| **BIOL 272: College Science Teaching****Syllabus** |
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| **Spring 20xx** | **California State University, Fresno**  |
| **Course Number:** 36314 | **Instructor**: Dr. Emily Walter |
| **Units:** 3 | **Office**: 218A Science I |
| **Day & Time:** Tu 6:00-8:50 p.m. | **E-Mail** (preferred):ewalter@csufresno.edu |
| **Location:** 103 Science I | **Telephone:** 559-278-2362 |
| **Website**:To access the course login to Canvas (<http://fresnostate.edu/academics/canvas/>) using your Fresno State username and password | **Office Hours:** Tuesdays 1-3 p.m. OR email for an appointment |

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# 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.
* Demonstrate ability to evaluate a traditional laboratory and redesign the lab to reflect the essential features of inquiry-based science instruction per Inquiry and the National Science Education Standards, NRC (2000).
* 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

## Materials

A folder or binder for organizing course materials. Some handouts will be revisited over multiple weeks. Please bring back key handouts every week.

Notebook paper

An electronic device (computer or tablet is preferred)

## Required Textbooks

Committee on Undergraduate Science Education. (1997). *Science teaching reconsidered: A handbook*. Washington, DC: National Academy Press. Available online at http://www.nap.edu/catalog/5287.html

Mintzes, J. J., & Leonard, W. H. (Eds.). (2006). *Handbook of college science teaching.* Arlington, VA: NSTA Press.

# Grading Scale

A ≥ 90.00000% C = 70 – 79.99999%

B = 80 – 89.99999% D = 60 – 69.99999% F = 0 – 59.9999%

Grades are not rounded up at the end of the semester, the grade you earn is the grade you earn.

# 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 ask you to leave your computer or phone at home. 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. However, if I am busy or out of town, 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 270T) in your email subject line for a faster response.

## **Late Assignment Policy**

[University Policy on Make Up Work](http://www.fresnostate.edu/academics/facultyaffairs/documents/apm/232.pdf)

Late assignments will be deducted 10% (one letter grade) for every 24 hours late.

This period begins immediately after an assignment is due. This means that if the assignment is due at 1:00 pm and a student submits the assignment at 1:01 pm, the assignment is late and assignment will be deducted 10%.

Do not let a computer crash or lack of Internet cause your assignments to be late! Please back up your work on the cloud or another device (e.g. flash drive). Be prepared to act on your feet should technical difficulties arise.

## **Attendance Policy**

[University Policy on Student Absences](http://www.fresnostate.edu/academics/facultyaffairs/documents/apm/232.pdf)

Students are expected to attend and be on time to all scheduled class sessions. However, due to circumstances beyond your control (ex: illness) 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. All students are allotted two absences (regardless of the reason) without penalty. **Your final course grade will be lowered by 5% if you miss more than 2 classes. This could potentially affect your final letter grade.**

**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. 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 hands-on nature of our course, many in-class activities cannot be "made up."

## **Extra Credit Policy**

There is no extra credit offered for this course.

## **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.

## Writing Style Requirements

All assignments should be written in accordance with APA style (7th Ed.). A full explanation of APA style can be found in:

American Psychological Association. (2019). *Publication manual of the American Psychological Association* (7th Edition). Washington, DC: Author.

Some APA highlights that you should particularly pay close attention to:

* Levels of headings
* Running head and page numbers
* Quotation citations
* Reference citations in text
* Reference list requirements

APA style suggests that writing in third person may at times be ambiguous. Like APA, I prefer that you write your papers in first person when appropriate (as in a philosophy statement). APA style also suggests using an “active voice” in writing rather than a “passive voice.” Again, I concur and prefer that you write your papers in “active voice.” In other words, avoid constructions where the subject is not present (the test was administered), and replace with an active subject (the professor administered the test). The giveaway for passive voice is the explicit or implicit “by” (e.g., in the example above, “by the professor” is implicit).

# University 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.

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 polices can be found at:

* [Adding and Dropping Classes](http://fresnostate.edu/studentaffairs/registrar/registration/add-drop-deadlines.html)
* [Cheating and Plagiarism](http://fresnostate.edu/academics/facultyaffairs/documents/apm/236_000.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://www.fresnostate.edu/academics/facultyaffairs/documents/apm/419.pdf)
* [Students with Disabilities](http://fresnostate.edu/studentaffairs/ssd/)
* [Title IX](http://www.fresnostate.edu/adminserv/hr/title-ix/index.html)

## **University Services**

The following University services can be found at:

* [Associated Students, Inc.](http://fresnostateasi.org/)
* [Dream Success Center](http://fresnostate.edu/studentaffairs/dsc/index.html)
* [Learning Center Information](http://fresnostate.edu/studentaffairs/lrc)
* [SupportNet Information](http://fresnostate.edu/studentaffairs/lrc/supportnet)
* [Student Health and Counseling Center](https://www.fresnostate.edu/studentaffairs/health/)
* [Writing Center](http://www.fresnostate.edu/artshum/writingcenter/)

## **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:

1. Understand or seek clarification about expectations for academic integrity in this course (including no cheating, plagiarism and inappropriate collaboration)
2. Neither give nor receive unauthorized aid on examinations or other course work that is used by the instructor as the basis of grading.
3. 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 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](http://www.kennelbookstore.com/SiteText.aspx?id=20666). 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. 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).](file:///Users/emwalter/Desktop/Laptop%20Dump%20Dec%202019/Jun%202019%20Laptop%20Dump/Copyright%20Web%20Page%20%28http%3A/libguides.csufresno.edu/copyright%29.)

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***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 see me yourself; you are the only one with

## **Support for Student Parents**

Should you have difficulty with obtaining childcare on a given day, *you are welcome to bring your child with you to class*. I trust you to know whether you could successfully bring your child to class. From my perspective, your child is welcome to attend class 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 step out for a period longer than our planned breaks, please feel free to do so.**  Should you 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 2020**

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.

| **Date** | **Topics** | **Readings**Annotations due on *Perusall* by 9 PM Monday before class | **HW Video Modules** (Links on Canvas, watch before class) | **Project Checkpoints** (Links on Canvas to Google form submissions) | **Assignments** (bring to class unless otherwise noted) |
| --- | --- | --- | --- | --- | --- |
| **Course Overview** |
| *Week 1*Jan 21 | Course Introduction | “The Neglected Learner”Kuhet al. (2006), pp. 1-9 | None | None | Make Selfie slide on Google SlidesGather Course Supplies |
| **Theme 1: Foundations of Educational Psychology**  |
| *Week 2*Jan 28 | How People Learn What matters for college student success? | “How People Learn” p. 3-28  | None | *Curriculum Checkpoint #1:* Select topic for which to develop curriculum. Submit your ideas on the Google form and await approval from Dr. W. | Think, Write, and Draw (instructions on Canvas) |
| *Week 3*Feb 4 | Conceptual Change, Mental Models, and Student Thinking | “Key ideas…Prior Knowledge and Conceptual Change” (2017) | *How New Ideas ‘Take Root’* | *Students’ Thinking Checkpoint #1:* Find a published assessment or survey designed to find out someone’s knowledge on the topic you plan to teach.  | Bring copy of survey/assessment to class and submit on Google form |

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| **Theme 2: Effective Day-to-Day Instructional Strategies**  |
| **Date** | **Topic** | **Reading** | **Homework Video Modules** | **Project** **Checkpoints** | **Assignments** |
| *Week 4*Feb 11 | Foundations of and Evidence for Active Learning Intro to 5E | Freeman et al. (2014) |  “OK, So what about lectures?”“Sending learning styles out of style” (optional) | *Students’ Thinking Checkpoint #2.* Find 3+ peer-reviewed articles about student thinking on your topic. This is found in the science education research lit.*Students’ Thinking Checkpoint #3:* Gather student thinking data using published assessment, survey, or probe. | Bring typed summary common student ideas from your 3+ articles to class and submit on Google form.Bring summary of student data to class and submit on Google form. |
| *Week 5*Feb 18 | Making Effective Class Periods; 5E Method Continued Formative Assessment | *Science Teaching Recon*, Ch. 2 (lectures)Tanner (2010)  | “The 5E lesson plan” | *No Checkpoints This Week* | Student Thinking Project Paper Due (Turn-It-In) |
| *Week 6*Feb 25 | Facilitating In-Class Student Discussion and Collaborative Group Work | Tanner et al. (2003)“How to Hold a Better Class Discussion” (web article) | “Encouraging Academic Conversation with Talk Moves” | *Curriculum Checkpoint #2:* Record yourself facilitating the first 15-min of a class period on the topic of your choice. Use strategies we have learned so far. |  |
| *Week 7*Mar 3 | Developing Students’ Scientific Argumentation Skills  | Sampson & Sleigh (2012) |  | *Curriculum Checkpoint #3:* Reflect on your class period recording (using prompts provided). Submit on Google forms.  | *Using the Google Form:*A. Give two assigned peers feedback on their video.B. Submit reflections on your video. |
| *Week 8* Mar 10 | Equitable and Inclusive Teaching Practices | Hailu et al. (2017)Killpack & . Melón (2016) | *Dramatization of Physics TA's First Day of Class* | *Moved to next week* | Take Harvard *Implicit Bias* test (link and directions on Canvas) |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Date** | **Topic** | **Reading** | **Homework Video Modules** | **Project** **Checkpoints** | **Assignments** |
| *Week 8* Mar 10 | Equitable and Inclusive Teaching Practices | Killpack & Melón (2016)*Optional:* Hailu et al. (2017) | *Dramatization of Physics TA's First Day of Class* | *Curriculum Checkpoint #4.* Revise your class period to respond to peer feedback; outline the full 50-min period. | Take Harvard *Implicit Bias* test (link and directions on Canvas) |
| *Week 9*Mar 17 | Effective Laboratory Teaching  | Volkmann & Abell (2003) | None | *Curriculum Checkpoint #5.* Outline a second class period for your topic, it should come immediately after the one you developed. | Bring in copies of a sample lab for the unit you are developing and upload the file to Google forms.If you cannot find a suitable lab, bring in any lab. Labs that you do not think are great labs work best. |
| **Theme 3. Aligning Learning Goals, Instruction, and Assessment** |
| Tuesday*,* Mar 31 | No Class – *Cesar Chavez Day* |
| *Week of* April 7 | No Class -- *Spring Break* |
| *Week 10* April 14 | Setting Learning Objectives Aligning lessons goals, instruction, and assessments | *~~Mintzes & Leonard~~*~~, Ch. 32~~Reynolds & Kearns (2017) | *Setting Learning Objectives* *How to Align Objectives & Assessments*  | *Curriculum Checkpoint #6.* Revise your 2 class periods and lab to have clear topic-specific learning objectives. |  |
| *Week 11* April 21 | Assessment and Backward Design | Lombardi (2008)Swanson et al. (2018) |  | *Curriculum Checkpoint #7.* Write 10 assessment Q about your topic  | Bring copy of your 10 assessment questions to class |
| **Theme 4. Course and Curriculum Design, Grading, and Your Teaching Philosophy** |
| *Week 12* April 28 | Writing a Teaching Philosophy | *Science Teaching Recon,* Ch. 1*Mintzes & Leonard,* Ch. 36 |  | *Teaching Philosophy Checkpoint:* Bring draft to class | Bring copy of your teaching philosophy to class |
| *Week 13* May 5 | Whole-Course Active Learning & High Impact Practices (HIPs)ORClassroom management and overcoming barriers to successful teaching(students will choose) | *To Be* *Determined**Possibly…**Mintzes & Leonard*, Ch. 18Bangera & Brownell (2014) |  | *No Checkpoints This Week* | Teaching Philosophy: Final Draft |

| **Finals Week** | **Days** | **Dates** |
| --- | --- | --- |
| Faculty Consultation Days | Thursday and Friday  | May 7 – 8 |
| Final Semester Examinations  | Monday-Thursday  | May 11 - 14 |
| Final Project Submission Due (Videos/ePortfolio Due) | Thursday | May 14 |

# Assignments and Grading

|  |  |  |  |
| --- | --- | --- | --- |
| **Assignment** | **Due Date** | **% of Grade** | **Points** |
| **Weekly and On-Going Activities (20%)** |
| In Class Participation: 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% | 15 |
| Project Checkpoints: This course has a number of checkpoints for completion of major projects. 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 done based on “yes” or “no” completion. Each checkpoint is worth 1 point and there are 10 checkpoints. | Multiple | 4.0% | 10 |
| Reading Annotations: This course will require thoughtful reading, annotating, and responding to classmates’ comments on the readings using *Perusall*. Please note that we will not always have time to explicitly talk about each reading in class, but readings *will always relate to what we do in class* for a given week.I will assign annotation points based on the proportion of readings you fully and thoughtfully annotate. This is proportion-based grade, in which your score is equal to the % score determined by the Persuall algorithm multiplied by 25 possible points. | Weekly by Mon at 9 PM(Starting Week 2) | 10% | 25 |
| **Major Projects (80%)**  |  |
| Student Thinking Project: Through gathering data from 15+ students about their understanding of a concept fundamental to your area of science (e.g. biology, chemistry, geology), this assignment helps you to understand what and how your students are thinking so you can plan better lessons for your students.  | Feb 18 | 20% | 50 |
| Teaching Philosophy Statement: When you begin the academic job search process, you will likely be asked to include a teaching statement in your application. This assignment will ask you to prepare such a statement.  | April 21April 28 | 20% | 50 |
| Curriculum Development Project (final project): You will craft a unit for part of a college science course, including learning goals, 2 interactive class periods, an inquiry-based lab, and 10 assessment questions. You will present your work at our curriculum symposium and through videos and an ePortfolio. | May 7May 14 | 40% | 100 |
| Total Points |  | **100%** | **250** |

# In Class Discussion Participation Guide

## Benefits of Discussion

Our success in this course depends on the degree to which we can establish a discourse community committed to ideals of democratic discussion. Brookfield and Preskill (1999) delineate the potential benefits of discussions:

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

## Discussion Dispositions

Yet 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 order 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 counter-arguments 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

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 to evaluate your contributions to the discussion by completing a self-evaluation (see below) at mid term and at the end of the semester.

# 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. \_\_\_\_\_

# Syllabus Signature Page

California State University - Fresno

Instructor: Dr. Emily Walter

Course: BIOL 270T

Semester: Spring 2020

I \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, agree that I received a copy of the course

syllabus for the class mentioned above. I understand the course requirements and that I

am expected to attend all class meetings and events. **I understand that if I miss more than**

**two class sessions that my grade will be reduced by 5%.**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Print Full Name

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 Signature Date