mar 13	W	24 Cardiovascular System 3	Ch 42.1 - 42.4	Herrera
Mar 15	F	25 Respiration 1 / <i>EXAM 2 (lects. 12-22)</i>	Ch 42.5 - 42.7	Herrera
Mar 18	M	<i>Spring Break</i>	---	---
Mar 20	W	<i>Spring Break</i>	---	---
Mar 22	F	<i>Spring Break</i>	---	---
Mar 25	M	26 Respiration 2	Ch 42.5 - 42.7	Herrera
Mar 27	W	27 Immunity 1	Ch 43	Herrera
Mar 29	F	28 Immunity 2	Ch 43	Herrera
Apr 1	M	29 Immunity 3	Ch 43	Herrera
Apr 3	W	30 Fluid & Electrolyte Balance 1	Ch 44	Herrera
Apr 5	F	31 Fluid & Electrolyte Balance 2	Ch 44	Herrera
Apr 8	M	32 Fluid & Electrolyte Balance 3	Ch 44	Herrera
Apr 10	W	33 Endocrine System 1	Ch 45	Herrera
Apr 12	F	34 Endocrine System 2 / <i>EXAM 3 (lects. 23-32) **</i>	Ch 45	Herrera
Apr 15	M	35 Endocrine System 3	Ch 45	Herrera
Apr 17	W	36 Reproduction 1	Ch 46	Herrera
Apr 19	F	37 Reproduction 2	Ch 46	Herrera
Apr 22	M	38 Nervous System 1	Ch 48	Herrera
Apr 24	W	39 Nervous System 2	Ch 48	Herrera
Apr 26	F	40 Nervous System 3	Ch 49	Herrera
Apr 29	M	41 Motor System 1	Ch 50.5	Herrera
May 1	W	42 Motor System 2	Ch 50.5	Herrera
May 3	F	43 Motor System 3	Ch 50.5	Herrera

\* Friday, February 1 is the last day to drop without a mark of "W"

\*\* Friday, April 12 is the last day to drop with a mark of "W"

May 10	F	<i>EXAM 4 for 9:00 section, 8-10 am (lects. 33-43)</i>
May 13	M	<i>EXAM 4 for 10:00 section, 8-10 am (lects. 33-43)</i>

**BISC 220 (General Biology: Cell Biology and Physiology), Spring 2011**  
**Schedule for TuTh Lecture Sections**

Date	Day	Topic	Campbell & Reece – 9 <sup>th</sup> Ed.	Lecturer
Jan 15	Tu	01 Introduction; Biomolecules	Ch 1, Ch 2, Ch.4, Ch 5	McClure
Jan 17	Th	02 Water	Ch 3	McClure
Jan 22	Tu	03 The Cell 1	Ch 6	McClure
Jan 24	Th	04 The Cell 2	Ch 6	McClure
Jan 29	Tu	05 Cell membranes	Ch 7	McClure
Jan 31	Th	06 Cell communication 1 *	Ch 11	McClure
Feb 5	Tu	07 Cell communication 2	Ch 11	McClure
Feb 7	Th	08 Metabolism 1	Ch 8	McClure
Feb 12	Tu	09 Metabolism 2	Ch 8	McClure
Feb 14	Th	10 Metabolism 3	Ch 9	McClure
Feb 15	F	EXAM 1 (lects. 1-8)	---	---
Feb 19	Tu	11 Metabolism 4	Ch 9	McClure
Feb 21	Th	12 Photosynthesis	Ch 10	McClure
Feb 26	Tu	13 The cell cycle; Mitosis	Ch 12	McClure
Feb 28	Th	14 Biology of Disease - Cancer	Ch 18.5	McClure
Mar 5	Tu	15 Meiosis	Ch 13	McClure
Mar 7	Th	16 Cardiovascular system 1	Ch 42.1 - 42.4	Jakowec
Mar 12	Tu	17 Cardiovascular system 2	Ch 42.1 - 42.4	Jakowec
Mar 14	Th	18 Respiration	Ch 42.5 - 42.7	Jakowec
Mar 15	F	EXAM 2 (lects. 9-16)	---	---
Mar 19	Tu	Spring Break	---	---
Mar 21	Th	Spring Break	---	---
Mar 26	Tu	19 Immunity 1	Ch 43	Jakowec
Mar 28	Th	20 Immunity 2	Ch 43	Jakowec
Apr 2	Tu	21 Fluid and electrolyte balance 1	Ch 44	Jakowec
Apr 4	Th	22 Fluid and electrolyte balance 2	Ch 44	Jakowec
Apr 9	Tu	23 Endocrine system 1	Ch 45	Jakowec
Apr 11	Th	24 Endocrine system 2	Ch 45	Jakowec
Apr 12	F	EXAM 3 (lects. 17-22) **	---	---
Apr 16	Tu	25 Reproduction 1	Ch 46	Jakowec
Apr 18	Th	26 Reproduction 2	Ch 46	Jakowec
Apr 23	Tu	27 Nervous system 1	Ch 48	Jakowec
Apr 25	Th	28 Nervous system 2	Ch 49	Jakowec
Apr 30	Tu	29 Motor system 1	Ch 50.5	Jakowec
May 2	Th	30 Motor system 2	Ch 50.5	Jakowec

\* Friday, February 1 is the last day to drop without a mark of "W"

\*\* Friday, April 12 is the last day to drop with a mark of "W"

May 14	Tu	EXAM 4, 8-10 am (lects. 23-30)
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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	<a href="mailto:watts@usc.edu">watts@usc.edu</a>
Albert Herrera	HNB 116	Phone 213-740-9177	<a href="mailto:aherrera@dornsife.usc.edu">aherrera@dornsife.usc.edu</a>

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

William McClure	CEM 204	Phone 213-740-9181	<a href="mailto:wmccclure@usc.edu">wmccclure@usc.edu</a>
Michael Jakowec	MCA 241	Phone 323-442-1057	<a href="mailto:Michael.Jakowec@med.usc.edu">Michael.Jakowec@med.usc.edu</a>

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](mailto:bezmalin@usc.edu), Phone/Fax 213-740-6078  
Office hours: Open door policy

### Textbooks

- *Campbell Biology*, by Reece et al., 9<sup>th</sup> edition, 2011.  
N.B. – Although the 9<sup>th</sup> edition is the official textbook for the class, it is not substantially different from the 8<sup>th</sup> 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 9<sup>th</sup> edition will be placed on reserve in Leavey Library.
- *General Biology Laboratory Manual Spring 2012, BISC 220 & BISC 221 Courses*, Pearson Custom Publishing.
- *A Photographic Atlas for the Biology Laboratory*, by Van de Graaff and Crawley, 6<sup>th</sup> Edition, Morton Publishing Company (the Revised 5<sup>th</sup> Edition would also be acceptable).

### Clickers

- Clickers will not be used in this class.

**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 (#13011R) / MWF 10:00-10:50 (#13012R) / TuTh 9:30-10:50 (#13022R)
- All lectures will be given in THH 101.

- Our intention is for all 3 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 and the 9:30 TuTh lectures will be recorded and made available as streaming video and a downloadable audio podcast. 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. 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 - 2:50 pm on 3 Fridays during the semester. Lecture exam 4 will be given at the scheduled time of the final exam. Each of the 4 lecture exams will cover approximately one-quarter of the lectures. See the lecture schedule for details of exam coverage. There will not be a comprehensive final.
- Exam 1: Friday, Feb 15, 2:00 - 2:50 pm  
Exam 2: Friday, Mar 15, 2:00 - 2:50 pm\*  
Exam 3: Friday, Apr 12, 2:00 - 2:50 pm  
Exam 4 (9 am MWF section): Friday, May 10, 8:00 - 10:00 am\*\*  
Exam 4 (10 am MWF section): Monday, May 13, 8:00 - 10:00 am\*\*  
Exam 4 (9:30 am TuTh section): Tuesday, May 14, 8:00 - 10:00 am\*\*  
\* *In order to balance the coverage on each exam, Exam 2 must be given on the Friday preceding Spring Break. Be sure that any travel plans you make do not conflict with the exam.*  
\*\* Students must take Exam 4 at their assigned times. Please see Exam Policies below for details.
- Exams consist of a mix of objective questions (e.g., multiple choice, true-false, matching, etc.) and subjective questions (e.g., definitions, fill-in-the-blank, short essays, etc.). 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).
- Please see the Lecture Schedule for exam coverage. Exam locations will be announced. Note that because all three lecture sections take Exams 1 - 3 simultaneously, the same questions will be used for both. However, because the three sections take Exam 4 at different times, separate

exams will be written. Experience predicts that the average and distribution of scores for the three versions of Exam 4 will not differ significantly. In the event that they do differ, scores will be prorated to correct for disparities.

### **Instructor-Led Exam Reviews**

- For Exams 1-3, the pertinent instructors will hold an exam review on the preceding Wednesday, i.e., on Feb 13, Mar 13, and Apr 10, at 3:00 - 5:00 pm at locations to be announced. The review for Exam 4 will be held on Thursday, May 9, at a time and place to be announced.
- Exam reviews will be recorded, webcast, and archived like the Q&A sessions (see below).

### **Twice Weekly Question & Answer Sessions**

Tuesdays, 11:00 am - 12:00 pm, HNB 100

Fridays, 3:00 - 4:00 pm, HNB 100

- The Friday Q&A session will be cancelled on exam days.
- For best results, we recommend that you attend Q&A sessions in person. For some Q&A sessions, you will be able to participate remotely via a live webcast which includes an interactive chat window (text only) for submitting questions. A link to the Q&A webcasts will be posted on Blackboard. All Q&A sessions will be recorded and made available until Commencement Day.
- *Please attend or log in to 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...". These are also great opportunities to get to know the faculty instructors better. Besides answering questions, we will often give advice 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 instructors directly for office hour appointments. Office hours are intended for discussion of individual, confidential matters such as grades. Course subject matter and other public issues should be discussed in the Q&A sessions so that all students can benefit from the interchange.

### **Lecture Quizzes**

- A small percentage of the overall grade will be based on 14 quizzes, administered online via Blackboard. The quizzes will be posted by 1:00 pm each Friday beginning January 25 and continuing through May 3, excepting March 22. Quizzes must be completed by 6:00 am the following Wednesday. Questions will cover the previous week's material. Answers to most quiz questions will be revealed and discussed in the Q&A session on the Friday following the Wednesday 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
<b>Lecture</b>	Lecture Exams	160	4	640	Lecture = 668 pts
	Online Quizzes	2	14	28	
<b>Lab</b>	Lab Practical Exam 1 (labs 1-5)	50	1	50	Lab = 332 pts
	Lab Practical Exam 2 (labs 6-9)	50	1	50	
	Lab Reports	35	2	70	
	Lab Quizzes	5	9	45	
	Lab Participation & Lab Manual	55	---	55	
	Classic Literature Presentation	50	1	50	
	Discussion of Other Presentations	6	2	12	
					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 TA 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 Teaching Assistants.
- Points will only be given for the items listed above. No extra credit will be given.

## 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 or emergency. *No other excuses for missing exams will be accepted.* If you miss an exam or quiz due to illness, and wish us to make an accommodation, you should proceed as follows. Present a written request to the Lab Manager within one week of the missed exam. This request should include a statement that you were seen by a doctor, the doctor's name and phone number, and authorization for us to discuss with the doctor whether you were too ill to take the exam, which we will do. Note that neither you nor the doctor need tell us the nature of your illness. 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 an unforeseen emergency prevents you from taking an exam, contact the Lab Manager as soon as possible. Keep in mind that you will need to provide convincing documentation of the emergency.
  - If you miss Exam 4 and you provide a valid medical excuse to the Lab Manager within 48 hours 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 her/his registered lecture section. Switching between the May 10, 13, or 14 versions of Exam 4 will not be allowed.\* 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.
- \*Over many years of using separate versions of Exam 4 for the 9 am and 10 am sections of this class, there has never been any evidence that 10 am students scored higher on Exam 4 because they had "2 more days to study." Over the duration of the semester, these 2 days amount to a difference of less than 1%. Even if there were an advantage, we suspect that the random nature and timing of students' other finals would tend to neutralize it. Plan ahead!

## Supplemental Instruction

- We strongly recommend that students participate actively in the peer-led Supplemental Instruction 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://www.usc.edu/si>.
- Supplemental Instruction leaders for BISC 220 will be Shelby Bachman, Josh Kling, Grace Lee, and Karen Lu. All can be contacted at [bisc220sileaders@gmail.com](mailto:bisc220sileaders@gmail.com). All of these 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 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. *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 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](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/>

### **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 three weeks 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, translator, 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 STU 301 (8:30-5:00, M-F), call at 213-740-0776, email at [ability@usc.edu](mailto:ability@usc.edu), or go to their website: [http://sait.usc.edu/academicsupport/centerprograms/dsp/home\\_index.html](http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html).

### **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 Magdi El Shahawy, Director of Student-Athlete Academic Services (SAAS). 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 <http://www.usc.edu/admin/provostoffice/oaaa/guidelines.html>. 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**

In case of a declared emergency if travel to campus is not feasible, USC executive leadership will announce an electronic way for instructors to teach students in their residence halls or homes using a combination of Blackboard, teleconferencing, and other technologies. "Plan B" assignments may be given if classes are canceled for prolonged periods. If you have not already done so, please join TrojansAlert (<https://trojansalert.usc.edu/>) to facilitate communication during emergencies.

## B. Laboratory Syllabus

Wk	Dates	Day	Exercises	Manual	Lab No.	Quiz	Comments
1	Jan 15 ↓ Jan 18	Tu ↓ Fri	NO LAB THIS WEEK	---	---		
2	Jan 22 ↓ Jan 25	Tu ↓ Fri	Introduction to BISC 220 Laboratory	---	---		Lab safety; explanation of lab assignments
3	Jan 29 ↓ Feb 1	Tu ↓ Fri	Macromolecules	Ch. 1	1	Quiz 1	Selecting dates for presentations
4	Feb 5 ↓ Feb 8	Tu ↓ Fri	<b>Enzymes*</b>	Ch. 2	2	Quiz 2	<b>Subject of 1<sup>st</sup> lab report</b>
5	Feb 12 ↓ Feb 15	Tu ↓ Fri	Cell Physiology	Ch. 3	3	Quiz 3	
6	Feb 19 ↓ Feb 22	Tu ↓ Fri	Photosynthesis	Ch. 4A	4	Quiz 4	1 <sup>st</sup> lab report due; deadline for classic paper selection
7	Feb 26 ↓ Mar 1	Tu ↓ Fri	<b>Cellular Respiration and Fermentation*</b>	Ch. 6	5	Quiz 5	<b>Subject of 2<sup>nd</sup> lab report</b>
8	Mar 5 ↓ Mar 8	Tu ↓ Fri	LAB PRACTICAL EXAM 1	---	---		
9	Mar 12 ↓ Mar 15	Tu ↓ Fri	DNA Technology and Genetic Engineering	Ch. 7 & App.A	6	Quiz 6	
10	Mar 19 ↓ Mar 22	Tu ↓ Fri	<i>Spring Break</i> NO LAB THIS WEEK	---	---		
11	Mar 26 ↓ Mar 29	Tu ↓ Fri	Cardiovascular System: Heart and Blood Vessels	Ch. 8	7	Quiz 7	2 <sup>nd</sup> lab report due
12	Apr 2 ↓ Apr 5	Tu ↓ Fri	Kidney Structure and Function	Ch. 9	8	Quiz 8	
13	Apr 9 ↓ Apr 12	Tu ↓ Fri	The Human Nervous System	Ch. 10	9	Quiz 9	
14	Apr 16 ↓ Apr 19	Tu ↓ Fri	LAB PRACTICAL EXAM 2	---	---		
15	Apr 23 ↓ Apr 26	Tu ↓ Fri	Classic Literature Presentation	---	---		
16	Apr 30 ↓ May 3	Tu ↓ Fri	Classic Literature Presentation and Course Evaluations	---	---		

**\*Exercises for which 5-7 page, typed lab reports are required. Guidelines are posted on Blackboard.**

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

## **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 expected to remain for the entire lab session or until excused by your instructor. Do not make other appointments for the time you are scheduled to be in lab.
- Students who are within 10 points of a grade borderline at the end of the semester will be considered for an upgrade based on several criteria, including lab participation, lab attendance, and subjective evaluations made by your TA, the Lab Manager, and faculty instructors.
- 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 Teaching Assistant before leaving.
- *No eating or drinking is allowed in the laboratory under any circumstances.*

## **Lab Quizzes**

- In the first 5 minutes of each of the 9 lab meetings when lab exercises are planned, a 5-point quiz will be given. Three of the 5 points will be based on that day's lab exercise, i.e., the one you are about to perform. The remaining 2 points will be based on the previous exercise.
- Students who come late to lab without a legitimate and verifiable excuse will not be allowed to make up the quiz.

## **Lab Reports**

- Appreciation of the scientific method and development of scientific literacy are among the main goals of the laboratory portion of the class. Accordingly, formal lab reports will be strongly emphasized. Instructions on writing lab reports are given in the document entitled "Format and Guidelines for BISC 220 Lab Reports." These instructions are summarized in the document "Summary Guidelines for BISC 220 Lab Reports." Both documents will be posted on Blackboard.
- Lab reports must be submitted electronically via Turnitin, using the link provided on the Blackboard site for the lab section. Specific instructions on how to upload lab reports will be emailed to each student. It is each student's responsibility to confirm that their lab reports were successfully uploaded.

## **Lab Practical Exams**

- Two lab practical exams will be given to test your understanding of the topics and exercises covered in the laboratory sessions. The first lab practical exam will cover material from labs 1 - 5. The second lab practical exam will cover material from labs 6 - 9.
- *It is your responsibility to be present on the days of the lab practical exams.* If you miss a lab practical exam due to a serious illness, you must present a valid excuse to Administrative T.A. Yukai Zhao ([yukaizha@usc.edu](mailto:yukaizha@usc.edu)) within 48 hours of the missed exam. A valid excuse is considered to be a statement that you were seen by a doctor, the doctor's name and phone number, and authorization for us to discuss with the doctor whether you were too ill to take the exam, which we will do. Note that neither you nor the doctor need tell us the nature of your illness. If you have a valid excuse, you will be allowed to take the 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 practical exam.

### **Classic Literature Presentation and Participation**

- 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 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 Participation and Lab Manual**

- A total of 55 points will be awarded on the basis of lab participation (10 pts) and completeness of your lab manual (45 pts). We expect you to come to lab well-prepared and ready to contribute positively to the academic atmosphere. We also expect you to complete all aspects of the lab exercises, and to record data, observations, and answers to post-lab questions in your lab manual every week. Each student is required to show his/her TA the lab manual before leaving the lab and obtain their signature. Lab manuals will be collected for grading after all lab exercises have been completed. See the section above entitled “Laboratory Performance Guidelines” for more information on how lab participation points will be assigned.

### **Missed Lab Meetings**

- If you miss a scheduled lab exercise due to illness or emergency, please contact Administrative TA Yukai Zhao ([yukaizha@usc.edu](mailto:yukaizha@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. Please note that no lab switching will be allowed during the week prior to a holiday or Spring Break.
- 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: <http://orl.usc.edu/religiouslife/holydays/absences.html>. Requests for such absences should be made by email addressed to the Administrative TA 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 Administrative TA, at least 2 weeks in advance so alternatives can be arranged. See details on p. 9 of this syllabus.

### **Laboratory Score Normalization**

- The lab scores will be normalized at the end of the semester by the Lab Manager in conjunction with the TAs to correct for differences in grading between TAs. In this procedure, the mean total score of all students in each TA's labs is compared to the mean total score of the entire class and each student's score is adjusted.

### **Some Dates to Remember**

January 14	First day of Spring semester classes
January 21	Martin Luther King Day, University Holiday
February 1	Last day to register, add classes, and drop without a mark of "W"
February 18	Presidents' Day, University Holiday
March 18-23	Spring Break
April 12	Last day to drop with a mark of "W"
May 3	Last day of Spring semester classes
May 4 - 7	Study days
May 10 (Friday)	Lecture Exam 4 for MWF 9 am lecture, 8-10 am
May 13 (Monday)	Lecture Exam 4 for MWF 10 am lecture, 8-10 am
May 14 (Tuesday)	Lecture Exam 4 for TuTh 9:30 am lecture, 8-10 am

### **Final Thoughts**

- Please forgive the length and detail of this syllabus. In a class as large as ours, with so many graded assignments, using so many technologies, 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.