| **BIOLOGY 10: Life Science**  **Syllabus for Section 09** | |
| --- | --- |
| **Fall 2020** | **California State University, Fresno** |
| **Course Number:** 76214 | **Instructor:** Dr. Emily Walter |
| **Units:** 3 | **Office**: I do not expect to be on campus regularly this semester. When I am on campus, I am in one of two places: 125 Lab School OR 218 Science I |
| **Days & Time:** TTh 1:00-1:50 p.m. | **E-Mail** (preferred):ewalter@csufresno.edu |
| **Location:** Synchronous Online Instruction | **Telephone:** Email is best |
| **Website**: To access the course, login to Canvas (<https://fresnostate.instructure.com/>) using your Fresno State username and password | **Office Hours Zoom:**  Tuesdays 8-9:30 PM and Thursdays 2-3:30 PM <https://fresnostate.zoom.us/j/95826572930?pwd=V3JyWGRiODBHV2pJRUFUYkdWYzRDQT09>  **Meeting ID: 958 2657 2930** Passcode: biology10 |

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# Required Textbooks and Materials

**Textbooks:**

1. *OpenStax: Concepts of Biology*. Edition 16. ISBN: 9781938168116. -- FREE
2. McGraw Hill Connect (for lab) -- $48.00

**Materials:**

1. Electronic Device, preferably a laptop or tablet

# Course Description

**Lecture:**  The course is divided into five units, based on the main topics that we will cover (Scientific Thinking, Nutrition, Infection, Evolution, and Ecology).

**Quiz preparation & studying:**  Quizzes will cover material covered in the lectures. Prepare for each class period by completing the assignments listed on the course schedule and attending and participating in each class session. Quizzes may include content not covered by the textbook as assignments and lectures may introduce material that is not covered by the textbook. It is usually expected that students will spend approximately 2 hours of study time outside of class for every one hour in class. Since this is a 3-unit class, you should expect to study an average of 6 hours outside of class each week.

**Lab:**This course has a laboratory component that you will participate in outside of lecture.  Please see below and the lab syllabus in the required lab manual for further details.

# Course Goals and Student Learning Outcomes

### Primary Learning Outcomes

At the completion of this course the student will be able to:

1. Describe what science is and how to distinguish claims supported by science versus those that are not.
2. Know and describe the role of the major biological molecules needed for fuel and growth of organisms, especially in the human body and how over intake of these molecules can lead to human health problems.
3. Explain how the human immune system fights infections, how it can be ‘boosted’, and how ‘boosting’ the immune system affects the human population.
4. Describe the genetic basis for the inheritance of characteristics.
5. Describe and apply evidence for how populations, ecosystems, and global systems change, including how and why scientists agree that: (a.) Earth’s climate is changing and is influenced by human activity and (b.) populations evolve over time.

### GE Learning Outcomes

Upon completion of an Area B2 (Life Sciences) course, students will be able to:

1. Recognize and explain knowledge of scientific theories, concepts, and data about living systems.
2. Recognize scientific principles and apply the scientific method.
3. Discuss the distinctive strengths and scope of scientific endeavors and the ethics associated with intellectual inquiry.

## GE Program ePortfolio Requirement

Our course is a GE course for Area B2. This means you need to submit to the online ePortfolio one of your laboratory writing assignments. Your lab instructor will help you know what to submit to the online submission system.

# Email and Canvas

Please check your Fresno State email daily and pay attention to the available materials on Canvas, including supplementary readings, videos, the grade book, and discussion boards.

# SupportNet

Our campus has developed [SupportNet](http://fresnostate.edu/studentaffairs/lrc/supportnet/) to connect students with specific campus resources promoting academic success. SupportNet is an early support program where faculty and staff can refer students who need academic and/or personal assistance. Dr. Walter will refer you to SupportNet if (a) after the first weeks of the course you have a D or lower (b) if at any time I have a concern for your wellbeing.

# Dr. Walter’s Teaching Philosophy

I look forward to being your instructor this semester. I am both a scientist and an educator, and my expertise is in how to help college students learn science best. If I were to explain this in three words, it would be “lecture doesn’t work”.  [Or rather, lecture doesn’t work well for most students and it does not work for long periods](https://www.pnas.org/content/111/23/8410).

This means both you as a student and me as your instructor will be *interacting* with each other and the class content! In both synchronous and asynchronous environments, I will build class materials to help you engage with one another, build your thinking and make connections among ideas, do relevant work (not boring memorization), and reflect on your understanding.

**(a)**   **Prior Knowledge and Interest Matters**

You already have ideas tied to what we learn in class. It is my job to help you build upon and revise old ideas and engage that prior knowledge and interest. I frequently will ask what you already know about a concept -- often in live class as a multiple choice or open-ended question.  This will help you figure out your thinking! You will be able to recognize when something is new, something is familiar, or that perhaps something you thought you knew is not clear (yet). In our online environment, I will do this through polling software and group work online through Zoom Breakout Rooms, Chat, and Discussion Boards.

**(b)**  **Learning Goals and Synchronous/Asynchronous Activities**

It is my duty as your instructor to provide organized instruction that is focused around key learning goals. Our learning goals always go beyond factoids. Random facts are boring, and not relevant to your future life or career. Instead, I strive to build our class material to be worth achieving. Furthermore, our class activities and assessments will always match the learning goals. In other words, you won’t be quizzed on something that was not in class (that would be poor planning, if I care so much about goals!).

Our online class has a predictable schedule of two LIVE class periods and then either a homework or a quiz over the weekend. If you miss class, you can review the recorded class periods and do an online video module to get caught up. This way you are still interacting with the material and do not get behind, even if life got in the way.

**c) Learning is Social**

It is much easier to understand an idea in class when you explain (or hear about) that idea to others. If I am using a traditional lecture, I will break up lecture with something interactive every 10 minutes or so. Other times, you will not have any lecture until mid-way through a class period, once we’ve had time to develop our ideas and compare our thinking to what we knew beforehand. Long story short, this means that our online class is not a bunch of videos or passive listening. Social learning in our class will take many forms, from poll questions and think-pair-share in Zoom breakout rooms to more complex problem-solving discussions.

**(d)**  **Reflection is Key**

It is important in all learning that you have a chance to set goals, continually monitor their progress, identify what you know, identify what you don’t know, and adapt as necessary.  I will support you to do this in live class and in our asynchronous assignments. You can expect to see reflective prompts in many assignments and quizzes. You can also expect that we will pause at the end of a day to think about what makes sense and what is still in development. Sometimes these reflections will be worth points (when they are an assignment), and sometimes these reflections will be done as part of a Google form. Watch for the QR code and link at the end of class, it helps me (and you) know where your thinking is!

# Grading Policy

A ≥ 90% C = 70 – 79.99999%

B = 80 – 89.99999% D = 60 – 69.99999% F = 0 – 59.99999%

I will NOT be rounding grades up. This means if you got 89%, for example, that you’d get a B.

# Course Policies

When in class, I expect you to be engaged and participating actively. This means that email, texting, homework for other classes, Facebook, YouTube, and online shopping can wait.

**Emailing Dr. Walter**

Email is the best way to reach me (Dr. Walter). I usually respond to emails within 24 hours. However, if I am busy, it may take me longer to respond. Please use proper letter etiquette and spelling when emailing me (or any professor). Include our course name (BIOL 10) in your email subject line for a faster response.

**Extra Credit**

There will 50 points (5% boost) of extra credit throughout the semester. These opportunities will be available to everyone in class. I do not offer extra credit on an individual basis, as it is unfair to offer credit to some students and not others. *Extra credit will not be added to your grade until the very end of the semester.*

**Late Policy**

Missed homework cannot be made up, but you can complete another Biology Quest to drop your lowest homework grade. Missed quizzes can be made up by taking another version of the quiz that is all short answer and essay questions. In class activity points must be completed within 48 hours of a class period (by Thursday at 1 PM for Tuesday class, by Saturday at 1 PM for Thursday class). In class activity points will be waived for students on a case-by-case basis. Please do not schedule avoidable conflicts (like doctor appointments) for during Biology 10 class time.

Do not let a computer crash or lack of Internet cause your assignments to be late! Please back up your work on the cloud and on a flash drive. Be prepared to act on your feet! You can rent a free computer from the library, borrow a friend’s computer, and/or go to a location with 24-hr free Wi-Fi in order to complete your assignments on time.

**Family Educational Rights and Privacy Act (FERPA)**

Federal law (FERPA) strictly prevents me from discussing your grades or class performance with your parents without your permission. If you DO want me to discuss your performance with them or anyone else, you have to complete and sign a document waiving your privacy rights. Federal law does not make an exception because your parents are paying for your education. If there is a question about your grades, please come see me yourself; you are the only one with whom I can discuss your class performance.

# Point Structure

|  |  |  |  |
| --- | --- | --- | --- |
| **Activity** | **Points** | **% of grade** | **Notes** |
| Lecture | 670 | 67% |  |
| Quizzes | 230 | 23% | 5 online quizzes:  Quiz 1 @ 30 points  Quiz 2-5 @ 50 points each  Quizzes are online on Canvas and timed at 60 minutes. They are open book and open note. If you miss a quiz, you can do a short answer make up quiz. |
| Homework | 180 | 18% | 9 Homework Tasks, 20 points each.  If you miss a homework, you cannot make it up. However, you can replace a homework grade by doing a bonus [Biology Quest](https://fresnostate.instructure.com/courses/30779/pages/biology-quests-and-achievements). |
| Biology Quests | 75 | 7.5% | Choose your own adventure in citizen science and science communication activities. Options on Canvas.  Do 3 quests from the over 20 to choose from. Done asynchronously. All are due by **December 1 at 11:59 PM.** |
| In Class Activities | 85 | 8.5% | Most class periods are LIVE, interactive, and worth points.  If you miss class, you can complete the in class activity up to 48 hours after each class. |
| Final Exam | 100 | 10% | Cumulative final exam |
| Lab\* | 330 | 33% | You must pass lab to pass Bio10. |
| **Total** | **1000** | **100%** |  |

## \*Both writing projects from lab must be completed to pass this course. (completed = submission of a final draft)

# University Policies

## **Policy on Students with Disabilities**

Dr. Walter is committed to creating a learning environment that meets the needs of Fresno State’s diverse student body, and to creating a course that is inclusive in its design. If you anticipate or experience any barriers to learning, please discuss your concerns privately with me (Dr. Walter). In addition to speaking with me, there are many resources are available to you to ensure an opportunity to learn in an inclusive environment that values mutual respect.

If there are aspects of the instruction or design of this course that results in barriers to your inclusion or to accurate assessment of achievement—such as time-limited quizzes, inaccessible web content, or the use of non-captioned videos—please notify Dr. Walter as soon as possible.

Upon identifying themselves to the instructor and the university, students with disabilities will receive reasonable accommodation for learning and evaluation. For more information, contact Services to Students with Disabilities in the Henry Madden Library, Room 1202 (278-2811).

## Additional Policies

* [Adding and Dropping Classes](http://fresnostate.edu/studentaffairs/registrar/registration/add-drop-deadlines.html)
* [Cheating and Plagiarism](http://www.fresnostate.edu/academics/facultyaffairs/documents/apm/235.pdf)
* [Computers](https://www.fresnostate.edu/catalog/academic-regulations/index.html#computerreq)
* [Copyright Policy](http://www.fresnostate.edu/home/about/copyright.html)
* [Disruptive Classroom Behavior](http://www.fresnostate.edu/academics/facultyaffairs/documents/apm/419.pdf)
* [Honor Code](http://fresnostate.edu/academics/facultyaffairs/documents/apm/236_000.pdf)
* [Students with Disabilities](http://fresnostate.edu/studentaffairs/ssd/)
* [Title IX](http://www.fresnostate.edu/adminserv/hr/title-ix/index.html)

## **SupportNet**

Our campus has developed [SupportNet](http://fresnostate.edu/studentaffairs/lrc/supportnet/) to connect students with specific campus resources promoting academic success. SupportNet is an early support program where faculty and staff can refer students who need academic and/or personal assistance. Dr. Walter will refer you to SupportNet if (a) after the first weeks of the course you have a D or lower (b) if at any time I have a concern for your wellbeing.

## **Creating an Environment for All People**

This class will be conducted in an environment that is open, welcoming, and safe to all students. The instructors is willing and committed to providing an atmosphere of support and affirmation for all people. **Do not display disrespectful behavior toward any individual** based upon age, ability, race/color/ethnicity, religious/spiritual, political affiliation, socioeconomic, immigration, marital, military/veteran status, gender identity/expressions, sexual/affectional orientations, relationship status, and/or anything that is likely to be perceived as disrespectful to someone’s background, culture, or identity. For instance, some derogatory, but commonly used language includes ‘that’s gay’ or ‘that’s retarded.’ Unprofessional, derogatory, and/or offensive behavior may result in disciplinary action.

## **Support for Student Parents and Caregivers**

Should you be attending class on Zoom and have children at home and/or have difficulty with obtaining childcare on a given day, *you can bring the kids with you to class*. This means it is okay if the child is on your lap or nearby. It is okay if they make noise or cry. I trust you to know whether you can successfully bring a child to class, and to mute your microphone when necessary. From my perspective, your child is welcome to attend and (a) participate or (b) do other activities, such as read, watch videos (with headphones), play video games, color, etc.

If you are breastfeeding and need to turn off your camera, please feel free to do so. However, since our class is only 50 minutes long, we do not have any scheduled breaks. Should you miss part of class time based on this need, please complete the synchronous in-class assignment within 48 hours of class. *If there is anything else that I can do to support you as a parent or caregiver, please let me know.*

# Examinations and Major Assignments

## Lecture

**Quizzes:**  There are 5 unit quizzes that will be given on Canvas and will be open for 60 minutes each. Quizzes are open book and open note. Each quiz will be open over a 4-day period (Friday-Saturday-Sunday-Monday). *Make-up quizzes will only be given due to extreme circumstances and are all short answer*. All questions on the make-up quiz are short answer questions.

**Final Exam:**The comprehensive final exam is required for all students. It is worth 10% of your overall grade (100 points).

**In-class Participation:** Every class session will have points associated with participation in individual and/or group activities. Activities may require (but are not limited to): 1) materials to be turned in during class (i.e. handouts), 2) Google poll questions during class, 3) uploading information to Canvas or 4) homework. Synchronous *In-class activities/ participation points must be completed within 48 hours of every class.*

**Biology Quests.** You must complete 3 Biology Quests as part of Biology 10. These quests are designed to increase your knowledge of local and scientific issues, local biodiversity, and spread your knowledge of biology to others.

Some quests will be individual quests and some are group quests. Each individual quest takes about 60-90 minutes to complete. Group quests take longer, but you do them with a group to share the work. Use the Discussion Boards on Canvas and select “Looking for Quest Group” to find a quest group.

Everyone will complete 3 ‘base’ quests from over 20 quests to choose from. New quests will be added throughout the semester as new opportunities arise to engage in citizen science and science communication within your community.

The quests are worth 7.5% of your overall grade (75 points). The quests are done outside of class (asynchronously) and can be done AT ANY TIME during the semester. Please complete all of your quests by **December 1 at 11:59 PM**. This gives adequate time to grade the quests before the semester concludes.

**Additional Information on Science Quests.**

*Homework Replacement Quest:* If you miss one homework or want your lowest homework score dropped, you can do an additional Science Quest. If you choose this option, the quest you submit will not double count for additional extra credit. You must have all 3 base science quests completed in order to be able to do a homework replacement quest.

*Extra Credit Quests:* If you choose, you can complete more than the 3 base Science Quests. These extra credit points add to the overall possible extra credit for the course, which is capped at no more than 50 overall extra credit points.

*Quest Achievement Extra Credit.* You can unlock additional extra credit by choosing to do the quests in certain ways. This is true for base quests or bonus quests. If you do this, you will unlock achievements that are worth more extra credit points. Some of these achievements are below. These extra credit points add to the overall possible extra credit for the course. You can earn no more than 50 overall extra credit points for the entire course, from quests or any other source.

* *Early Completion Achievement*: Finish all of your base science quests before October 15th. 10 points extra credit.
* *Focused Skill Achievement:* Complete 3 quests in a particular skill tree. 5 points extra credit for each focused skill. Skill trees: Animals, Plants, Cooking, Artist, & Citizen Science.
* *Teamwork Achievement*: Do any group quest. 10 points extra credit.
* *Friends and Family Achievement*. Do a family-friendly quest and share how you involved your family or friends in the quest.
* *Social Media Achievement*: Post pictures or video of your Science Quest to Facebook, TikTok, Instagram, or Twitter. Tag @DrEmilyWalter and @Fresno\_State in your post and share a link to the post in your submission.
* *Multi-lingual Achievement*. Create a quest product in a language other than English.

**Homework:**  There are 9 homework assignments worth 20 pts each. These are made available for 4 days, from Friday at Noon until Monday at 11:59 p.m. Pacific Time. If you miss a homework, you can make up a missing homework by doing an additional Science Quest.

These assignments can include, but are not limited to, listening to a podcast, watching a video, reading articles, and answering multiple choice questions.

## Lab

**Lab**

You are scheduled for a lab section that is at another time than our lecture session. *The lab is taught by another instructor, not by Dr. Walter.* Likethe lessons taught by Dr. Walter, your laboratory will be virtual in Fall 2020. You must do more than attend lab to do well. You will also have lab writing assignments. The writing assignments will require you to have discussions and peer reviews in lab.

Lab Point structure: 100 for reports (10 @ 10 points each), 80 quizzes (10 @ 8 points each) and 150 writing assignments (2 @ 75 points each). See more detail on your lab syllabus.

Attending lab is required, no exceptions.  **IF YOU DO NOT ATTEND THE FIRST SCHEDULED LAB MEETING OF THE SEMESTER FOR THE LAB YOU ARE REGISTERED FOR, YOU WILL BE DROPPED FROM BIOL 10.**  Throughout the semester, **missing three labs will drop your overall grade by one letter grade; missing four labs will drop your overall grade by two letter grades; you will fail this class if you miss five labs.**  There will be 10 lab quizzes (8 pts available per lab quiz) and 10 lab reports (10 pts available per lab report), along with your writing assignments (75 points per assignment, see below).  You must receive a minimum of 180 points AND complete both writing assignments to pass the lab.  **IF YOU DO NOT PASS LAB, YOU CANNOT PASS BIOL 10.**

**Lab Writing Assignments:** You will complete two writing assignments in this course, which will be completed in your laboratory section.  You will write one report per project to fulfill the writing requirement of this GE course; the combined word count of both reports must be over 1000 words to pass this class. Detailed instructions for the assignments are available in the lab manual.  You will submit a draft of your report for peer feedback.  The final version of your report will be peer reviewed.  You can earn a total of 75 points per project: 15 participation points, 15 honest-effort points, and up to15 performance points. You will submit a written 1st draft (5 participation pts); this first draft will receive peer feedback (10 participation pts for providing peer feedback).  You will then revise your draft and submit a written final report for peer review.  If your final report is deemed an “honest effort”, you will receive 25 honest-effort points.  If your report is deemed more than just an “honest effort”, you will receive up to 25 performance points.  Your honest effort as a peer reviewer will receive 10 participation points per project.  The students who wrote the best reports in the laboratory class will give a brief talk in lab about their report.  Note:  All drafts and final reports must be submitted to TurnItIn (on blackboard) for the peer feedback and peer review process.

# Supplemental Instruction (SI)

Supplemental Instruction (SI) is provided for all students who want to improve their understanding of the material taught in this course.  SI sessions are led by a student who has already mastered the course material and has been trained to facilitate group sessions where students can meet to compare class notes, review and discuss important concepts, develop strategies for studying, and prepare for exams.  The SI leader attends this class and communicates regularly with the instructor to ensure that accurate information is given.  Attendance at SI sessions is free and voluntary for any student enrolled in this course.  Students may attend as many times as they choose.  A session schedule will be announced in the first few weeks of class.  Need more information? Check out FRESNO STATE SI VIDEO: <http://youtu.be/yTLGu5TLOUI>.

For free tutoring on campus, contact the [Learning Center](http://www.csufresno.edu/learningcenter) (www.csufresno.edu/learningcenter) in the Collection Level (basement level) of the Henry Madden Library. You can reach them by phone at 278-3052.

# Participation Standards

**Study Expectations**

It is usually expected that students will spend approximately 2 hours of study time outside of class for every 1 hour in class. Since this is a 3-unit class (4 hours/week), you should expect to study, do homework, do quizzes, or do other course-related work (like quests) for around 8 hours outside of class each week. Some students may need more time and some less.

You have found the syllabus extra credit. Congratulations. Please email Dr. Walter (ewalter@csufresno.edu) a picture of a red panda no later than September 7. You must title your email “Red Panda.” If you do this task, you will receive 5 points of extra credit.

**Zoom Norms**

You are expected to stay muted on Zoom and have your camera on for the full experience during LIVE class sessions. Please use whole group chat if you have a question. You can use private chat for a question to Dr. Walter if you do not want others to see your question. When we go to breakout rooms (will happen daily), you are expected to fully participate with your group. This means you should unmute and talk. If you are concerned about background noise, use the chat to communicate with your group.

# Tentative Course Schedule

**Fall 2020**

The schedule and procedures for this course are ***subject to change*** to remain responsive to your learning needs and for extenuating circumstances.

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| --- | --- | --- | --- | --- | --- |
| **Day** | **Date** | **Unit** | **Topic** | **Assignments** | **Lab** |
| **Unit 1. Nature of Science** | | | | | |
| 1 | Thu. Aug 20 | -- | Course Introduction | --- | No Labs |
| 2 | Tue. Aug 25 | Nature of Science | The *Real* Scientific Method Science vs. Pseudoscience | Homework #1: Syllabus + Nature of Science  Due Mon 8/31 | 1 – Intro to Science |
| 3 | Thu. Aug 27 | Nature of Science | Theory/Law and Scientific Proof |
| 4 | Tue. Sept 1 | Nature of Science | Public Images of Science + Science and the Supernatural | **Unit 1 Quiz**  **Open 9/4- 9/7** | 2 – Scientific Method and Microscopy |
| 5 | Thu. Sept 3 | Nature of Science | Spotting Bad Science: Evaluating Claims Activity |
| **Unit 2. Nutrition** | | | | | |
| 6 | Tue. Sept 8 | Nutrition | Food, Matter, and Energy | Homework #2: BMR Activity  Due Mon 9/14 | No Labs, Labor Day Week |
| 7 | Thu. Sept 10 | Nutrition | Food and What Really Makes You Fat |
| 8 | Tue. Sept 15 | Nutrition | Healthy Eating & Diabetes | Homework #3  Due Mon 9/21 | 3 – Cell Structure and Function |
| 9 | Thu. Sept 17 | Nutrition | Food and Photosynthesis |
| 10 | Tue. Sept 22 | Nutrition | Photosynthesis in Ecosystems | **Unit 2 Quiz**  **Open 9/25 - 9/28** | 4 – Chemical Composition of Cells |
| **Unit 3. Infection** | | | | | |
| 11 | Thu. Sept 24 | Infection | Infection Basics | **Unit #2 Quiz**  **Open 9/25-9/28** | 4- Chemical Composition of Cells |
| 12 | Tue. Sept 29 | Infection | The Immune System | Homework #4  Due Mon 10/5 | 5 – Photo-synthesis and Cellular Respiration;  Rough Draft Due |
| 13 | Thu. Oct 1 | Infection | Immune System & Vaccines |
| 14 | Tue. Oct 6 | Infection | Preventing Infection | **Unit 3 Quiz**  **Open 10/9-10/12** | 6 – DNA Extraction |
| 15 | Thu. Oct 8 | Infection | Flu Case Study\*  Asynchronous Class Period |

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| **Unit 4. Evolution** | | | | | |
| 16 | Tue. Oct 13 | Evolution | What is evolution? / Theory and Law Recap | Homework #5 *Theory and Law Recap*  Due Mon 10/19 | 7 – Mitosis and Meiosis |
| 17 | Thu. Oct 15 | Evolution | Variation in Populations |
| 18 | Tue. Oct 20 | Evolution | Natural Selection Part 1 | Homework #6  Due Mon 10/26 | Lab Writing Assignment #1 is Due! |
| 19 | Thu. Oct 22 | Evolution | Natural Selection Part 2 |
| 20 | Tue. Oct 27 | Evolution | Speciation Basics | Homework #7 Speciation  Due Mon 11/5 | 8 – Diffusion and Water Balance |
| 21 | Thu. Oct 29 | Evolution | Evolution Evidence |
| 22 | Tue. Nov 3 | Evolution | **Asynchronous Class\***  Watch “*Making of North America*” video (45 min) | Homework #8  *Making of North America*  Due Mon 11/9 | 9 – Adaptations and Natural Selection;  Draft report #2 due (Cure the World) |
| 23 | Thu. Nov 5 | Evolution | Fossils and Age of the Earth |
| 24 | Tue. Nov 10 | Evolution | Evolution Evidence Continued | **Unit 4 Quiz**  **Open 11/13-11/16** | No Labs – Veteran’s Day Week |
| 25 | Thu. Nov 12 | Evolution | Evolution Myth Busting |
| **Unit 5. Ecology** | | | | | |
| 26 | Tue. Nov 17 | Ecology | Natural Resources and Sustainability | Homework #9 *Earth the Operators’ Manual* | Lab Writing Assignment #2 is Due! |
| 27 | Thu. Nov 19 | Ecology | Climate Change Evidence |
| 28 | Tue. Nov 24 | Ecology | Climate Consensus and Effects | No Homework – Happy Thanksgiving ☺ | No Labs – Thanksgiving Week |
| -- | Thu. Nov 26 | **HOLIDAY – Thanksgiving Recess** | |
| 29 | Tue., Dec 1 | Ecology | How to be Ecofriendly | **Unit 5 Quiz**  **Open 12/4-12/7** | 10 – Ecological Interactions |
| 30 | Thu. Dec 3 | Ecology | \*\*\* TBD; Maybe something with logic related to Climate Change. |
| 31 | Tue. Dec 8 | Last Day | Course Wrap Up | No Homework ☺ | No Labs |

Q. Why is Unit 4 so long? A. Evolution is considered the central theme of biology. Nothing in biology makes sense except in light of evolution. Sadly, many people misunderstand the topic. For this reason, we have a long and comprehensive evolution unit.

|  |  |  |
| --- | --- | --- |
| **Finals week** | **Days** | **Dates** |
| Final Exam Preparation & Faculty Consultation Days | Thursday and Friday | Dec 10 – 11 |
| Final Semester Examinations | Monday – Thursday | Dec 14 – 17 |
| Final Exam in this course | Tuesday | December 15 from 1:15-3:15 PM |