

Teaching Statement

Teaching Philosophy

When I was a student, I observed the modern university system from the perspective of a student. When I became a T.A., I took knowledge from the perspective of a TA and added it to my teaching philosophy. Now, as an instructor, I am seeing the course from the other side of the room. Though the factors that influence me are now different as I stand in different shoes, I have not lost sight of the insights I learned as a student and a TA. These factors are made manifest in four key principles.

Teach Material from a Real-World Perspective

I believe that emphasis on teaching should first and foremost be based on knowledge and skills that can be applied by the students in the real world. I feel that if students believe that course material may be useful, they find it easier to process and understand the material. To that end, I always begin class by describing a potential real world problem and asking students about the problem. After some discussion, I present the material for the day, framed as a solution to that problem. Multiple students have expressed appreciation for this approach. The following is an example of student feedback I have received on the famous ratemyprofessors.com website:

"He was also able to relate this class to security concepts which really made it worth while for me. I wish had the opportunity to take more of his classes. If you actually want to learn something you can apply once you graduate, take Prof. T's class."

Teach with Feeling

My experience as a student has taught me that anyone can pay attention to a boring instructor, but only the most determined of students actually will pay attention. When I observed master teacher lectures, I noticed that the most effective lectures were also the ones who were the most energetic and engaged with the material. The job of the instructor is to teach the entire class effectively. Therefore, I believe that instructors should always teach with energy and volume to engage the students and keep their attention.

Accurately Communicate Expectations

As a student, I knew others who felt points were unfairly deducted from their scores based on poorly communicated assignment criteria. As a TA, I encountered that phenomenon as students sent emails stating that they had misinterpreted requirements. As a result, I recommended changes to assignments based on this information, and students responded very positively. When I became a course instructor, I redesigned all of the course assignments with as much detail as possible. I then took notes whenever students became confused with aspects of the assignments, and I used this feedback to continually iterate on the wording of assignment descriptions. Based on student feedback, I believe that students were more engaged, learned more, and ultimately performed better as a result.

Incorporate Activities to Encourage Student Participation

As a student, I would learn the theory behind a concept, but would never truly understand it until I used the concept in an assignment. As a TA and later course instructor, I had the honor of co-instructing a flipped course in one of two of UNC Charlotte's Kennedy Experimental Active Learning Classrooms. Throughout the course, I leveraged the multi-table audio system, smart podium, plasma displays, and circular frosted glass "whiteboards" to create and foster low stress student activities to teach course material. I believe that by involving students in participatory learning in the classroom, their focus on the material will increase. Consequently, I believe they will retain more of the material, and they will perform better in the course.

GAANN Scholar

My ultimate professional goal has always been to teach adults in a university setting. In the dawn of my PhD, I was fortunate enough to receive the GAANN (Graduate Assistance in Areas of National Need) Fellowship. The purpose of this fellowship is specifically to prepare PhD students in STEM fields for teaching oriented positions. As a part of this fellowship, I attended a variety of teaching seminars and master teacher lectures. I also served as a T.A. for various courses throughout the fellowship, gradually taking on more teaching duties. Eventually, I became a co-instructor for ITIS 2300 Web Application Development and the sole instructor for ITIS 4166 Network Based Application Development.

Teaching Experience

When I became an instructor, I redesigned all aspects of ITIS 4166 Network Based Application Development. This course is a large junior/senior level software engineering course. The objective of the course is to teach students how to engineer complete, dynamic, highly scalable, and secure networked applications using a low level language. Topics covered included Java servlets, sessions, JSP, beans, database use and interaction, the model view controller design pattern, frameworks (such as hibernate), AJAX, and security. When I taught the course, students selected a final project option at the beginning of the course. One of the options was a functioning online store, complete with persistent user accounts and logins (in a database), user specific shopping carts, sessions, and user-specific persistent order history. All of this was implemented through JSP and beans in an MVC design pattern. As an alternative, students could elect to build a stock trading website with similar requirements and functionality. Each assignment that I gave served as a stepping stone to this final project.

To leverage this course material, I created a working program for every concept before class, and I timed myself to determine how long it took to create each feature. I would then select the most important features, and recode these features in front of the class while lecturing. Students loved this hands-on approach, and, despite the intense course requirements, students seemed to learn well and provided good feedback. Examples are provided below:

"He's a great professor, very helpful and makes the class enjoyable. It is clear what is expected. I learned a lot in this class. I also enjoyed working on the project. Quite possibly my favorite assignment out of all my classes."

"Took his 4166 class as an elective during my last semester. Knew it was going to be hard. He took a tough subject and made it easy to understand. Answers questions about problems in your code promptly. Very helpful and informative. Being in his class solidified my Java knowledge."

"He has passion for his work and his students graduating and can't say that I have had a more dedicated teacher that cares about his students, he was a T.A. so got real insight and experience of being a teacher, and did a great job this semester. I wish I could have had him for more classes."

Future Teaching

My teaching experience, T.A. experience, research, and educational background have prepared me to teach a wide variety of courses at multiple levels. I am comfortable tailoring my teaching style to accommodate both large and small class sizes, and I am confident teaching cybersecurity, HCI, software engineering, and introductory through advanced undergraduate programming courses. I am also interested in teaching or designing a web application development, secure coding, or usable security course.