

Teaching Philosophy Statement

The goal of teaching is to engage students in making meaning. To make meaning, I encourage students to explore ways in which knowledge is both in, and about, the world. This dynamic can be mapped, in part, through the study of science and technology. Science provides the best means for gaining certain knowledge *about* the world. Still, it remains a human endeavor *in* the world. By studying science as both in and about the world, students can develop a distinct, highly integrated, coherent form of knowledge. This knowledge occurs at the meta-level: It addresses how we know what we know about science and technology. From this meta-level analysis, I ask students to develop arguments and criteria regarding how we judge our knowledge about science, how we ought to continue to study and critique science, and how we ought to communicate about science and technology. Moreover, I want students to extend this analysis. I want them to consider ways in which we can explicitly formulate the kinds of problems and inquiry we wish to pursue in the humanities and social sciences.

In required courses such as “Science Writing” and “Technical Writing,” students can and should learn professional norms of communication and dominant forms of sharing knowledge. Yet such courses can also teach students how these communicative forms are matters of social context and sites of negotiation and contestation. I design these courses to lead students to the insight that communication has the power to shape knowledge — their words matter. These courses not only help students to gain practice in discursive conventions, but also teach them to reflect on their formative power. Thus, I place the conventions of scientific and technical communication in historical context, at moments in which such communication is a matter of intense dispute, such as in the debates between Hobbes and Boyle or over Darwin’s *Origin of Species*. We then study specific forms of communication, and see that, even in the most mundane instances, the stakes of communication are high. For example, we might study the ways that scientific innovations (say, microwave ovens or atomic energy) have been explained to the public, in contrast with the ways that scientists speak with one another about such matters. We study scientific and technological controversies, matters of acute interest that are not settled, and that should initiate complex negotiation. Overall, in this learning environment, students naturally move beyond the diligent reproduction of forms. Communication is hardly a matter of plugging in formulas; instead, students have the opportunity to learn to write by negotiating meaning.

Technology-driven design courses must address rapid changes in software and hardware, as well as shifting conceptual frameworks for the production, circulation and uses of texts. Such courses, then, demand a flexible, forward-looking approach to teaching. Enrolled students typically represent disparate backgrounds — from programmers to neophytes, from employed web writers to novices — and my design courses offer opportunities for all students to enrich their abilities. For example, in my course “Writing and Designing for the World Wide Web,” I teach students to “learn how to learn” changing knowledge and practices. I found that if students take direct responsibility for their learning, and for the learning of others, they devise innovative, significant approaches to the subject matter. I encourage this process by devising multiple, complimentary ways of learning material for any one class. For example, for a topic regarding (X)HTML syntax, I put students in groups, have them learn a design topic, and teach the class through a discussion of the topic and a hands-on tutorial (which they uniquely design). To prepare for class, the remaining students try synchronous or asynchronous on-line tutorials, consult the class texts, or consult additional on-line resources. Their learning about each topic feeds their ongoing individual projects: the thorough and thoughtful design of a website. Throughout the semester, students also reflect on how they best learn technologies of design, and plan for how to continue to educate themselves as designers.

In my upper-division and graduate classes, students have the opportunity to formulate and pursue intellectual problems with increasing complexity and rigor. I design seminars to provide scaffolding for sustained intellectual development. As the courses proceed, students take increasing leadership roles in discussions about issues, readings, and one another's projects. In the case of graduate classes, I help to orient students to their disciplinary environment. Students learn about disciplinary conventions as they have developed over time — who gets to speak and why, the effect of traditions and social networks, what issues and ideas are being argued, and what is at stake in the arguments. For example, I often invite students to analyze seminal texts, not only to study the texts themselves, but also to understand that they arise within contested social contexts. Therefore, we read up to and beyond these texts, in order to sort out the rhetorical situations of their production and reception.

I want my students to see knowledge claims and meaning as negotiated. I want students to find their place in the conversation and to feel their own powers. As they do, I encourage them to find audiences beyond the classroom, and to participate in larger conversations in traditional disciplinary forums such as conferences and journals. Again, however, I also invite students to study these forums, to assess their strengths and limitations, and to explore new opportunities for public speech and dialogue as they each discover a place to stand.