

## SYLLABUS FOR BIO 297A & B: TEACHING BIOLOGY SEMINAR & LABORATORY TEACHING

### Instructor:

Dr. Kelly McDonald  
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### Office Hours:

Wed. 11am-12 pm; Thurs. 12:00-2:00pm  
Location of office hours: Sequoia 339

### Course Materials:

- Reading assignments will be delivered via SacCT, so please familiarize yourself with that tool if you haven't used it before.
- Optional: A bound journal to record observations and reflections for Bio297B.
- Other Suggested Resources (if you are planning a career in college teaching):
  - *Lecture-Free Teaching: A Learning Partnership Between Science Educators and Their Students* by Bonnie S. Wood, NSTA Press, 2009
  - *Creating Self-Regulated Learners: Strategies to Strengthen Students' Self-awareness and Learning Skills* by Linda B. Nilson, Stylus Publishing, LLC, Sterling, VA, 2013

### Program Objective:

Bio 297A and B comprise the course work portion of the Biological Sciences Graduate Teaching Associate (GTA) Program. The intent of the GTA Program is to provide qualified graduate students with the opportunity to gain knowledge and experience in teaching undergraduate biology laboratories and activities. Bio 297A will introduce students to current educational theory, practical instructional strategies, and faculty policies and regulations (specific to CSUS) in a weekly discussion format. Bio 297B will provide GTAs with hands-on experience as they assist in an undergraduate introductory biology laboratory or activity.

Satisfactory completion of the courses (graded as Credit/No credit) and positive evaluations from the Bio 297B laboratory supervisor, the Bio 297A coordinator and the students in the assigned laboratory/activity are required for a student to be a GTA in the Department of Biological Sciences.

### Catalog Descriptions of Course:

**BIO 297A. Teaching Biology Seminar.** Training for graduate students who wish to participate in the Department's Graduate Teaching Associate (GTA) Program and others interested in teaching biology. Weekly seminar session covering aspects of teaching biology laboratories.

Lecture/discussion. Not applicable toward 18 unit 200-level course work requirement.

Prerequisite: Acceptance in the GTA Program or instructor permission. **Graded:** Credit / No Credit.

**Units:** 1.0

**BIO 297B. Laboratory Teaching.** Training for graduate students admitted to the Graduate Teaching Associate (GTA) Program. Students assist in teaching three hours of biology laboratory weekly under the supervision of a laboratory instructor. Laboratory three hours. Not applicable toward 18 unit 200-level coursework requirement. **Prerequisite:** Acceptance in the GTA Program or instructor permission. **Graded:** Credit / No Credit. **Units:** 1.0

## **Student Learning Outcomes**

At the end of the semester, students should be able to:

- Interpret and evaluate the primary science education literature pertaining to current educational theory, practical instructional strategies and assessment techniques.
- Apply evidence-based pedagogical strategies in the design and implementation of lessons and assessments appropriate for lower division biology students.
- Reflect on experiences and attitudes about teaching in order to generate a philosophy of teaching statement.

## **Grading Policy for 297A:**

This course is credit/no credit. You will need to earn 75% of the maximum points in order to receive credit for 297A. Points assigned to the activities below (equaling 300) are approximate.

Grades will be based on the following activities:

### **Attendance and Participation in Weekly Seminar - 80 pts**

There will be a weekly reading assignment that will prepare you for an in class activity and/or discussion. It is important that you complete the reading assignment before coming to class in order to get the most out of the discussion. There will occasionally be an accompanying assignment that will need to be completed between seminar sessions. All readings and assignments will be posted on SacCT. Because of this format, attendance is extremely important. If you must miss a session, please contact me as soon as possible to discuss what you missed.

### **Reading Reflections - 50 pts (5 points each)**

You will be required to write a short reflection (several paragraphs) on each of the weekly readings. This is also a medium for you to record your thoughts and ideas about the instructional theories and strategies you are reading about and make connections with what you are observing in the lab/activity with which you are assisting.

### **Article Presentation - 50 pts**

At the end of the semester, you will present a science education article of your choosing to the class. The article can be selected from the supplemental reading list that I provide during the semester or you may find one on your own. Pubmed can be used to find some education articles, but another primary database that I use for this purpose is the Education Resource Information Center, or ERIC (<http://eric.ed.gov/>). Google Scholar also works well. I will also provide you with a list of appropriate science education journals.

### **Philosophy of Teaching Paper - 100 pts**

Throughout the semester, you will be reading articles, discussing topics, and working individually (and possibly in groups) to design curriculum. You will also be engaging with students as an assistant in a lower division laboratory or activity session. All of these experiences will prepare you to write a teaching philosophy statement at the end of the semester. This is one of the most valuable exercises that I ever undertook. It not only made me think about how I approach teaching, but why I approach it the way I do (and it gave me a foundation and vocabulary for expressing my rationale). It also made me think about why I choose to teach as a career and vocation. Formulating a philosophy of teaching statement further made it easier to communicate the reasons for my instructional style to my students, thereby setting the expectations for my classes. Finally, most teaching jobs at the college level, including part-time faculty positions in our department, ask for a "teaching statement." This is the first part of the application packet I look at when ranking faculty at Sacramento State, and a good philosophy statement can undoubtedly set a candidate apart from others when applying for a full-time faculty position at a teaching university.

**Pre- and Post Teaching Survey – 20 pts**

You will be asked to complete a survey at the beginning and end of the semester describing your attitudes and beliefs (at the time of the survey) about teaching and learning. Your honest and candid opinions are important to me as I study the impact of the GTA program and work to improve the experience for GTAs and the students they instruct. The points are solely for completing the survey. I may also follow up with a voluntary survey after you have taught independently or at the time of your graduation.

**Requirements for 297B:**

Since each of you will be working with a different faculty member or experienced GTA, it is important that you and the supervising instructor discuss and agree upon what constitutes satisfactory completion of Bio297B. Some of the responsibilities of the GTA may include introducing laboratories, directing students' observations and preparing and grading quizzes. You and your supervisor should agree upon the extent of participation in each of these activities; however, you are required to introduce and lead at least one of the laboratories/discussions during the semester. In addition, you will be evaluated by students in the laboratory/activity near the mid-term and at the end of the semester. This will hopefully provide valuable feedback to help you improve your teaching.

**Duties of the Graduate Teaching Associate upon successful completion of Bio297A/B:**

- Serving as the instructor of record for at least one laboratory or activity section per semester
- Attending regular meetings with the course team or lead instructor (if this applies)
- Attending key lectures (or obtaining and reviewing lecture materials) that are tied to laboratory/activity exercises
- Preparing, administering and grading laboratory quizzes (if this applies)
- Grading written lab assignments or lab notebooks (if this applies)
- Submitting laboratory/activity grades to the lead instructor or course coordinator
- Preparing a packet for evaluation by the department (when called for)