

**Preparing Future Faculty (PFF) at UCLA**  
*A seminar for graduate and post-doctoral students planning on careers in academia*

Chemistry 272G ID# 542-506-200  
Tuesday 11:30 am – 1:00 pm  
Young Hall 2033

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The Department of Chemistry and Biochemistry will again offer a program for helping graduate and post-doctoral students in the physical and life sciences prepare for academic careers. This PFF program is designed to help participants understand and experience the three key activities—research, teaching, and service—that define the academic career and to guide them in developing an informed position on the responsibilities that faculty members carry in higher education.

The fall quarter addresses advanced topics in teaching science at the college and university level. Participants will begin to formulate a personal teaching philosophy statement, which is often required in application packets. The winter quarter focuses on the diverse expectations and obligations in schools and provides opportunities to meet veteran and new faculty who will discuss their experiences in a variety of types of institutions. During this quarter participants will prepare a CV and have an opportunity to review others' CVs. The emphasis of the spring quarter is two-pronged: The seminar will address the challenges and opportunities in conducting and mentoring research students, both undergraduate and graduate—a critical function of higher education. Each participant will prepare a mentoring plan for a summer research experience for a novice undergraduate. The second part of the course will highlight the rapidly growing area of on-line instruction. In addition to presentations by faculty experienced in this mode of instruction, participants will develop a module for an on-line course, which they will be able to use in a teaching demonstration during a job interview.

**Fall Quarter Syllabus**

- Sept 27 The PFF program: Opportunities for teaching and service. The United States higher education system: Where should I teach? (University, College, Community College)
- Oct 4 Teaching philosophies: Designing and teaching a course (goals, content, audience, articulation, tradition, flexibility)
- Oct 11 Developing a syllabus and choosing a text book
- Oct 18 Learning theories: What do we know about how students learn? Aligning instructional methods (research, lecture, lab, discussion, texts, IT, projects, demonstration) with educational research
- Oct 25 *The Scholarship of Teaching*: The design and development of instructional innovation and educational research. Research in the "social sciences" (pilot testing, flexibility, formative evaluation, "human subjects," implementation, institutional support)
- Nov 1 Student assessment: Are you measuring what students have learned? (Test structure and design, lab assessment, essay evaluation, norming, mastery grading, portfolios; learning outcomes)
- Nov 8 *The Scholarship of Service*: Department, institution, profession, discipline, society.
- Nov 15 Learning Styles: Reaching all the students
- Nov 22 Mentoring undergraduates and graduates: Guest Speaker: Chandra Srinivasan, Associate Professor of Biochemistry, California State University Fullerton (*tentative*)
- Dec 1 *The Scholarship of Research*: Nuts and bolts decisions. (Funding, resources, workloads, undergraduate or graduate, M.S. or Ph.D.)
- Texts: *And Gladly Teach: A Resource Book for [Scientists] Considering Academic Careers*, Schwartz, Archer, El-Ashmawy, Lavalle, Eikay, American Chemical Society (2005) <http://www.chemistry.org>  
*McKeachie's Teaching Tips: Strategies, Research, and Theory for College and University Teachers*, McKeachie and Svinicki, Houghton Mifflin (2006)  
*Learning Style Perspectives, Impact in the Classroom 2<sup>nd</sup> Ed.* Sarasin, Atwood Publishing (2006)
- Readings: Handed out in class or posted on-line