

# SCOTT A. KUHL

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## Teaching Statement

Every college and university seeks to provide educational opportunities for every student. It is the teacher's responsibility to design and implement courses that accomplish this goal. I believe that an effective teacher must clearly present information while simultaneously keeping the students engaged. I find teaching to be extremely rewarding when I see students appreciate and apply the knowledge they learn to improve their lives. These rewarding aspects of teaching motivate me to try to continuously improve the effectiveness of my teaching.

An effective teacher must continuously try to present course materials to students as clearly as possible. The teacher, therefore, must have a solid understanding of the materials that they are presenting. I am qualified and interested in teaching core computer science courses, particularly programming languages, algorithms, data structures, and networking. I am also qualified to teach advanced courses in computer graphics, virtual reality, and human-computer interaction. I can also teach these courses from a multidisciplinary perspective with an emphasis on human perception.

Individual lectures and the overall course curriculum must also be carefully designed to present materials as clearly as possible. First, the relative importance of the course materials must be determined. For example, in most introductory courses, the general ideas of a particular topic may be more important than the fine details of the topic. In the introductory course I taught at the University of Utah (CS1021: Introduction to Java for non-CS-majors<sup>1</sup>), I focused on the general principles of programming so students would be able to apply their knowledge to other programming languages they might later encounter in their respective fields of study. In advanced courses, the details are often the most important portion of the course and the content, therefore, must be tailored appropriately.

Accounting for the types of students taking a course also plays an important role in clearly presenting ideas. The students in Introduction to Java came from a variety of non-CS fields and I therefore increased the diversity of ways that ideas were presented to students. The course consisted of a lecture and two labs each week. Since each student learns differently, I appreciated the ability to spend a significant amount of time on both lectures and hands-on activities during the labs. Even in advanced courses, I believe that it is best to try to present material from different directions when time permits to give students multiple opportunities to learn the material.

Besides clearly communicating information to students, it is also important to engage the students. I used several different approaches to engage students and make my Java course interesting and exciting. Several weeks into the course I asked for anonymous feedback from the students so I could understand what topics they were most interested in learning about. Furthermore, the survey also gave me the opportunity to listen to how the students think the course might be improved. Once all of the critical course material has been covered, I tried to tailor the course to cover the topics that they were most interested in learning more about. Another way to engage students is to connect the course materials to real-world applications. For example, writing graphical programs in introductory programming courses can make the course more interesting. Students are already familiar with graphical programs and can imagine the possibility of extending their programming assignments to a complete and useful program.

Another aspect of engaging students is making time to be accessible to students outside of class. I was available to help students in a variety of different ways by promptly responding to questions

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<sup>1</sup>CS1021 website: <http://www.eng.utah.edu/~cs1021/>

via email, staying after class to answer questions, and holding my office hours in the computer lab. Although some students frequently ask for help, other students are much less engaged outside of class. To keep advanced students interested in learning more, I frequently added optional components to labs and homework that they could complete to learn more than the required materials. Even though this extra work was optional, I found that some students often enjoy going beyond the course requirements.

The most rewarding aspect of teaching is knowing that you are making a positive impact on people's lives. As a undergraduate, I volunteered to teach basic English and computer skills to adult immigrants at *Learning in Style*<sup>2</sup> in Minneapolis, Minnesota and helped maintain their website. Although I only helped teach the most basic skills to students, it was a very rewarding experience. It was exciting to see students overcome language barriers and learn how to use computers to unlock numerous opportunities for their future success. I look forward to continuing my efforts toward making a positive impact on students through teaching.

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<sup>2</sup>*Learning in Style* website: <http://learnsty.mpls.k12.mn.us/>