

# BIOL 272: COLLEGE SCIENCE TEACHING

## SYLLABUS

<b>Spring 2022</b>	<b>Department of Biology California State University, Fresno</b>
<b>Course Number:</b> 36234	<b>Instructor:</b> Dr. Emily Walter (she/her/hers)
<b>Units:</b> 3	<b>Office:</b> Science 1, Room 218 or Lab School 125
<b>Day &amp; Time:</b> W 9:00-11:50 a.m.	<b>E-Mail</b> (preferred): <a href="mailto:ewalter@csufresno.edu">ewalter@csufresno.edu</a>
<b>Location:</b> Synchronous Online Instruction	<b>Telephone:</b> Email is best
<b>Website:</b> To access the course, login to Canvas ( <a href="https://fresnostate.instructure.com/">https://fresnostate.instructure.com/</a> ) using your Fresno State username and password	<b>Office Hours:</b> Office hours are booked using the Calendly app. I have appointments available throughout the week.  If you do not find a time using Calendly or need more immediate assistance, <i>please talk to me before or after class</i> or by email.  <a href="https://calendly.com/dremilywalter">https://calendly.com/dremilywalter</a>

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# Campus Safety Regulations

**The following sections regarding COVID are subject to change given changing circumstances on-campus and in the community. Please check the COVID website for the most up-to-date information at: [www.fresnostate.edu/coronavirus](http://www.fresnostate.edu/coronavirus)**

**Vaccination:** All Students who access Campus/Programs must be Fully Vaccinated (including the booster dose when eligible to receive it) by Feb. 28, 2022. Students may attest to a Medical or Religious Exemption from the vaccine policy requirement in accordance with CSU and campus procedures. Students should go to the Student Portal to update their COVID self-certification form and vaccine documentation. Requests for exemptions can be found there. You are not to come to campus if any of the following are true:

- You have not received an Approved Vaccine and are not considered fully vaccinated and you have not attested to a medical or religious exemption.
- You have attested to an exemption from the vaccine requirement, but you have not completed your mandatory weekly COVID-19 test.

**Health Screening:** Students who come to campus and/or are participating in off-campus in-person experiential learning will be required to complete a [daily health screening](#) before coming to campus or learning site. You are not allowed to come to campus if any of the following is true:

- If you have experienced COVID-19 symptoms (vaccinated or not).
- If you have tested positive within the past 10 days.
- If you have had close contact (less than 6 feet for longer than 15 minutes) with someone confirmed to have COVID-19 within the past 14 days.

Please complete the campus [online reporting form](#). A campus official will reply to provide guidance and information.

**Safety Measures:** Face coverings are required to be worn indoors on-campus and during in-person classes (vaccinated or not), and/or in accordance with learning site requirements if participating in off-campus experiential learning, to reduce the risk of community spread of COVID-19. In accordance with university policy, *students must wear a surgical mask, a KN95 mask, or an N95 mask over their nose and mouth while on campus.*

The [Student Health and Counseling Center](#) has complimentary masks available for students who need them. Good hygiene of hand washing for a minimum of 20 seconds or using hand sanitizer is required. Please avoid touching your face with your hands, especially if they are unclean.

Please see university website for the most updated information:  
[www.fresnostate.edu/coronavirus](http://www.fresnostate.edu/coronavirus)

Please remember that the same student conduct rules that are used for in-person classroom instruction also apply for virtual/online classrooms. Students are prohibited from any unauthorized recording, dissemination, or publication of any academic presentation, including any online classroom instruction, for any commercial purpose. In addition, students may not record or use virtual/online instruction in any manner that would violate copyright law. Students are to use all online/virtual instruction exclusively for the educational purpose of the online class in which the instruction is being provided. Students may not re-record any online recordings or post any online recordings in any other format (e.g., electronic, video, social media, audio recording, web page, internet, hard paper copy, etc.) for any purpose without the explicit written permission of the faculty member providing the instruction. Exceptions for disability-related accommodations will be addressed by Student Disability Services working in conjunction with the student and faculty member.

## Course Description

This course is designed for graduate students in the sciences and graduate students in science education who are interested in improving their science teaching and their students learning, and in pursuing careers in college science teaching. **Central Course Question:** *How do college students best learn science and how do we best teach them?*

The preparation of future scientists is intense, and typically emphasizes disciplinary knowledge and research. However, many science graduate students will be expected to teach in their careers. Approximately 75% of faculty positions in the U.S. are at institutions teaching and professional service has equal or greater importance than research. Many people with science degrees take positions these universities characterized as "teaching institutions" and "comprehensive universities." It follows then, that some attention to learning about science teaching and learning is essential in the preparation of science graduate students.

We know from recent studies that: 1) university students often leave science majors due to poor teaching, 2) K-12 students do not measure up when it comes to understanding science, and 3) public understanding of science is at an all time low. It is the responsibility of future science faculty to strive to create, not just future scientists, but a scientifically literate populace prepared to deal with important issues that face the world that require understanding science. Thus the broader purpose of this course is to contribute to the reform of science education, K-20.

## Student Learning Outcomes

This course is designed to help you develop the knowledge necessary for effective teaching of college science. By the end of this course, I expect that you will:

- Demonstrate knowledge of and the ability to implement a range of science-focused instructional strategies that promote active learning within an integrated curriculum (e.g. inquiry investigations, authentic projects, critical thinking, written and oral communication skills).
- Demonstrate knowledge of and ability to design, implement and use different types of evidence for either formative purposes, i.e. to make adjustments to teaching and learning, or summative purposes, i.e., to assign student grades.
- Demonstrate knowledge and practices of how to conceptualize unit and lesson plans using Backward Design or Integrated Course design which should guide both the creation of daily lesson plans and a curricular unit. In conceptualizing a unit plan, the three stages of backward design should be considered: identify desired results, determine assessment evidence, and planning of learning experiences.
- Design class periods that have 2-4 specific, measurable, attainable, relevant, and time-based learning goals. These learning goals must be aligned with instruction and with assessments for the unit.
- Write a teaching philosophy that reflects current educational research and an evidence-based understanding of principles related to science learning. The philosophy should also document a disposition to reflect on practice and seek out continuing opportunities for professional development.

## Textbooks and Materials

### Textbooks

Chitman-Booker, L., & Kopp, K. (2013). *The 5Es of Inquiry-Based Science*. Huntington Beach, CA: Shell Education. ISBN: 9781425895907

Windschitl, M., Thompson, J., & Braaten, M. (2020). *Ambitious science teaching*. Harvard Education Press.

### Materials

(1.) An internet-enabled electronic device -- A laptop is best, but smartphone or tablet will work.

(2.) A paper notebook\*

(3.) A pen or pencil and a set of markers/colored pencils\*

(4.) Course Activity Kit (You will check out, then return at end of the semester. If you are at distance, a supply list will be provided.)

(5.) We will be using the Google Suite. Be ready to use Google Docs, Sheets, Slides, and Drive. You will need to be logged into your Fresno State Gmail to have access.

\* Used for modeling and drawing in live online class, but also helpful for notetaking. Keep paper, coloring materials, and writing utensils with your electronic device so everything for class is in one place.

## Grading Scale

A ≥ 90.00000%

C = 70 - 79.99999%

B = 80 - 89.99999%

D = 60 - 69.99999%

F = 0 - 59.99999%

I do not curve or round up grades at the end of the semester.  
This means if you earn an 89.6%, for example, that you should expect 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, video games, and online shopping can wait. If this becomes a problem, I may speak with you outside of class. You also may not receive full participation points for the semester.

### Checking Email and Canvas

You are expected to please check your Fresno State email daily and pay attention to the available materials on Canvas, including readings, videos, and the grade book. The only way I have to communicate with you is using these electronic means. Please be diligent in staying connected. If you have issues finding resources or information you need on Canvas, please inform me immediately.

### Contacting Dr. Walter

Email is the best way to reach me. I usually respond to emails within 48 hours, or by Monday for weekend emails. When emailing me, I prefer to go by Dr. Walter or Professor Walter, not by my first name.

### Late Assignment Policy

[University Policy on Make Up Work](#)

Given that students may have extenuating circumstances due to COVID-19, I will be as flexible as possible with late work and make-up work. If you miss completing an assignment by the due date and can provide to the instructor sufficient convincing evidence of extenuating (as determined by the instructor) serious personal illness or death in the family, you may elect to schedule a make-up assignment within five business days of the original assignment and at the convenience of the instructor. Due to the format of assignments in this course, you are not guaranteed that the format or content of a make-up assignment will be identical to the original assignment.

## **Attendance Policy**

[University Policy on Student Absences](#)

I value attendance and punctuality. Students are expected to attend and be on time to all scheduled class sessions. However, due to circumstances beyond your control (ex: illness, family obligations) or within your control (ex: out of town trip) you may have to be absent during the semester at some point. I recommend that your absences should be used only for circumstances beyond your control.

**As a courtesy to your classmates and me, please let me (Dr. Walter) know when you will be out of class** so that accommodations in group structure and related plans can be made. Our class is small, and I often have activities that are dependent on how many students will be present.

If absent, it is your responsibility to ensure any assignments due are turned in, and to find out what tasks you need to complete. Please note that given the nature of our course, many in-class experiences cannot be "made up."

## **Extra Credit Policy**

There is no extra credit planned for this course at this time.

## **Policy on Plagiarism Detection**

The campus subscribes to Turn-it-in and the SafeAssign plagiarism prevention service through Canvas, and you will need to submit written assignments to Turn-it-in/SafeAssign. Your work will be used for plagiarism detection and for no other purpose. You may indicate in writing that you refuse to participate in the plagiarism detection process, in which case I can use other electronic means to verify the originality of your work. Turn-it-in and/or SafeAssign Originality Reports **will be available** for your viewing upon request.

# University and Course-Specific Policies

## Policy on Students with Disabilities

If you need accommodations because of a disability, you have emergency medical information to share with me, or you need special arrangements in case the building must be evacuated, **please inform me as soon as possible**. Please see me privately after class or at my office hours.

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).

The following University policies can be found at:

- [Adding and Dropping Classes](#)
- [Cheating and Plagiarism](#)
- [Computers](#)
- [Copyright Policy](#)
- [Disruptive Classroom Behavior](#)
- [Honor Code](#)
- [Students with Disabilities](#)
- [Title IX](#)

## University Services

Additional University services can be found at:

- [Associated Students, Inc.](#)
- [Dream Success Center](#)
- [Learning Center Information](#)
- [SupportNet Information](#)
- [Student Health and Counseling Center](#)
- [Writing Center](#)

## The University Honor Code

Members of the Fresno State academic community adhere to principles of academic integrity and mutual respect while engaged in university work and related activities. You should:

- a) Understand or seek clarification about expectations for academic integrity in this course (including no cheating, plagiarism and inappropriate collaboration)

- b) Neither give nor receive unauthorized aid on examinations or other course work that is used by the instructor as the basis of grading.
- c) Take responsibility to monitor academic dishonesty in any form and to report it to the instructor or other appropriate official for action.

I may require you to sign a statement at the end of all exams and assignments that "I have done my own work and have neither given nor received unauthorized assistance on this work."

## **University Policy on Cheating and Plagiarism**

Cheating is the actual or attempted practice of fraudulent or deceptive acts for the purpose of improving one's grade or obtaining course credit; such acts also include assisting another student to do so. Typically, such acts occur in relation to examinations. However, it is the intent of this definition that the term 'cheating' not be limited to examination situations only, but that it include any and all actions by a student that are intended to gain an unearned academic advantage by fraudulent or deceptive means. Plagiarism is a specific form of cheating which consists of the misuse of the published and/or unpublished works of others by misrepresenting the material (i.e., their intellectual property) so used as one's own work.

Penalties for cheating and plagiarism range from a zero or F (no more than 50%) on a particular assignment, an F for the course, to expulsion from the university. For more information on the University's policy regarding cheating and plagiarism, refer to the Class Schedule (Legal Notices on Cheating and Plagiarism) or the University Catalog (Policies and Regulations).

## **Computers**

At California State University, Fresno, computers and communications links to remote resources are recognized as being integral to the education and research experience. Every student is required to have his/her own computer or have other personal access to a workstation (including a modem and a printer) with all the recommended software. The minimum and recommended standards for the workstations and software, which may vary by academic major, are updated periodically and are available from Information Technology Services or the [University Bookstore](#). In the curriculum and class assignments, students are presumed to have 24-hour access to a computer and the necessary communication links to the University's information resources.

## **Disruptive Classroom Behavior**

The classroom is a special environment in which students and faculty come together to promote learning and growth. It is essential to this learning environment that respect for the rights of others seeking to learn, respect for the professionalism of the instructor, and the general goals of academic freedom are maintained. Differences of viewpoint or concerns should be expressed in terms that are supportive of the

learning process, creating an environment in which students and faculty may learn to reason with clarity and compassion, to share of themselves without losing their identities, and to develop an understanding of the community in which they live. Furthermore, should a student express a viewpoint that is not well-supported by research and/or scientific consensus, such a comment may be identified as incorrect – especially if that comment is harmful to others. Student conduct that disrupts the learning process shall not be tolerated and may lead to disciplinary action and/or removal from class.

## **Copyright Policy**

Copyright laws and fair use policies protect the rights of those who have produced the material. The copy in this course has been provided for private study, scholarship, or research. Other uses may require permission from the copyright holder. The user of this work is responsible for adhering to copyright law of the U.S. (Title 17, U.S. Code). To help you familiarize yourself with copyright and fair use policies, the University encourages you to visit its [Copyright Web Page \(http://libguides.csufresno.edu/copyright\)](http://libguides.csufresno.edu/copyright).

Technology Innovations for Learning & Teaching (TILT) course web sites contain material protected by copyrights held by the instructor, other individuals, or institutions. Such material is used for educational purposes in accord with copyright law and/or with permission given by the owners of the original material.

You may download one copy of course materials on any single computer for non-commercial, personal, or educational purposes only, provided that you (1) do not modify it, (2) use it only for the duration of this course, and (3) include both this notice and any copyright notice originally included with the material.

***Beyond this use, no material from the course web site may be copied, reproduced, re-published, uploaded, posted, transmitted, or distributed in any way without the permission of the original copyright holder.*** The instructor assumes no responsibility for individuals who improperly use copyrighted material placed on the web site.

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

Federal law (FERPA) strictly prevents me from discussing your grades or class performance with your parents (or anyone else) without your permission. If you DO want me to discuss your performance with them or anyone else, you must complete and sign a document waiving 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 talk to me one-on-one.

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

Should you have difficulty with obtaining childcare on a given day, *you are welcome to bring your child with you to virtual class*. I trust you to know whether you could successfully bring your child and still be engaged in class. From my perspective, your child is welcome to attend class and (a) participate, (b) sit or nap on your lap, (c) do other activities, such as read, watch videos (with headphones), play video games, color, etc.

If you are breastfeeding and need to step out for a period longer than our planned break, please do so. Most of our class time is spent actively doing things in the class, including active group work like talking, jigsaw readings, constructing slides, or actively doing hands-on activities. This may make it more challenging to breastfeed or pump in class, but not impossible. Should you need to miss class time based on this need, we will work on finding a way to summarize what went on during your absence.

If there is anything else I can do to support you as a parent, please let me know.

# Tentative Course Schedule

**Spring 2022**

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

<b>Week / Date</b>	<b>Topics</b>	<b>Readings</b> (3+ Annotations due on <i>Perusall</i> by 11:59 PM Monday before class)	<b>HW Video Modules</b> (2+ Annotations by 11:59 PM Monday before class)	<b>Checkpoints</b> (Submitted on Google Form by Tuesday at 11:59 Pacific)	<b>Assignments and Other Tasks</b>
<b>Theme 1: Foundations and Frameworks for Active Learning</b>					
Week 1 Jan 26	Course Introduction	<i>The Neglected Learner</i>  <i>No Perusall annotations due in Week 1.</i>	None	<i>Checkpoint #1:</i> Think, Write, Draw Activity; FlipGrid "About Me" post	Gather Course Supplies and Books
Week 2 Feb 3	How People Learn & the Principles of Active Learning	How People Learn (pp. 2-11)  <i>Ambitious Science Teaching</i> , Ch. 1 (pp. 1-18)	<a href="#">Sending Learning Styles "Out of Style"</a> (7:16)	<i>Checkpoint #2:</i> <ul style="list-style-type: none"> <li>Course Reflection Prompts, Syllabus Q, and Video HW Check-In</li> </ul>	Have course activity kit ready  <b>Be in a completely dark room</b>  You will need a lamp without a shade that you can turn on.
Week 3 Feb 9	Evidence for Active Learning	Freeman et al. (2014)  Theobald et al. (2020)	<a href="#">"Active Learning - Does it work?"</a> (6:26)  <a href="#">"OK, So what about lectures?"</a> (9:51)	<i>Checkpoint #3:</i> <ul style="list-style-type: none"> <li><i>Curriculum Project:</i> Select Lesson topic</li> <li><i>Student Thinking Project:</i> Find a published test of concepts OR write 5+ open-ended Q on a science topic. Topic should match Curriculum Project..</li> </ul>	
<b>Theme 2: Teaching Strategies for Optimal Student Learning</b>					

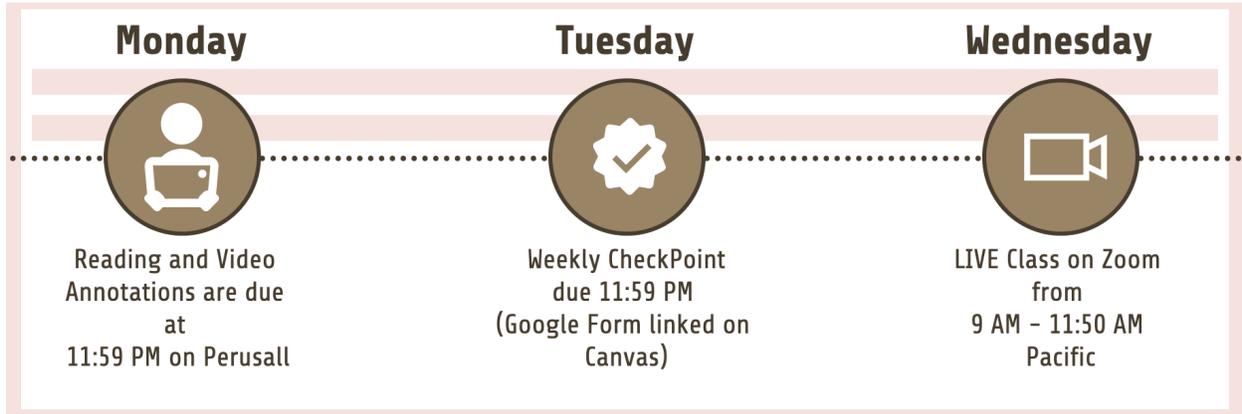
<b>Week / Date</b>	<b>Topics</b>	<b>Readings</b> (3+ Annotations due on <i>Perusall</i> by 11:59 PM Monday before class)	<b>HW Video Modules</b> (2+ Annotations by 11:59 PM Monday before class)	<b>Checkpoints</b> (Submitted on Google Form by Tuesday at 11:59 Pacific)	<b>Assignments and Other Tasks</b>
Week 4 Feb 16	Facilitating In-Class Student Discussion	<i>Ambitious Science Teaching</i> , Ch 3: Talk as a Tool for Learning (pp. 39-64)	<a href="#">Encouraging Academic Conversation with Talk Moves (4:08)</a>	<i>Checkpoint #4: Student Thinking Project:</i> Summarize findings from 3+ education research articles on your topic.	
Week 5 Feb 23	Engaging Students' Ideas, Interests, & Prior Knowledge	<i>Ambitious Science Teaching</i> , Ch. 5: Eliciting Students' Ideas (pp. 85-109)		<i>Checkpoint #5: Student Thinking Project:</i> Summarize data gathered from 15+ people using questions from Checkpoint #4.	
Week 6 Mar 2	Equitable and Inclusive Teaching Practices	Killpack & Melón (2016)  Dewsbury and Brame (2019)	<a href="#">Dramatization of Physics TA's First Day of Class"</a> (7:39)  <a href="#">Inclusive Syllabus Design</a> (8:17)	<i>No Checkpoint this week</i>	<b>Student Thinking Paper Due</b>
<b>Theme 3: How to Order a Successful Lesson: The 5E Method</b>					
Week 7 Mar 9	Intro to the 5E Model  Teaching with Big Ideas for Engagement	5Es Book: Ch.1 Overview Ch.2 Engage	<a href="#">"The 5E lesson plan"</a>  <a href="#">The Primary Connections 5E model: Engage</a>	<i>No Checkpoint this week</i>	
Week 8 Mar 16	Developing Students' Scientific Argumentation Skills	5Es Book: Ch. 3. Explore Ch. 4. Explain	None	<i>Checkpoint #6.</i> 5E Lesson Plan Draft (use template on Canvas)	None

<b>Week / Date</b>	<b>Topics</b>	<b>Readings</b> (3+ Annotations due on <i>Perusall</i> by 11:59 PM Monday before class)	<b>HW Video Modules</b> (2+ Annotations by 11:59 PM Monday before class)	<b>Checkpoints</b> (Submitted on Google Form by Tuesday at 11:59 Pacific)	<b>Assignments and Other Tasks</b>
<b>Theme 4. Aligning Learning Goals, Instruction, and Assessment</b>					
Week 9 Mar 23	Learning Goals and Backward Design	Wiggins and McTighe (1998)	<i>Setting Learning Objectives</i>	<i>Checkpoint #7.</i> Give two assigned peers feedback on their teaching video	
Week of Mar 30	No Class; Walter Lab at Conference			Submit <i>Checkpoint #8.</i> Revise your lesson per peer feedback; Outline the full 5E arc; two 50-min lessons.	
Week 10 April 6	Intro to Writing Meaningful Assessments	Lombardi (2008); Swanson et al. (2018)	None	<i>Checkpoint #9.</i> Write 10 assessment Q about your topic	
Spring Break April 13	No Class				
Week 11 April 20	Writing Authentic and Equitable Assessments	Wiggins (1989)	<a href="#">"Authentic" Assessment at the School of the Future</a> (3:59); <a href="#">How to Align Objectives &amp; Assessments</a> (8:05)	<i>Checkpoint #10.</i> Revise your 10 assessment questions about your topic	Bring copy of 10 assessment questions to class

<b>Week / Date</b>	<b>Topics</b>	<b>Readings</b> (3+ Annotations due on <i>Perusall</i> by 11:59 PM Monday before class)	<b>HW Video Modules</b> (2+ Annotations by 11:59 PM Monday before class)	<b>Checkpoints</b> (Submitted on Google Form by Tuesday at 11:59 Pacific)	<b>Assignments and Other Tasks</b>
<b>Theme 5. Course / Curriculum Design and Your Teaching Philosophy</b>					
Week 12 April 27	Revisiting Backward Design and Integrated Lesson Design	None	<a href="#">How to Align Objectives &amp; Assessments</a> (8:04)	<i>Checkpoint #11.</i> Chart of learning objectives, instruction, and assessments (both formative and summative)	
Week 13 May 4	Review of Course Big Ideas + Teaching Philosophy Workshop	O'Neal, Meizlish, & Kaplan (2007)	None	No Checkpoints this week.	<b>Teaching Philosophy Draft Due</b>
Week 14 May 11	Navigating Teaching Dilemmas  Course Wrap Up	Peterson et al. (2020)  Kim, Speed, and Macaulay (2018); optional	None	No Checkpoints this week.	<b>Teaching Philosophy Final Draft</b>

<b>Finals Week</b>	<b>Days</b>	<b>Dates</b>
Faculty Consultation Days	Thursday and Friday	May 12 - 13
Final Semester Examinations	Monday - Thursday	May 16 - 19
<b>Finals Period Curriculum Symposium</b>	<b>Monday</b>	<b>May 16 8:45-10:45 AM</b>
Final Project Submission Due (Final Videos/ePortfolio Final Due)	Thursday	May 19 11:59 PM

## Typical Weekly Schedule



## Assignments and Grading

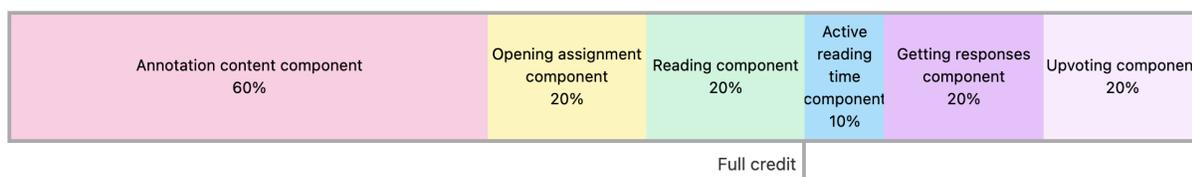
Assignment	Due Date	% of Grade	Points
<b>Weekly and On-Going Activities (20%)</b>			
<b>In-Class Participation:</b> This course is highly interactive and will require your active and thoughtful participation. You will self-assess your grade for in-class participation at the end of the course.	N/A	6.0%	30
<b>Weekly Checkpoints:</b> This course has checkpoint for completion of projects and to help you build foundational knowledge. Completing these checkpoints is essential for you to not become overwhelmed by our project work. These are also essential for being ready for class every week and being a supportive peer. Grading is for this component is based on <i>thoughtful completion</i> .  Each checkpoint is worth 2 points and there are 11 checkpoints. This means you can earn 22 points in this category, or safely miss one checkpoint without penalty.	Multiple	4.0%	20
<b>Reading and Video Annotations:</b> This course will require thoughtful reading, annotating, and responding to classmates' comments on the readings and videos using <i>Perusall</i> . Please note that we will not always have time to talk about each reading or video in class, but materials <i>will always relate to what we do in class</i> for a given week.	Weekly by Mon at 11:59 PM (Starting Week 2)	10%	50
<b>Major Projects (80%)</b>			
<b>Student Thinking Project:</b> Through gathering data from 15+ students about their understanding of a concept fundamental to your area of science, this assignment helps you to understand what and how your students are thinking so you can plan better lessons.	Mar 2	20%	100
<b>Teaching Philosophy Statement:</b> When you begin the academic job search, you will likely be asked for a teaching statement. This assignment will ask you to prepare one.	May 4 May 11	20%	100
<b>Curriculum Development Project (final):</b> You will craft a unit for part of a college science course, including learning goals, 2 interactive class periods and 10 assessment questions.	May 16 May 19	40%	200
<b>Total Points</b>		<b>100%</b>	<b>500</b>

## Additional Evaluation Details

**Reading and Video Annotations (10%; 50 points):** This course will require thoughtful reading, annotating, and responding to classmates' comments on the readings and videos using *Perusall*. Please note that we will not always have time to talk about each reading or video in class, but materials *will always relate to what we do in class* for a given week.

Perusall measures student engagement in six component areas, each of which has a target value from 0% to 100%. The target represents the maximum amount that a student can earn from that component. Targets can add up to more than 100% to provide students multiple ways to get to full credit. For each component, you can customize the overall target (set the target to 0% to ignore that component when computing student scores) and how students earn credit towards the target. [Learn more about scoring in Perusall](#).

Your scoring targets add up to more than 100%, so students have multiple ways to earn full credit.



If you have an average Perusall score of 2.25/3 across all weeks of the course, that is 75%. This means you would have a score of 37.5 out of 50.

## In-Class Discussion Participation Guide

### Guidelines for Interactions

Our success in this course depends on the degree to which we can establish a discourse community committed to ideals of democratic discussion. The following guidelines will help structure our whole-class and breakout room discussions.

1. Give class your full attention, energy, and commitment.
2. Be open, candid, and honest, and allow others to do the same. Make your point and move on.
3. If someone seems dis-engaged, invite them to contribute by asking a question directed at them.
4. Respect other students. Argue with ideas, not people.
5. Focus first on gaining understanding, second on convincing others.
6. Give evidence of listening.
7. Clarify, challenge, summarize and build on one others' ideas.
8. Be prepared to change your thinking.
9. Come to a shared agreement.
10. Follow W.A.I.T.: Why Am I Talking?

### Benefits of Discussion

Learning is social, and as such, discussion will be key to our success as a class. Brookfield and Preskill (1999) delineate the following potential benefits of discussions:

- Helping students explore a diversity of perspectives.
- Increasing students' awareness of and tolerance for ambiguity or complexity.
- Helping students recognize and investigate their assumptions.
- Encouraging attentive, respectful listening.
- Developing new appreciation for continuing differences.
- Increasing intellectual agility.
- Helping students become connected to a topic.
- Showing respect for students' voices and experiences.
- Helping students learn the processes and habits of democratic discourse.
- Affirming students as co-creators of knowledge.
- Developing the capacity for the clear communication of ideas and meaning.
- Developing habits of collaborative learning.
- Increasing breadth and making students more empathic.
- Helping students develop skills of synthesis and integration.
- Leading to social change.

## Discussion Dispositions

For these benefits to accrue, lively interactions among critically conversing participants are essential. This is where your responsibility as a class participant comes to bear. Brookfield and Preskill (1999) describe the dispositions that students and teachers need to practice in for discussions to be successful.

1. **Hospitality:** We will try to establish an atmosphere in which people feel invited to participate. Hospitality implies a mutual receptivity to new ideas and perspectives, and a willingness to question even the most widely accepted assumptions. We must balance seriousness of purpose with lightness of tone and employ self-deprecating humor when the tension becomes too great.
2. **Participation:** Discussions work best when a large number of class members participate on a variety of occasions about a variety of topics, contributing depth and subtlety to the discussion. Many of us need to feel efficacious about our participation--that our participation matters and is having an impact on others.
3. **Mindfulness:** Paying close attention to the words of others, although difficult, is critical to successful discussions. We need to try to pay attention to the whole conversation--to who has spoken and who has not, to what has been said and not said--and defer to those who have not yet spoken. Another component of mindfulness is tact, not compromising our principles, but checking our desire to express ourselves fully and vociferously in light of the whole conversation.
4. **Humility:** We must demonstrate the willingness to admit that our knowledge and experience are limited and incomplete. We must acknowledge that others in the group have ideas to express that might teach us something or change our minds about something. Humility also implies the inclination to admit errors in judgment.
5. **Mutuality:** It is in the interest of us all to care as much about each other's self-development as about our own. We must realize that our own growth depends in a vital sense on the growth of all others. Such a spirit will generate goodwill, generosity, and trust among participants. We become more willing to take risks and speak frankly when we know our actions are likely to be seen as mutually beneficial. Mutuality also implies

that each of us must be willing to alternative between the roles of teacher and student in our participation.

6. **Deliberation:** We must be willing to discuss issues as fully as possible by offering arguments and counterarguments that are supported by evidence, data, and logic and by holding strongly to these unless there are good reasons not to do so. We must express our views forcibly, though civilly. Consensus will not always be our goal; sometimes it may be just as desirable if deliberation results in continuing differences' being better understood and more readily tolerated. Deliberation also involves an evaluation of how effectively the problem has been resolved.
7. **Appreciation:** We need to find space and time to express our appreciation to one another. When a helpful comment clarifies a key point, or an intriguing comment excites further discussion, we should express our gratitude openly and honestly. Such expressions of gratitude can appear overdone and seem sentimentalized, so we must take care to be authentic in our appreciation.
8. **Hope:** The main reason for any dialogue is the hope of reaching new understanding. Hope sustains us through the complexity and provides us with the sense that our time and efforts are worth it. Hope implies what Dewey called "democratic faith," that pooling the talents and abilities of individuals increases the likelihood that new light will be shed on understanding.
9. **Autonomy:** Participants who retain the courage, strength, and resolve to hold to an opinion not widely shared by others should be given their due. We should honor autonomy as a temporary state where an individual can claim his/her beliefs; yet that same individual should be willing to subject those beliefs to continuous reevaluation and possible revision.

*Note.* This discussion guide has borrowed heavily from the language in: Brookfield, S. D., & Preskill, S. (1999). *Discussion as a way of teaching: Tools and techniques for democratic classrooms*. San Francisco, CA: Jossey-Bass.

## **Student Responsibilities in Discussion**

As a member of this class, you are responsible for developing these nine dispositions throughout the course. I do not think we can take these dispositions lightly. They will be difficult to achieve in practice and will take constant personal attention. However, if each of us is committed to the ideals these dispositions represent, and to our own professional growth, we will make progress toward productive discussions.

Secondly, you are responsible for coming to class prepared. Preparation includes reading, writing, and thinking about the issues at hand prior to class. If our discussions are to be deliberative and mutual, we must have a shared basis for discussion, along with the personal knowledge and experience we bring to bear. Your final responsibility will be to evaluate your contributions to the discussion by completing a self-evaluation (see below) at mid-term and at the end of the semester.

## **Zoom Norms**

You are expected to stay muted on Zoom and, ideally, have your camera on for the full experience during LIVE class sessions. If you are unable to have your camera on due to

internet connectivity or for another reason, I understand. However, since our class is small, having your camera on will help with creating a community-feel in our classroom.

Please use the whole group chat if you have a question. You can use a private chat with Dr. Walter if you do not want others to see your question. Class is dynamic and can be very busy, so please ask your question out loud or repeat it in chat if I happen to miss the message the first time.

When we go to breakout rooms (which will happen daily), you are expected to fully participate with your group. This means you should unmute and talk and encourage others to talk if they seem disengaged. If you are concerned about background noise or have microphone difficulties, please use the chat to communicate with your group.

# Discussion Self-Evaluation

Name \_\_\_\_\_ Date \_\_\_\_\_

**The following actions may be cause for you to lower your participation grade:**

- Arriving late to class
- Not being prepared for class
- Not participating in class discussions
- Playing video games during class
- Texting extensively or doing homework for another class during BIOL 270T
- Not making an effort to respond to the instructor’s questions
- Sleeping in class
- Frequently asking Q that indicate you aren’t paying attention, such as Q answered by the syllabus, addressed by announcements, or prior to starting class activities
- Dominating discussion in small group activities
- Dominating or not equally contributing work among your partner(s)

**The following actions may be cause for you to increase your participation grade:**

## Preparation for Discussion

- I read the assigned readings thoroughly for each week. \_\_\_\_\_
- I prepared for the discussion by highlighting, outlining, concept mapping, or some other technique. \_\_\_\_\_
- I noted questions and reactions I had about the readings, and responded thoughtfully to reading response assignments. \_\_\_\_\_

## Large Group Discussion

- I practiced hospitality by inviting all perspectives. \_\_\_\_\_
- I communicated my insights and opinions. \_\_\_\_\_
- I listened to the ideas of others. \_\_\_\_\_
- I stayed focused on the topic under discussion. \_\_\_\_\_
- I acknowledged the limits of my thinking. \_\_\_\_\_
- I practiced mutuality between the roles of teacher and student. \_\_\_\_\_
- I offered evidence and logic in support of my views. \_\_\_\_\_
- I explicitly appreciated the contributions of others. \_\_\_\_\_

## Small Group Discussion

- I offered my ideas. \_\_\_\_\_
- I listened to the ideas of others. \_\_\_\_\_
- I took notes. \_\_\_\_\_
- I represented my group as spokesperson. \_\_\_\_\_