

Auston Sterling | Teaching Statement

My teaching style has evolved as I have taken on additional responsibility. My early experiences were mainly as a teaching assistant, focusing on one-on-one tutoring. This is still one of my favorite aspects of teaching: being able to sit down with a student and work through their understanding of the material. However, as my teaching responsibilities have increased, I have considered how to transfer those skills to a classroom setting.

I have approached classroom teaching with a set of goals to guide class design. I would like students to leave my class feeling like they have a new set of tools with which they can approach practical problems. This requires both being able to use the tools and knowing when to use each one. I also try to create an atmosphere of excitement around the material by demonstrating practical and effective applications. I have implemented various strategies to achieve these goals, and will reflect on a few of them here.

I have tried to avoid spending in-class time on one-way delivery of material in favor of a more flipped classroom. I encouraged students to prepare before class and provided diverse online reference material. Time in class could then be spent on active learning exercises, such as collaborative coding/debugging or group work. I have found it helpful to start with a simpler activity involving the whole class, so as to give underprepared students an opportunity to catch up, while still being a useful warm-up exercise for those who are better prepared.

I have also been interested in the idea of allowing students multiple attempts at assignments, with the opportunity for partial credit on correct resubmissions. Since one of my primary goals is for students to build up a toolkit of skills, I find that encouraging resubmissions gives students reason to revisit unmastered material. I was happy with how this turned out: students were able to get more frequent feedback and the grading criteria became much more transparent.

I also explored automatic grading of assignments, which should be particularly applicable in a computer science setting. I incorporated auto-grading directly into the assignments, so that the students and I could evaluate their code on different test cases. In the end, the main benefit I found was not in reducing grading effort on my part, but instead providing the students with instant feedback as they worked through problems on their own. My hope is that these techniques encouraged students to practice their skills more effectively and to a strong degree of mastery.

Moving ahead, I would like to continue to refine my teaching. In particular, I am interested in performing better evaluation of the effectiveness of my lessons, explanations, and techniques. I would like to further incorporate techniques from the science of learning, for instance referring to Bloom's Revised Taxonomy to aid in coursework design. I would like to work with other instructors to develop course content and share ideas for teaching strategies. I am excited to continue teaching in the future.

Student Evaluations

I had full responsibility for a small section of UNC COMP-116: Introduction to Scientific Programming. Two students opted to answer the free response questions on the course evaluation, and you may find their responses below:

"I really enjoyed this course. I felt that Auston tried to give us a good foundation for using Python in scientific applications, but also challenged us with problems that helped us gain a deeper understanding of the material."

"My only complaints are that I came in with no coding experience, but most of my peers came in with some experience and I think that put me at too much of a disadvantage. They were able to recall learning the basic concepts of this course in the past, and were able to compute new course material way quicker than me because of it. Obviously you have to construct midterms with the average student, so I hate how behind I felt during most of the class. Additionally, I do wish that attendance was taken because I'd love some sort of a great grade for never missing class, while others missed a couple or even several."

"I felt that Auston's teaching methods and assignments really helped me learn Python better."

"Auston is awesome!!!! Major kudos to him for not forcing us to buy an expensive textbook and taking the time to make his own videos to give us a lot of the information we need for in-class activities. Auston is very helpful in office hours. Even though we all just want him to give us the answer, he is very patient and really nails down the basic concepts which helped me in the long run. Also, just in general, Auston is a really nice and calm person which actually makes for good teaching, because he never gets intense or makes you feel stressed. For example, there were many times where we didn't finish in-class notebooks but instead of rushing us to finish he let us ask all of our questions and gave thorough answers or explanations for them. I didn't realize that most other teachers have the tendency to stress people out (whether on purpose or not by being too intense or exuding some sort of negativity) until after I had Auston teach me."