

## Teaching Statement – Alan Halverson

Computer science education needs to be about more than just textbooks, programming assignments, and exams. Fundamental concepts are a critical component of education, to be sure. However, I believe that students at the undergraduate level are poised to begin another journey – one of developing a clear, principled, analytical and critical approach to learning and thinking. Many students entering college achieved great success at the high school level without significant effort. Some will continue to breeze through college courses, others will struggle; but each one – regardless of background – should use their new environment to evaluate how they learn. The four years students spend as undergraduates may be the last formal education they receive. In my experience – both personally as an undergraduate and evaluating job candidates professionally – the single greatest factor which determines success is a person’s ability to quickly evaluate and integrate new information. I do not believe this skill can be taught; each student must discover it within themselves. My role is simply to facilitate their discovery, supporting and challenging them both in and out of the classroom.

As a first year graduate student at the University of Wisconsin-Madison, my teaching assistantship gave me the opportunity to lecture for three sections of the introductory programming course. I taught one section in the Fall of 2001 and two sections in the Spring of 2002. The responsibilities for this position included lecturing three times a week for each section, maintaining weekly office hours, assisting with lesson preparation, helping students with programming assignments, and grading of lessons and exams. Although I had not previously lectured regularly, I found that my experiences working at Microsoft in various roles provided me with several advantages in the classroom. First, I could relate the facts to be taught to specific scenarios I had encountered in real production programming. Second, I found that telling an amusing anecdote relating to my former coworkers or customer feedback would breathe life into an otherwise boring topic.

For the past several years, I have been a substitute lecturer for the undergraduate database course, entitled Database Management Systems: Design and Implementation. These chances to lecture each semester have allowed me to stay in touch with teaching and to interact with students at a slightly more advanced stage of understanding of computer science concepts.

Teaching is not limited to class-related topics only. Essentially, my role as an advisor of graduate students is to teach and mentor students. Their success after graduate school will depend in part of my ability to pass on what I know about research, teaching, and industry. I will also advise both undergraduate and graduate students to do one or more summer internships in industry. In addition to helping the students build their resume, an internship provides valuable first-hand experience with applying abstract concepts to real-world problems in computer science.

Teaching introductory courses such as introductory programming, data structures, operating systems and compilers would be welcome given my background. I would also like to teach undergraduate and graduate courses in database systems.