

Teaching Statement

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I feel strongly that education is the foundation for creating and inspiring future scientists, researchers and faculty. Although my formal teaching experiences are limited, the education and wellbeing of students has always been a priority for me and something I have taken great pride in during my career. As a student in my primary and secondary schooling, I acknowledged, valued and respected quality educators who took an active interest in my success. It was the enthusiasm of these educators and my involvement with students over the years that has led me to seek a faculty position so that I can share my knowledge and experiences.

In my work as a scientist at ISU's CNDE, I had the privilege of working with many outstanding students from high school all the way through to Ph.D. candidates. I supervised undergraduate design project students, high-school interns and graduate students. I have also mentored students in the Program for Women in Science and Engineering. With these experiences, I can say with some authority that I have seen excellent performance from students who participated in project-related activities and those who worked as laboratory assistants. I have found all of my encounters with students to be rewarding and educational.

The majority of my formal classroom teaching activities have been in the capacity of a stand-in lecturer while regular faculty members were on leave. In some cases I filled in on a semi-permanent basis. For example, I taught large portions of an undergraduate NDE class while the regular professor was on sabbatical. Through my experiences as a guest / fill-in lecturer and involvement with faculty mentors, I have developed a teaching philosophy that I feel will benefit and be fair to all students. I consider my teaching philosophy to be a work-in-progress and something that I will refine as my experience grows.

At the present time, my teaching philosophy involves focusing on three areas; basic principles, classroom interaction and reinforcement.

Basic principles. In the classroom I like to concentrate heavily on the underlying principles that support the primary objectives of the course. I think too often we start where we feel the students should be instead of seeing where they are and progressing from there. I would like to begin by clarifying for students concepts that may seem abstract; a little time spent here will save a lot of time and frustration later. In my work with students I have often seen them struggle with advanced concepts partly because they are missing some of the basics. In some cases this can be as simple as not properly understanding the definition of a scientific term. I will not necessarily go over all of these topics in the classroom, but I will try to identify them and provide individual direction to the students concerned so that they can address the problem in their own time. In approaching my instruction in this manner, I will be able to focus on a challenging curriculum knowing the basics are in place.

Classroom interaction. I feel it is beneficial to foster an active, hands-on class environment where all students take an active role in their learning. I like to encourage my students to take part in problem-solving activities during lecture so they remain engaged. This provides students

with an opportunity to practice problems that may be similar in nature to those they will encounter in their future careers. I will also maintain open lines of communication with my students both in and out of class. During class I will engage in questioning students in order to keep attention levels high. Questions will also help me to identify struggling students, so that I can develop a strategy for those individuals to meet and advance their needs.

Reinforcement. I realize the benefits of reinforcing lecture time with practical and relevant laboratory studies, practical examples and tutorials. My experience has taught me that students learn well from participating in hands-on activities and this is especially true if they have the opportunity to participate in laboratories that inspire them to learn using real examples and problems. If I am not directly involved in teaching laboratory and tutorial groups; then it will be my policy to stay very closely in touch with those coordinating these sessions so that I know exactly how my students are performing, and which ones need additional assistance.

As stated earlier, I feel strongly that my personal teaching philosophy is a work-in-progress and will develop as I engage with more students and learn from the valuable experiences of senior faculty. My job as a lecturer will be to inspire my students and not merely lecture to them, I feel passionately about this.