1 Teaching overview

1.1 Selected teaching abilities

Undergraduate

critical thinking	logic: intro to non-classical logic	philosophy of mathematics
Galileo's philosophy of science	logic: intermediate logic	philosophy of physics
intro to bioethics	metaphysics	philosophy of science
logic: intro to logic	paradoxes	philosophy of space and time

Graduate

determinism	philosophy of quantum theory	philosophy of statistical physics
history and philosophy of infinity	philosophy of science	philosophy of time
philosophy of physics	philosophy of spacetime physics	scientific realism

1.2 University of Pittsburgh teaching experience

Spring 2010 *Morality and medicine* (bioethics). Course lecturer.
I began this course by briefly introducing the first-order ethical frameworks. The bulk of the course was devoted to analyzing specific problems in bioethics, with a sensitivity to how the different frameworks would proceed. Course website: `http://www.pitt.edu/~bwr6/teaching/mm`.

This course draws a number of students participating in University of Pittsburgh's prestigious medical school and program, as well as students majoring in various biological sciences. This offered a unique opportunity to incorporate student expertise of medicine and biology (much of which went well beyond my own) into the curriculum. For example, I had each student do a brief presentation on a course topic that made a connection to their specific field of study; younger students just chose a field of their liking. This added a wonderful level of depth to the course that I could have never achieved through lectures alone.

Fall 2009 *Principles of scientific reasoning* (critical thinking). Course lecturer.
This course covered the basic principles underlying good critical reasoning, emphasizing inductive and statistical arguments as well as deductive systems. Course website: `http://www.pitt.edu/~bwr6/teaching/principles`.

Principles is a tough course to teach. It is required for majors in many different fields, including History and Philosophy of Science, and students often aren't particularly excited about having to register. The difficulty was compounded in my course, which took place in the dimly-lit Norwegian Room at the University of Pittsburgh, from 6:00-8:30pm in the evening. Considerable effort was required to keep students engaged. I would often begin by showing them something surprising, such as an interactive program illustrating the Monty Hall problem. I would then typically shift back and forth between lecturing for 15-20 minutes, and doing a short exercise, activity, or slideshow. This strategy seemed to work very well; a specific example of this is described in my Teaching Statement below (Section 1.3).

Spring 2008 *Einstein for everyone.* Teaching assistant for John D. Norton.
I led recitations in four classes of twenty students each, which were primarily discussion sessions. The course introduced the philosophical and scientific contributions of Einstein, with a particular focus on special and general relativity.

John Norton asked that I speak as little as possible in these recitations, and instead make the students discuss the material amongst themselves. This was tricky, and demanded a fair bit of creativity. I ended up developing a number of tricks and exercises aimed at keeping the conversation among the students, while occasionally interjecting to keep the discussion on track. For example, I rarely stood up in front of the students, but sat in the chair among them, to make clear that I was not the center of attention. When a careful discussion of something was required, such as the distinction between "intrinsic" and "extrinsic," I would often draw a line down the middle of the blackboard, then pass the chalk around having students take turns writing down examples of each. They would then go through one by one and discuss the examples. This literally kept them on their feet, and very often generated nice discussions.

Fall 2007 *Introduction to philosophy of science.* Teaching assistant for John Earman.
I led recitations in four classes of twenty students each, which discussed and expanded on lecture material. The course introduced the philosophy of science through a history of the field followed by an introduction to the classic topics.

This course is unusual because it is a requirement for all Nursing students at the University of Pittsburgh. John Earman's version of it is also challenging, as far as introductory courses go, in dealing with sophisticated topics like Bayesian confirmation theory, and Craig's eliminability theorem. My job was thus to help students with little-to-no experience in philosophy or mathematics come to grips with sophisticated and sometimes mathematical philosophy of science. This was a very formative first experience for me. I was constantly gathering information on what was working and what wasn't. I experimented with various kinds of explanations, activities, and discussions to help the students understand. The experience gave me a special sensitivity to the difficulties inexperienced students sometimes have with material they consider "technical."