I am broadly interested in almost any biological issue I encounter and have been happy teaching biology courses in many areas (from introductory level to specialized seminar-like courses). I enjoy introducing students to biological issues and providing a solid conceptual background to many of the terms that are commonly encountered outside of an academic setting. In introductory-level classes, where many of the students will not go on to a biology-centered career, I think that giving them the ability to properly interpret biology out of the class is likely to be the most important contribution I can make to their lives. I have used this to guiding principle in the design of my courses. On a more selfish level, I also enjoy designing, preparing and presenting biology courses to undergraduates. I feel that I have gained a lot be continuing to review fundamental biological principles.

In terms of familiarity, my formal training has focused on developmental biology, with an emphasis on anatomy, as well as molecular biology in general. I have also spent a significant amount of effort and time working on data analysis from a computational point-of-view, including clustering, statistical tests of correlation and three-dimensional modeling. Although requiring more preparation, I would find it satisfyingly to prepare and teach a course covering these subjects as well.

Pre-lecture Quiz: How I help students understand conceptually sophisticated material

While at UCLA, I took a medical school neuroscience class with Arnold Schiebel which has significantly affected my teaching style and philosophy. Dr. Schiebel created a coloring book ("The Human Brain Coloring Book") to force students to review lecture material before coming to class. His theory was that forcing students to look at the material, even if just coloring pictures of the figures, helped them become familiar with the content of the lecture. He had collected data over the years in which he found there was a significant increase in test scores when this pre-lecture "homework" was required versus optional. While I have not done any testing on my own yet, I have taken this approach as well and found it to be valuable. As a matter of routine, on the first day of class I provide all students with a list of ~10 questions for each of the lectures we will cover. I let them know that I will randomly select 5 of these questions

Exams: How I stress analytical and synthetic skills

I design my courses so that each exam includes between 20-80 new technical "jargon" terms that students were not likely to be familiar with before the lectures. I write the exams so that I assume that the definitions are known. That is, I very rarely ask students to just define one of the terms. Instead I prefer to create scenarios that test for an understanding of the underlying concepts. For example, question 30 in the attached exam (Appendix C of my teaching portfolio) presents four EKG charts. The question requires the student to identify and prioritize abnormal EKG charts. In class, we covered each of the classes of EKGs shown and I led them to discuss the urgency of each of the scenarios. This exam questions required the student to not only be familiar with what was directly covered, but also to prioritize by extrapolating what was discussed in class.

Extra credit: How I integrate scientific research into the classroom

In addition to teaching students in a classroom, I have also been involved in training undergraduates in a research laboratory setting. UCLA has a program (CARE) to help under-represented minorities get involved in research. I went to the office on a quarterly basis to determine if there were any undergraduates who would be

interested in my research area and that I could mentor. Over my doctoral training, this resulted in mentoring five undergraduate students. I found training undergraduates to be a rewarding activity and I look forward to continuing this productive mentoring interaction, if possible. Work from three of these students led to publications in which the students were authors (Pub #3&4 on my CV).

I have recently begun to incorporate research in the college courses I am teaching. Although the class no longer has unlimited access to scientific equipment, I am designing field experiments that will both allow students to further understand biological concepts from class while gaining an appreciation of how science is actually done. To do this, I am taking advantage of two social bird flocks that are at our campus: starlings (*Sturnidae*) and geese (*Anatidae*). We are studying the social component of flight in these two different species. Practically speaking, students viedo-tape flocks of these birds in flight using two cameras (allowing us to infer the 3D position of each bird in the flock). As field work goes, our final focus is not clear right now but it is likely to center on deriving the flight rules that permit these two species to stay in a flock. I am confident a research paper will be produced from this work.