Robert Y. Lewis

Bessemerstraat 9A – 1097AM Amsterdam – The Netherlands
+1 617 872 3556 • +31 6 837 77159 • r.y.lewis@vu.nl • http://robertylewis.com

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My teaching background is somewhat different from the traditional computer science candidate: in addition to teaching undergraduate CS students, I've also taught high school and undergraduate mathematics and computation-focused undergraduate philosophy classes. These courses have ranged from small seminars to lectures with hundreds of students. Observing how different approaches and techniques have played out in these settings, I have learned to tailor my syllabi and teaching styles to match the learning objectives of different audiences.

I have sought out as many teaching opportunities as possible during my academic career, including in my current position at the VU Amsterdam, where it is rare for postdocs to lead lectures. While at Carnegie Mellon, I completed the Future Faculty program at the Eberly Center for Teaching Excellence and Educational Innovation, which provides support for PhD students seeking teaching-focused careers; their lessons on course design, classroom management, and inclusive teaching have had a lasting effect on my approach.

Much of my teaching experience has been with courses related to logic and computability. I am excited for the chance to teach a broader range of computer science courses, including programming (functional and imperative), data structures and algorithms, principles of programming languages, operations research, type systems, and automated reasoning.

Teaching goals and approaches. It is vital that a course reflects the backgrounds and goals of its students, and I have tried to respect this while teaching logic to students from different disciplines. In an introductory-level course on mathematical reasoning, satisfying breadth requirements for humanities students, I explained logic as a toolbox for modeling and reasoning about informal situations. The assessments did not emphasize the students producing formal proofs themselves, asking them instead about the historical context and modern applications; many students wrote an optional essay where they used the vocabulary of logic to explain a complex concept from their own discipline. In contrast, I have also taught logic to computer science majors at the VU, many of whom continue on a theoretical computer science track. Here, mastery of the technical manipulations was expected, and the assignments and exams tested this. Students were also asked to prove and apply meta-theorems to prepare them for future study of computer science as a mathematical field.

Students often question whether theoretical material is relevant. Even when students are informed about *what* they must know and be able to do, they still ask *why*. One way in which I have tried to address these questions is by situating material in its historical context. When teaching computability theory, I describe the community of fledgling computer scientists in the early 20th century, and their path to discovering a notion of computation that is complete and precise. The historical motivation for such a definition is still relevant now, and situating things in this context can make the ideas more relatable. Some students are driven instead by seeing applications to familiar problems. Every programming student has been frustrated searching for mysterious bugs in their code; in my logic classes, I demonstrate how tools such as proof assistants and automated reasoners can be used to verify programs and identify mistakes. When teaching linear optimization, I explored industrial tools and applications of operations research. Even when these tools are not the focus of the course, students appreciate seeing how learning the theory now will affect them in the future.

Historical context and modern applications can also help students with knowledge retention. Another useful technique, that I have learned from some of my own instructors, is to interleave separate topics as much as possible. Even if a course is structured in independent sections, I return to topics from earlier sections on assignments or in recitations, so that students get regular practice in all areas. I've found that doing this is especially helpful for students with little mathematical maturity. Repeatedly returning to a topic allows them to learn it in pieces, rather than understanding the big picture in one turn. I assign cumulative exams or final projects to test this long-term retention.

Especially with younger students and students from underrepresented groups, success in technical fields can be hindered by the idea that the subject is "scary" or requires some innate talent. Above all, I try in my classes to dispel with this kind of fear. This takes many forms: I actively encourage quieter students to share clever solutions or ideas with the group, and when small subsets of the class dominate discussions, I ask them to share the floor.

Unfortunately this attitude was prevalent among my high school students, at an all-girls school with a diverse student body. Spending time in that setting made me very aware that my personal educational experience was quite different from that of many of my students, and that teaching well meant doing more than just what worked for myself. Students who didn't fit the profile of being quick to answer questions, quick to finish tests, and quick to pick up information from a lecture still showed their knowledge in other ways, as I would notice in their submitted assignments or overhearing them explain concepts to their classmates. This led me to integrate small-group discussions into my lessons as much as possible to encourage these students. Ultimately, though, I believe this problem must be addressed systematically as well as in individual classrooms.

Integrating research and teaching. As formal methods become more recognized and used, it is essential that students encounter them early. With this aim, I have developed a textbook, *Logic and Proof*, and course materials that teach the fundamentals of computer science and math with the help of a proof assistant. I taught a course using this text at CMU, where it received nearly perfect student evaluations, and made it a large component of a course at the VU, whose students praised its clarity and modernity. The materials have been adopted by other instructors around the world. My coauthors and I have been in talks with publishers about how to reach a wider audience. Kevin Buzzard of the Imperial mathematics department has led a similar effort to use proof assistants in their introductory courses; combining efforts across disciplines, Imperial could become a model for the use of proof assistants in education.

Broader curriculum design. A comprehensive education extends beyond just one class. Writing this textbook made me reflect on the broader logic curriculum at Carnegie Mellon, and I came to notice many inefficiencies and redundancies in the courses offered. I made suggestions to department administrators about how the curriculum could be streamlined. While teaching high school, I had similar discussions about course offerings for upperclassmen, leading to the introduction of an AP statistics course and more options for students to take calculus. I believe that a coherent, non-redundant curriculum is vital for keeping students engaged in academics, and am excited to learn how this is approached at Imperial.

Project supervision. At the VU, I have been the primary supervisor for a BS thesis project, an MS thesis project, and an MS internship project, and have co-supervised two other internships. My research area is fairly accessible for students, and approaching these projects as collaborations has been very fruitful: my most recent intern, Paul-Nicolas Madelaine, completed major components of what will become two conference papers. Ultimately, though, these projects are learning experiences for the students, and I try to guide my mentorship based on the students' future plans. Markos Dermitzakis concluded his BS thesis reflecting on the experience of learning formal proofs; I find it enormously satisfying to read this kind of reflection, and hope to see many more.