

# BIOL 110/112 Course Syllabus

## Introduction

Welcome to Biology 110, Fundamentals of Biology 1. This 4 credit course that is primarily intended for students of agriculture and the health sciences. But, it also serves well as a more general introduction to the science of biology for those anticipating future study in the life sciences. Topics include: chemistry, cell biology, diversity of life, ecology, evolution, and the development, structure, and function of organisms.

The staff of Biology 110 and I wish to help you do your best in the course. This is a high quality, demanding course, and you will have to work hard to do well in it. However, we want this to be a user-friendly course, as well.

## Student Learning Outcomes:

Upon completion of this course students will be able to:

### Lecture

- 1) Describe the chemical makeup of macromolecules and their importance in the structure and function of cells.
- 2) Define the functions of cellular organelles and describe the similarities and differences between prokaryotic and eukaryotic cells.
- 3) Explain the processes and regulation of binary fission, mitosis, and meiosis.
- 4) Characterize the processes of photosynthesis and cellular respiration.
- 5) Describe the concepts of thermodynamics, ecosystems, and the cycling of energy and elements in ecosystems.
- 6) Explain the concepts of population dynamics, diversity, speciation, and ecology.

### Labs and recitations

- 1) Describe and practice laboratory safety guidelines relating to working with chemicals.
- 2) Define and correctly use scientific terminology in regard to biological organisms and processes.
- 3) Identify and operate a variety of scientific instruments for the purpose of experimental discovery.
- 4) Synthesize information, think critically, and solve critical thinking problems.
- 5) Work well independently and in groups. Show self-direction, motivation, and contribute to group work.

**CHAS 2071 is the main office for Biology 110**, and is typically open from 7:30am to 4:30pm (except over lunch). However, on occasion special circumstances may require changes in hours or the temporary closure of the office. Go to CHAS 2071 for grade checks, signatures on university forms, DRC letters, exam conflicts, grade discrepancies, etc.

## Course Personnel:

- Dr. Sean Humphrey, course coordinator (shumphr@purdue.edu) 494-1377, LILY G-228
- Tracy Reifel, administrative assistant (tsondge@purdue.edu) 494-8526, CHAS 2071
- Dr. Mark Browning, lab coordinator (browninm@purdue.edu) 494-8107, CHAS 2069

When contacting us, please identify yourself and the class and sections you are in and use your best English language skills and e-mail etiquette. e-mails that contain important changes, reminders, or instructions from course personnel will be sent to your Purdue e-mail account. You are responsible for the information contained in these e-mails, so check your Purdue e-mail often. Read such e-mails in their entirety and follow all instructions in those e-mails, even if your name does not appear in the "to" box. *Use your Purdue account to e-mail us; other accounts may be blocked.*

## Instructor Availability/Open Office Hours:

- Dr. Humphrey's **Open Office Hours** will be **every Thursday from 5:30-7:30 PM in LILY G-228**. Dr. Humphrey is also available to answer students' questions by e-mail ([shumphr@purdue.edu](mailto:shumphr@purdue.edu)), and students can also arrange to talk with him over the phone (**765-494-1377**) or by video conference **via WebEx (Dr. Humphrey will send a link for each meeting)** **\*Students do not need to use the video function during video conferences.**
- Dr. Browning: usually can see students if 1), he is in his office, and 2) the light is on. (Please knock)

## Web Resources:

- **Brightspace:** <https://purdue.brightspace.com/d2l/login>

Access to grades, lecture materials and recordings, review exercises, homework assignments, exams, practice exam questions, and more are posted on the course website. Course announcements will also appear in Brightspace.

## Textbook “Connect”

**(Do not purchase a hard copy of the text, see purchase options below):**

Title: Biology (13th ed) by Raven, Johnson, Mason, Losos, and Singer. Published by McGraw-Hill.

- **A hard copy of the textbook for this course is not necessary or sufficient.** For this course we will be using the online “Connect” version of the textbook to complete homework assignments and it also contains access to the e-book version of the textbook.
- **Connect access is required for the course. We have negotiated special pricing and extended 2-year subscriptions for students. However, you must use one of the purchase options below in order to benefit from that.**

## Connect Purchase Options:

### Option 1:

- **The quickest and most cost efficient way to purchase Connect access is online using our course Brightspace page.**
  - 1) Go to our course Brightspace page and click on the “Content” tab near the top of the page.
  - 2) Click on the “Connect Purchase and/or Registration” module.
  - 3) Follow the instructions that apply to your particular situation.

### Option 2:

- **A Connect access code for BIOL 11000 can also be purchased at 'University Bookstore' or 'Follett's Purdue Bookstore'.**
  - 1) Purchase the Connect access code from one of the bookstores listed above.
  - 2) Go to our course Brightspace page and click on the “Content” tab near the top of the page.
  - 3) Click on the “Connect Purchase and/or Registration” module.
  - 4) Follow the instructions that apply to your particular situation.

**\*If a student purchases a Connect subscription independently (outside of the 2 purchase options listed above), they will get a much shorter subscription (one semester) and it will be significantly more expensive. The extended subscription times we negotiated ensure that our students will not need to purchase Connect access again if they take Bio 111 in the next 2 years or if they repeat Bio 110 in the next 2 years.**

## Technical Support:

### Technical Support for Brightspace

**Website:** <https://www.itap.purdue.edu/help/>, **Phone:** (765-494-4000), or **Email:** [itap@purdue.edu](mailto:itap@purdue.edu)

### Technical Support for Connect

[https://mhedu.force.com/CXG/s/ContactUs?external\\_browser=2](https://mhedu.force.com/CXG/s/ContactUs?external_browser=2)

### Technical Support for Poll Everywhere

<https://www.polleverywhere.com/contact> & click on “Contact us” under the “Technical support, general comments and questions” topic.

## Lectures:

**The lecture consists of ALL the information provided to you in class, not just what’s written on PowerPoint slides. This means you’re responsible for anything discussed, shown in a video clip, etc.**

- Video recordings of the lectures will become available in Brightspace in case you miss a lecture, or simply want to hear them again. **\*Technical issues could potentially prevent one or more lectures from being recorded, so do not rely on the recordings as a substitute for attending lectures.**
- It is highly recommended that you actively take notes during lecture to help you retain and reinforce your understanding of the material being discussed.

## Poll Everywhere

- Poll Everywhere is an interactive software that allows students to answer discussion questions during lecture and get points for participation.
- In our course, **Poll Everywhere access is included with Connect and does not require an additional purchase.**
- **Instructions on how to activate/register and use Poll Everywhere will be provided in class.**
- Poll Everywhere questions will be used at the beginning of lecture dates indicated on page 'X' of this syllabus.
- Poll Everywhere credit is awarded based on participation and not on whether a student's answers were correct or not. The idea is to allow students to recall and reprocess information that we covered in the previous lecture
- Students who miss Poll Everywhere lectures due to a university sanctioned event that they are required to attend, university verified grief absences, or documented cases of illness need to contact Dr. Humphrey either prior to, or within 2 weeks after, the date of the missed Poll Everywhere lecture in order to receive credit.
- **Students who are unable to participate in Poll Everywhere for any reason during a lecture that they attend, MUST sign the Poll Everywhere sign-in sheet located by the instructor either before, during, or after class in order to get credit for participation that day. Forgetting to sign the Poll Everywhere sign-in sheet on a day that you were unable to participate is NOT an acceptable excuse. Once a student leaves class without participating in Poll Everywhere and without signing the sign-in sheet, that student will not get Poll Everywhere credit for that day.**
- Students who participated in Poll Everywhere but suspect that technical issues may have blocked their participation from being recorded also MUST sign the Poll Everywhere sign-in sheet at the end of class. Forgetting or deciding not to sign the Poll Everywhere participation sheet on a day that you suspect technical issues may have prevented your participation from being recorded is NOT an acceptable excuse. Once a student leaves class without participating in Poll Everywhere and without signing the sign-in sheet, that student will not get Poll Everywhere credit for that day.

## Homework (Connect Assignments)

- Homework assignments and due dates are listed on page 'X' of this syllabus.
- **To ensure that students receive credit for a completed homework assignment students MUST access the Connect assignment through the 'assignment link' in Brightspace and not directly through the Connect website. When students access Connect assignments directly through the Connect website, Connect and Brightspace do not communicate with each other and the student may not get credit for the assignment.**
- Homework assignments are graded by completion and not on correct or incorrect answers. An assignment that is fully completed by the due date will be given full credit. Late assignments are given zero credit.
- Students who do not submit a homework assignment by the due date because of university sanctioned events that they are required to attend, university verified grief absences, or documented cases of illness need to contact Dr. Humphrey either prior to, or within 2 weeks after, the due date of the missed assignment in order to have the due date for the assignment adjusted.
- Forgetting to complete an assignment by the due date is not an acceptable excuse. Not realizing when the assignment was due is also not an acceptable excuse.
- Students that have completed an assignment but notice that they did not receive credit or did not receive the correct number of points must contact Dr. Humphrey about that issue within 2 weeks of the assignment due date. Students are solely responsible for regularly keeping track of their homework grades and simply not noticing an error until after the two-week deadline is not an acceptable excuse.

## Laboratory

It is crucial that you attend weekly laboratory sessions, and you will be graded (30 points per laboratory) on how well you work through the lab exercises. If you arrive too late, you may not be permitted to participate in lab.

- Students enrolled in BIOL 110 must purchase digital materials for lab (\$35) through a link posted on the Announcements page of BIOL 110 Brightspace. This digital content is the lab manual and is required; **you will need it for your first lab, which meets the first week of classes.** The materials will be released online (see next bulleted item). Students cannot complete the course without having access. Failure **to make the payment** will result in the charge being transferred to your account via the Office of the Bursar. **PAYMENT IS DUE BY FRIDAY, February 24, 2023.**
- The required BIOL 110 Lab Manual for spring 2023 is available in the Microsoft OneNote app. You will receive specific instructions for accessing the lab manual in your lab section. **Prior to lab make sure you are prepared access OneNote by following the instructions found on the BIOL 110 Brightspace page under item “Prior to the first day of lab.”**
- **Outside of lab you will need to use OneNote on your own tablet or computer. In the “Announcements” section of BIOL 110 Brightspace you will find a link to a document that will help you set up OneNote on your device.**
- You must “sign out” (for yourself and no one else) after each lab on the TA’s record **sheet** to get credit for attending and participating in a lab.
- You may make-up only 2 (TWO) labs per semester.
- Labs may be made up only during Open Lab periods. Open Labs are held the Monday of the week of a Lab Practical Exam (see the SYLLABUS schedule on page “x”). *Once a lab practical is complete, there can be no more make-ups for the labs tested on that practical.*

## Recitation

You are scheduled for one recitation per week. During recitation you will review materials from both lecture and lab, take quizzes, and participate in group discussion problems.

- You may only attend your regularly scheduled recitation.
- You must attend the entire recitation to be eligible to take the quiz.
- There are no makeup quizzes or group discussions. Instead, every student is allowed to drop their two lowest quiz and two lowest group discussion scores to account for ANY absences.
- Individual scores for group discussions are assigned at the discretion of your TA who will assess your intellectual contribution to your group’s discussion, and accuracy of the answers. These are not “attendance” points.

## Lecture Exams, the Lockdown Browser, and the Quiz for Bonus Points

- All lecture exams will be taken in Brightspace using a lockdown browser. A lockdown browser simply prevents the electronic device that you are taking the exam with from doing any other tasks while you are taking the exam.
- **A bonus point quiz:** To ensure that students’ devices are compatible with the lockdown browser, we have developed a one-question practice quiz that is **worth 5 bonus points**. The bonus quiz will also help students get familiar with how Brightspace exams work & allow students to download the lockdown browser so they will have it for the actual exams.
- **Taking the Bonus Points Quiz:** With the electronic device that you will use to take Brightspace exams, click on the **‘(Bonus Credit) Lockdown Browser Test Run- Requires Respondus LockDown Browser’** link located in the **‘Week 1’** module of our course Brightspace page and follow the instructions.
- There will be **3 midterm lecture exams during the semester** and a **non-cumulative/non-comprehensive final lecture exam during finals week**.
- Each midterm lecture exam, and the final exam, will 35 multiple-choice questions and students will have 1 hour to complete the questions. Each question will be worth 5 points for a total of 175 points/exam.
- **See page ‘x’ of this syllabus for lecture exams dates. All lecture exams are closed notes and closed book.**

### **If you missed an exam (lecture or lab)**

- Only students who miss an exam due to a university sanctioned event that they are required to

attend, a university verified grief absence, military service, or a documented case of illness are allowed to make-up exams.

- Illness absences require a doctor's note and/or a verification by the Dean of Students Office for the student to be allowed a make-up exam
- Students missing an exam due to an excused absence must request a make-up exam within ONE WEEK of the missed exam, or no make-up will be allowed.
- BIOL 110 exams will not be rescheduled to accommodate the convenience of student's travel plans.

- If you have a University verified scheduling conflict with an exam, or if you will be attending a university sanctioned event that you are required to attend during the exam, you may request an early make-up exam. In this case, contact Tracy in person in the BIOL 110 office **at least 2 weeks prior to the exam** to request an early make-up exam time. Requests must be accompanied by written documentation of the conflict.

### **Your Final Lecture Exam score could replace your lowest Midterm Lecture Exam score:**

If your final exam score is higher than one or more of your midterm lecture exam scores, then your score on the final exam will count as two exam scores and will replace your lowest midterm lecture exam score. (See scenarios below)

#### **Notes:**

*\*The final exam is the only exam that could potentially count as two exam scores.*

*\*\*Under no circumstances are students allowed to 'skip' taking the final exam. Students who do not take the final exam will receive 0 out of a possible 175 points.*

The following scenarios are made-up scores and are not associated with any particular student.

#### **Scenario #1**

1) Calculate the percentages of your Lecture Exam Scores (out of 175 points each).

- Midterm lecture Exam #1 score – 150.0 points (86%)
- Midterm lecture Exam #2 score – 143.0 points (82%)
- Midterm lecture Exam #3 score – 132.0 points (75%)
- Final Exam score – **126.0 (72%)**

\*Note the **PERCENTAGE** of the Final Exam score is **LOWER** than any of the three Midterm Lecture Exam scores. Because it is lower, your Final Exam will only count as one exam score and will not replace any of your Midterm Lecture Exam scores.

2) If that's the case, **your Total exam points are**  $150.0 + 143.0 + 132.0 + 126 = 551/700$

#### **Scenario #2**

1) Calculate the percentages of your Lecture Exam Scores (out of 175 points each).

- Midterm lecture Exam #1 score – 150.0 points (86%)
- Midterm lecture Exam #2 score – 105.0 points (60%)
- Midterm lecture Exam #3 score – 132.0 points (75%)
- Final Exam score – **143.0 (82%)**

\*Note the **PERCENTAGE** of the Final Exam score is **HIGHER** than some of the three Midterm Lecture Exam scores. Because it is higher, your Final Exam will count as two exam scores and will replace your lowest Midterm Lecture Exam score.

2) If that's the case, **your Total exam points are**  $150.0 + 105.0 + 132.0 + 143.0 + 143.0 = 568/700$

## Lab Exams

These exams consist of multiple-choice questions that typically ask about concepts and equipment related to the lab exercises.

- The format of the exams will be multiple-choice consisting of 23 questions, each worth 6 points for a total of 140 points. (Two bonus points are included to get the 140 total.) These exams will *not* be cumulative, and there will *not* be a lab final exam.
- These exams will be delivered by way of Brightspace according to the schedule below.
- The exams require a “lockdown” browser that you may download and install. Make sure your computer is correctly set up with the lockdown browser before attempting a lecture or lab exam.
- **All lecture and lab exams in BIOL 110 are closed notes and closed book; you may not use *any* type of reference device or reference material during exams. You are on your honor to follow this stipulation.**

## Lab Exam Schedule

**Lab Exam #1: 10 AM (EST) February 23, 2023, until 10 AM (EST) February 24, 2023**

**Lab Exam #2: 10 AM (EDT) March 30, 2023, until 10 AM (EDT) March 31, 2023**

**Lab Exam #3: 12:01 AM (EDT) May 1, 2023 until 11:59 PM May 5, 2023**

## Scheduling and Taking Make-ups.

If a student misses a lab exam for a reason that is excused, it is the sole responsibility of the student to schedule the make-up exam and to show up and take the make-up. **Students missing an exam due to an excused absence must request a make-up within ONE WEEK of the absence or no make-up will be allowed.** Failure of the student to schedule or show up for a make-up exam will result in a score of zero for that make-up.

## Grades for **BIOL 110** and **BIOL 112**

- Your course grade will be based on your total points on everything for the semester.
- There will be NO additional opportunities for earning points outside what is detailed in this syllabus.
- Check your scores often on Brightspace. Once a score is posted to Brightspace, you have 7 business days to inform Tracy in CHAS 2071 of any discrepancies. Please see her in person about such matters. Grade discrepancies will not be reviewed after 7 days from posting.

**BIOL 110 Students:** Your total semester points will be calculated using the following assessments:

Method of Assessment	Maximum Points Possible
Online "Connect" homework assignments (12 @ 39 points each) (capped at 390 points)	390
Lecture "Poll Everywhere" participation (23 @ 20 points each) (capped at 400 points)	400
Lecture Exams/ Final Exam	700
Lab Practical Exams	420
Weekly Labs (11 labs @ 30 points each)	330
Recitation Quizzes (4 highest @ 40 points each)	160
Recitation Group Discussions (4 highest @ 40 points each)	160
<b>TOTAL</b>	<b>2560</b>

**110 Students:** Your final course grade will be calculated using the following table:

Grade	Minimum score	Grade	Minimum score
A+	2432 (95%)	C+	1920 (75%)
A	2304 (90%)	C	1792 (70%)
B+	2176 (85%)	D+	1664 (65%)
B	2048 (80%)	D	1536 (60%)
		F	<1536 (<60%)

Dr. Humphrey reserves the right to lower letter grade thresholds but will never raise them.

**BIOL 112 Students:** Your total semester points will be calculated using the following assessments:

Method of Assessment	Maximum Points Possible
Online "Connect" homework assignments (12 @ 39 points each) (capped at 390 points)	390
Lecture "Poll Everywhere" participation (23 @ 20 points each) (capped at 400 points)	400
Lecture Exams/ Final Exam	700
<b>TOTAL</b>	<b>1490</b>

**112 Students:** Your final course grade will be calculated using the following table:

Grade	Minimum score	Grade	Minimum score
A+	1416 (95%)	C+	1118 (75%)
A	1341 (90%)	C	1043 (70%)
B+	1267 (85%)	D+	969 (65%)
B	1192 (80%)	D	894 (60%)
		F	<894 (<60%)

Dr. Humphrey reserves the right to lower letter grade thresholds but will never raise them.

## Two Bonus Point Opportunities

There will be 5 bonus points available for taking the **bonus practice exam** in Brightspace that is made available to students at the beginning of the semester. There are also 5 bonus points available for filling out the **extra course-specific evaluation forms** towards the end of the course. To earn the bonus points students must complete the entire evaluation (which is separate from the University evaluations) which will be made available through a link in Brightspace.

## Course Etiquette Policy

There is a general policy of treating course personnel and fellow students with respect. This means keeping communications between you, course personnel, and fellow students respectful and appropriate.

## Academic Honesty

Academic integrity is one of the highest values that Purdue University holds. Academic misconduct on exams, quizzes, or any assigned work will not be tolerated and will result in a grade of zero and be reported to the Dean of Students Office for investigation. Individuals are encouraged to alert university officials to potential breaches of this value by either emailing or by calling [765-494-8778](tel:765-494-8778). While information may be submitted anonymously, the more information that is submitted provides the greatest opportunity for the university to investigate the concern.

Please refer to the University's website for a complete description of policy:

<http://www.purdue.edu/odos/osrr/academicintegritybrochure.php>

## Academic Guidance in the Event a Student is Quarantined/Isolated

If you become quarantined or isolated at any point in time during the semester, in addition to support from the Protect Purdue Health Center, you will also have access to an Academic Case Manager who can provide you academic support during this time. Your Academic Case Manager can be reached at ([acmq@purdue.edu](mailto:acmq@purdue.edu)) and will provide you with general guidelines/resources around communicating with your instructors, be available for academic support, and offer suggestions for how to be successful



when learning remotely. Importantly, if you find yourself too sick to progress in the course, notify your academic case manager and notify Dr. Humphrey via email as soon as possible. We will make arrangements based on your particular situation. The Office of the Dean of Students ([odos@purdue.edu](mailto:odos@purdue.edu)) is also available to support you should this situation occur.

## **Campus Emergencies**

In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances. Changes will be posted on the Brightspace web page, and an e-mail from Tracy regarding relevant changes will be sent to all students currently enrolled in the course.

## **Nondiscrimination Statement:**

Purdue University is committed to maintaining a community which recognizes and values the inherent worth and dignity of every person; fosters tolerance, sensitivity, understanding, and mutual respect among its members; and encourages each individual to strive to reach his or her own potential. In pursuit of its goal of academic excellence, the University seeks to develop and nurture diversity. The University believes that diversity among its many members strengthens the institution, stimulates creativity, promotes the exchange of ideas, and enriches campus life. Link to Purdue's nondiscrimination policy statement: [https://www.purdue.edu/purdue/ea\\_eou\\_statement.php](https://www.purdue.edu/purdue/ea_eou_statement.php)

## **Students with Disabilities:**

Purdue University strives to make learning experiences as accessible as possible. If you anticipate or experience physical or academic barriers based on disability, you are welcome to let me know so that we can discuss options. You are also encouraged to contact the Disability Resource Center at: [drc@purdue.edu](mailto:drc@purdue.edu) or by phone: 765-494-1247.

## **Violent Behavior Policy:**

Purdue University is committed to providing a safe and secure campus environment for members of the university community. Purdue strives to create an educational environment for students and a work environment for employees that promote educational and career goals. Violent Behavior impedes such goals. Therefore, Violent Behavior is prohibited in or on any University Facility or while participating in any university activity. See the [University's full violent behavior policy](#) for more detail.

## **Mental Health Statement:**

- **If you find yourself beginning to feel some stress, anxiety and/or feeling slightly overwhelmed, try [WellTrack](#).** Sign in and find information and tools at your fingertips, available to you at any time.
- **If you need support and information about options and resources,** please see the [Office of the Dean of Students](#) for drop-in hours (M-F, 8 am- 5 pm).
- **If you're struggling and need mental health services:** Purdue University is committed to advancing the mental health and well-being of its students. If you or someone you know is feeling overwhelmed, depressed, and/or in need of mental health support, services are available. For help, such individuals should contact [Counseling and Psychological Services \(CAPS\)](#) at 765-494-6995 during and after hours, on weekends and holidays, or by going to the CAPS office of the second floor of the Purdue University Student Health Center (PUSH) during business hours.

## **Final Note**

Purdue University, like most U.S. universities, recommends that you spend 2-3 hours per week studying for every 1 hour spent in class. This means that, if you want to earn an "A" in BIOL 110, you should study 6-9 hours a week for lecture and another 4-6 hours a week for lab. Without this level of effort, you should not expect to earn an "A" in the course.

Success in this course depends on your level of effort. Students must make it a priority to learn course content, follow instructions, be aware of course policies and due dates, and stay organized. Students must take personal responsibility for earning the grade they want in this course. Biology 110 staff will help you as much as possible, but in the end it will **be your level of effort that determines your grade.**

# LECTURE/LABORATORY SYLLABUS BIOL 110 Spring 2023 (tentative)

Wk	Dates	Lectures with Poll_Everywhere Questions	Dates of Lecture Exams and Homework Assignments	Labs	Recitations
1	1/9 – 1/13			Microscopy	Orientation
2	1/16 – 1/20	No lecture 1/16 Second Lecture	Homework (H.W.) 1 assigned 1/18	No lab (MLK Day)	Quiz 1
3	1/23 – 1/27	Both Lectures	H.W. 1 due 1/25 @ 11:59PM H.W. 2 assigned 1/25	Electrophoresis and Ionization	Quiz 2
4	1/30 – 2/3	First Lecture 2nd lecture is an optional help session	H.W. 2 due 2/1 @ 11:59PM H.W. 3 assigned 2/1	Diversity: Archaea, etc	Group Discussion 1
5	2/6 – 2/10	Both Lectures	H.W. 3 due 2/8 @ 11:59PM H.W. 4 assigned 2/8 <b>EXAM #1 (2/9 @10 AM to 2/10 @10 AM)</b>	Membrane Permeability	Group Discussion 2
6	2/13 – 2/17	Both Lectures	H.W. 4 due 2/15 @ 11:59PM H.W. 5 assigned 2/15	Photosynthesis Lab #1	Quiz 3
7	2/20 – 2/24	Both Lectures	H.W. 5 due 2/22 @ 11:59PM H.W. 6 assigned 2/22	Open Lab: 2/20 <b>Lab Exam #1 (2/23 10 AM to 2/24 10 AM)</b> (over weeks 1, 3, 4 & 5)	Canceled
8	2/27 - 3/3	First lecture 2nd lecture is an optional help session	H.W. 6 due 3/1 @ 11:59PM H.W. 7 assigned 3/1	Photosynthesis Lab #2	Group Discussion 3
9	3/6 -3/10	Both Lectures	H.W. 7 due 3/8 @ 11:59PM H.W. 8 assigned 3/8 <b>EXAM #2 (3/9 @10 AM to 3/10 @10 AM)</b>	Photosynthesis Lab #3	Quiz 4
10	3/13 - 3/17	No Lectures	Spring Break	No lab (Spring Break)	Canceled
11	3/20 - 3/24	Both Lectures	H.W. 8 due 3/22 @ 11:59PM H.W. 9 assigned 3/22	Population Growth	Group Discussion 4
12	3/27 - 3/31	Both Lectures	H.W. 9 due 3/29 @ 11:59PM H.W. 10 assigned 3/29	Open Lab: 3/27 <b>Lab Exam #2 (3/30 10 AM to 3/31 10 AM)</b> (over weeks 6,8,9 & 11)	Canceled
13	4/3 - 4/7	First Lecture 2nd lecture is an optional help session	H.W. 10 due 4/5 @ 11:59PM H.W. 11 assigned 4/5	Allele frequencies in populations	Quiz 5
14	4/10 - 4/14	Both Lectures	H.W. 11 due 4/12 @ 11:59PM H.W. 12 assigned 4/12 <b>EXAM #3 (4/13 @10 AM to 4/14 @10 AM)</b>	Plant and Animal Diversity Lab	Group Discussion 5
15	4/17 – 4/21	Both Lectures	H.W. 12 due 4/19 @ 11:59PM	Phylogeny	Quiz 6 and Group Discussion 6
16	4/24 - 4/28	First Lecture 2nd lecture is an optional help session		Open Lab: 4/24 (See Brightspace for lab & recitation score updates)	Canceled (Bonus evaluations available by way of Brightspace)
17	5/1 - 5/6	Finals Week	<b>EXAM #4: (5/1 @12:01 AM to 5/5 @11:59 PM)</b>	<b>Lab Exam #3 (5/1 @12:01 AM to 5/5 @11:59 PM)</b> (over weeks 13, 14 & 15 )	

\*All times are EST until March 12, thereafter the times are EDT.

## *Lecture Outline*

### **I. Chemistry**

- A. Chemical bonding
- B. Properties of Water
- C. Acids and Bases
- D. Biochemistry: macromolecules

### **II. Cell structure**

- A. Prokaryotic Cells
- B. Eukaryotic Cells
- C. Membrane structure
- D. Membrane transport

### **III. Energy and Biosphere**

- A. Thermodynamics
- B. Energy flow/Carbon flow
- C. Cycling of nutrients
- D. Photosynthesis
- E. Respiration

### **IV. Population Dynamics**

- A. Quantitative changes
- B. Qualitative changes: Evolution
- C. Speciation

### **V. Diversity of life**

- A. Classification Schemes
- B. Major animal phyla