When I teach, I facilitate student learning, providing and communicating the content they are to master in the course. I work to develop a community in the classroom to involve and engage all students. My teaching is extended by my industry experience to provide students with a practical understanding of the course content. Classes I teach are about achieving and mastering the learning objectives.

On a given class day, I am the moderator walking through the room, so that all of the students are in the “front” of the room at one time or another. I pose the questions and let them linger. I want an answer, but all of the students will have time to think about the question. Many times I have the students turn to their peers and hold small discussions, flipping through their notes or gesturing to the whiteboards. Then, when the discussions are quieting down, someone is called on to answer. To quote one student, “people always had questions or something to say, class felt like a community.” That is one of my goals in teaching.

To develop a community, I need to know the students, so I meet with every student through “Homework 0” (which I took from my advisor), which is to attend office hours once and we talk about their background and aspirations, as well as feedback on the course. It matters to me that one student is to be married, or another will miss this week with a parent in the hospital. Being in a community helps students to feel comfortable enough in the classroom to ask questions or attend office hours, and not think there is a stigma with asking for help. I do not want to be an impediment to student learning, rather I desire that students continue to say, “He was always available for help, whether that [was] in office hours, after class, or through e-mail.”

With both academic and industry experience, I work to engage the students and show them why the material matters, to blend theory and practice. One student described this aspect of my teaching best, “He knows the topic really well, he was able to tell us about his past work in industry and his current research that really helped [us] understand the context for the class.” We talk about hyperthreading, and I draw performance results. We learn about cache coherence, and I discuss software designs to minimize false sharing. From my background, I also care how Computer Science students program, I care about how they practice our craft. Every programming assignment requires students to solve the project well. I am already available to meet with students to review their work and answer questions, but since their design matters I make it a requirement of the major projects to schedule a time for them to present and discuss their design with me or the TAs.

Students are there to master the material, and their grades reflect their degree of mastery. Mastering the material first requires establishing what it is, which starts on the first day of class when we discuss the learning objectives and the themes of the course, until the last day when I write up the objectives on the board and review how the material brought us there. Students are not graded on their attempts to master the material, only on the final mastery, whether it is assessed in projects or exams. In doing so, students have the opportunity to make mistakes and fail without repercussions. Furthermore, students’ final grades reflect their final mastery, and not their progress nor effort toward this mastery. Consequently, the homework assignments and other problem sets are assessed, but only to provide the feedback for the students to identify areas that need further time to master. The earlier students realize that they have misconceptions about the material, the greater time they have to correct as well as avoid building further knowledge off of the misconceptions. In class, by giving all students time to think about a question, I not only build community by including more than just the smartest students who are quickly ready to answer,
but students have the time to think about and commit to an answer either mentally or in writing and thereby self-assess whether they have learned the material.

My philosophy of teaching has been shaped by two aspects: *experience as an instructor* and *education classes*. I have now been the sole instructor of record twice, and a teaching assistant four times. When I have taught, I regularly ask the students to provide anonymous feedback on note cards about the class, as well as observations by the staff at CETL (Center for the Enhancement of Teaching and Learning). These steps have helped me begin my development as a teacher and find techniques for developing a community of learners in the classroom. Classes on education have provided me an informed basis onto which I am developing my teaching style. Looking ahead, I will continue my research on Computer Science education and extend my teaching experience beyond Computer Architecture.

I strive to teach courses that develop a community of learners working together through the material, learning from and engaging each other. I use my software development experience in industry to extend the learning objectives into their practice beyond the academic setting. Finally, my teaching emphasizes that each course is about students mastering the core concepts so that the students will carry those concepts beyond the classroom and into life.

“[The instructor] was so engaging, made me WANT to go to class”

* All quotes taken from course feedback surveys.