

MCB 375: Pedagogy for MCB graduate student instructors

MCB 375 will introduce you to effective teaching methods that you can use in the courses you will be teaching this year. Through readings, discussions and demonstrations, you will learn how to engage and motivate students, facilitate active participation, plan a class period, and write exam or practice problems. Emphasis will be placed on science education literature and proven practical techniques. We will also provide support and solutions for dealing with difficult situations that may come up during your first semester of teaching.

Instructors

Robin Ball, rball@berkeley.edu
P. Robert Beatty, prbeatty@berkeley.edu
Georjana Barnes, gbarnes@berkeley.edu

Course structure

1. Everyone must attend the GSI orientation on Monday, August 23. We will cover important logistics, like office hours, grading, DSP accommodations and the roles of the GSI advisors.
2. At the end of the orientation, we will have the first class meeting for the pedagogy course.

For the next four weeks, you will need to attend one class per week. The class will be held at the following times and locations. Choose one time you can attend and go to that class each week. The same material is covered in each section each week. Class will start 10 minutes late, but you are encouraged to arrive early to chat with the other GSIs. Please bring a laptop or tablet with you to class to work on shared documents.

Day/Time	Instructor	Location
Tuesday 3:30-5pm	Robert Beatty	177 Weill
Thursday 3:30-5pm	Robin Ball	177 Weill
Friday 2-3:30pm	Georjana Barnes	430 Barker

We expect everyone to follow the current campus Covid rules regarding masking and vaccination. You should fill out the daily symptom screener and have a green badge before attending class. If you are feeling ill or quarantining, please do not come to class. Notify your instructor and complete the make-up assignment (see “Attendance” below).

Grades

In order to receive a grade of ‘S’ for MCB 375, you must meet the following requirements (besides doing your tasks as a GSI):

- Attend the orientation for MCB GSIs
- Attend all five classes (see attendance policy below)
- Post one comment on one of the readings and respond to someone else’s comment

Attendance

You are expected to attend all five of the class meetings, preferably at the same time each week. By sticking with the same section each week, you will build a community of learners that will

provide support as you start teaching. If you need to attend a different section one week, make sure the instructor is aware of that.

If you are sick and unable to attend one week, please let your instructor know. We will give you a make-up assignment related to the material you missed in class. Make-up assignments will be available on bCourses and due one week after the missed class.

Course readings

Before classes #2-5, there will be a reading assignment posted on bCourses. Please read the assigned article before coming to class.

You are required to post a comment on one of the articles before class on bCourses and to respond to someone else's comments. Your post should be thoughtful and at least a paragraph long. You only need to post once (original post and one reply) during the first five weeks of the semester.

Accommodations

Students who need academic accommodations, should request them from the Disabled Students' Program (DSP), 260 César Chávez Center, 642-0518 (voice or TTY), <https://dsp.berkeley.edu>. DSP is the campus office responsible for verifying disability-related need for academic accommodations, assessing that need, and for planning accommodations in cooperation with students and instructors as needed and consistent with course requirements.

We are committed to fully supporting our students with disabilities, including meeting accommodations listed in a DSP letter. If you would like to discuss your accommodations with an instructor, please reach out to us.

Safe, Supportive, and Inclusive Environment

Whenever a faculty member, staff member, post-doc, or GSI is responsible for the supervision of a student, a personal relationship between them of a romantic or sexual nature, even if consensual, is against university policy. Any such relationship jeopardizes the integrity of the educational process.

Although faculty and staff can act as excellent resources for students, you should be aware that they are required to report any violations of this campus policy. If you wish to have a confidential discussion on matters related to this policy, you may contact the Confidential Care Advocates on campus for support related to counseling or sensitive issues. Appointments can be made by calling (510) 642-1988.

The classroom, lab, and work place should be safe and inclusive environments for everyone. The Office for the Prevention of Harassment and Discrimination (OPHD) is responsible for ensuring the University provides an environment for faculty, staff and students that is free from discrimination and harassment on the basis of categories including race, color, national origin, age, sex, gender, gender identity, and sexual orientation. Questions or concerns? Call (510) 643-7985, email ask_ophd@berkeley.edu, or go to <http://survivorsupport.berkeley.edu/>.

Diversity statement

The University of California considers the diversity of its students, faculty, and staff to be a strength and critical to its educational mission. Our community is enriched and enhanced by diversity along a number of dimensions, including race, ethnicity, national origins, gender, sexuality, class and religion. We welcome all our students in our class and hope that you always

feel included. If there are aspects of the instruction within this course that result in barriers to your inclusion, please let us know. Your suggestions are encouraged and appreciated.

Schedule of classes

Week 1 (Aug 23 in GSI orientation) - Promoting student engagement

Learning objectives

- Understand that there is a science to teaching and there is literature about teaching biology effectively
- Explain the importance of active engagement to student learning
- Apply at least one of the teaching strategies from Tanner 2013 paper to your class in the next week

Teaching tools demonstrated or discussed

- Jigsaw discussions

Week 2 (Aug 31 – Sept 3) - Facilitating discussions and activities

Learning objectives

- Explain the benefits of students talking to each other in class
- Understand the strategies for implementing activities and facilitating discussions in class
- Develop an activity that gets students talking to each other

Reading before class 2: Tanner, 2009 “Talking to learn: Why biology students should be talking in classrooms and how to make it happen” *CBE: Life Sciences Education*

Teaching tools demonstrated or discussed

- Discussion maps
- Think-pair-share
- Case studies

Week 3 (Sept 7-10) - Assessment and grading

Learning objectives

- Understand how low-stakes assessments can enhance learning
- Practice writing questions at different cognitive levels
- Develop and revise useful grading rubrics for different types of assignments

Reading before class 3: Crowe et al., 2008 “Biology in Bloom: Implementing Bloom’s taxonomy to enhance student learning in biology” *CBE: Life Sciences Education*

Teaching tools demonstrated or discussed

- Bloom’s Biology Tool for developing questions at higher cognitive levels
- Grading rubrics

Week 4 (Sept 14-17) - Designing lesson plans

Learning objectives

- Develop learning objectives for an upcoming class session
- Use backward design to generate a lesson plan for that class based on the learning objectives
- Familiarize yourself with Vision and Change call to action

Reading before class 4: Minibiole, 2016 “Improving course coherence & assessment rigor: ‘Understanding by Design’ in a nonmajors biology course” *The American Biology Teacher*

Teaching tools demonstrated or discussed

- Backward design

Week 5 (Sept 21-24) - Student motivation and self-efficacy

Learning objectives

- Recognize that students come from a variety of backgrounds with different life experiences that affect their motivation in your class
- Discuss how instructors can help increase the motivation and self-efficacy of their students
- Use some of the resources from the paper to add social context to your class

Reading before class 5: Chamany et al., 2008 “Making biology learning relevant to students: Integrating people, history and context into college biology teaching” *CBE Life Sciences*

Teaching tools demonstrated or discussed

- Fishbowl discussion
- Exam wrappers