

Keith Vertanen

TEACHING STATEMENT

In my time as a graduate student, I was fortunate to serve as a tutor, teaching assistant, and instructor. Through my experience, I developed the following teaching principles:

- **Keep lectures interactive.** I ask thoughtful questions to bring out issues I want to discuss. Take for example abstract classes in C++. It takes a lot of typing to produce an abstract class, yet you cannot do anything directly with it. So what possible advantage could abstract classes offer? While asking such a question is more time consuming than providing a bullet list of advantages, posing such a question offers a number of benefits. First, it avoids a monologue-style lecture in which students may become bored. Second, posing questions encourages students to internalize the issue at hand. This leads to students being more likely to use something like an abstract class. Once they have used an abstract class in the lab, an exam question on the subject should be easy. Third, by keeping things interactive, students become comfortable talking to the instructor during lectures. This leads to more interaction throughout the lecture with students asking for clarifications, questioning motivations, pointing out mistakes, etc.
- **Be accessible.** Nothing is more discouraging to a student than being stuck on the same, seemingly intractable problem for hours. By being readily accessible in the office, lab, and via email, student frustration can often be averted. A quick response by email can usually get a student on the right track to a solution. Once students learn you are readily accessible, more interesting and difficult assignments can be set with the understanding that you will provide assistance such that students can always succeed (subject to the student investing sufficient time and effort).
- **Enable incremental success.** Students, especially in introductory courses, are of a wide variety of abilities. It is important to design assignments that allow students to succeed incrementally. At least initially, students may be unable to break down a complex problem into a sequence of attainable sub-problems. By designing assignments incrementally, all students can complete at least part of a problem. I also like to design assignments that encourage students to go “above and beyond the call of duty”. This allows students to flex their creative and intellectual muscles and makes assignments more fun and challenging to the advanced students.
- **Use stories and examples.** A good story or example is often the best way to convey a concept or prove a point. Where possible, I find that live demos are particularly engaging and informative.

What students say

At the end of each course at Oregon State, students are asked to evaluate instructors. They rate various statements on a 5-point Likert scale (1=strongly disagree and 5=strongly agree). The mean scores over my two years at Oregon State were:

4.4	“Favorably impressed by instructor”	4.4	“Instructor was well prepared and organized”
4.4	“Instructor explained the material clearly”	4.1	“Instructor stimulated enthusiasm for the subject”
4.3	“Instructor encouraged me to think for myself”	4.5	“Instructor was fair and impartial”

Written comments from students:

“Good communicator and good methods of teaching helped me learn.”

“I think he did a fantastic job, he explained things well, he used plenty of examples, he reviewed often.”

“Very organized, good presentation skills. Good listener - understands what people are asking.”

“You are the best CS TA I have had. Good job.”

“He was good at picking out the hard points and talking about them. His example on inheritance was indispensable.”

“Keith was always very prepared and organized. I drive half an hour each way to come to class and I wouldn't have attended every class if it hadn't been as beneficial as it was.”

“Best TA I have had this term.”

“I appreciate a TA who's genuinely interested in providing instruction to the students. Keith's genuine instruction aided our understanding of the concepts and stimulated interest in the material.”