

Teaching Statement

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My enthusiasm and commitment to teaching is equal to my commitment to research because I envision teaching and mentoring as an integral part of my career profile. During the past years, I have had the opportunity to advise and train people at various levels, leading to rewarding feedback for both my research and teaching work. I also develop my teaching philosophy from my experience as a student, teaching assistant, and lecturer at the University of Waterloo.

1 Teaching Experience

During my undergraduate years, I was a teaching assistant for the course Data Structures and Programming. This course has been reputed as one of the most important fundamental classes in computer science and engineering; and my duty was to assist students in the design and coding of the programming assignments.

When I was working as a network engineer and project manager from 1996 to 2003, one of my main responsibilities was to train junior network engineers to implement, configure, and troubleshoot the converged local and wide area networks and assist them to achieve qualified certifications such as Cisco Certified Network Associate/Professional (CCNA/CCNP), etc.

As a graduate student at the University of Waterloo, I worked as a teaching assistant for undergraduate courses ECE 100: Fundamentals of Electrical Engineering and ECE 418: Communication Networks. For the fundamentals of electrical engineering class, my duties included instructing more than 200 students on laboratory assignments, giving laboratory tutorials, and grading reports and exams. For the fourth year course communication networks, I was responsible to lecture supplement course materials to assist students in understanding the principles of wireless communication networks, and design and proctor quizzes in the weekly tutorial sessions.

With excellent evaluations from students, I have been appointed as a course instructor for ECE418: Communication Networks in the spring term, 2008. Teaching this course was one of the most rewarding experiences that contributed to my passion for teaching. I learned a great deal about how to strengthen students' understanding of the principles and practice of designing and operating communication networks, supervise senior undergraduates in conducting projects and developing their own research interests. Besides teaching an undergraduate course, I was also invited to give guest lectures in some graduate courses on topics related to my research.

2 Teaching Philosophy

My teaching philosophy is based on the foundation of my educational experience, which has given me important lessons that I would like to apply as an educator.

First, one important responsibility of an instructor is to provide students with the knowledge necessary for their future studies and career. Well-organized lecture notes with carefully selected sample questions may arouse the students'

interests and curiosity, and motivate them toward further studies. To explain complex concepts or solve challenging problems, I strive to use intuitive examples related to real world issues to illustrate the basic laws under them. I always encourage students to focus on fundamental principles and deductive reasoning instead of simply memorizing the results. I also assign homework and evaluate students' performance regularly, which reflects whether or not the presented materials are well absorbed. Meanwhile, with the rapid advances of wireless communication and networking technologies, my lectures are updated to expose students to the state-of-the-art technologies and the future trends so that students can be well prepared for their future career.

Second, the interaction commitments between students and the instructor are very important to make teaching and learning an interesting, rich and rewarding experience for both parties. I like to stimulate the students through my enthusiasm for the course material since I believe enthusiasm is contagious in the class. I encourage students to actively participate in the teaching and learning process. By raising questions and arguments on a subject, I try to guide students on the right way to solve problems through in-class discussions and debates. To further facilitate students learning, I like to provide opportunities for reflection and feedback from students via after-class and office hour discussions, peer-to-peer feedback on assignments and learning activities, formal and informal evaluations, etc. Students responses and inputs are very helpful for improving my teaching skills.

Third, but not less important, an educator should inspire students to challenge existing practices and encourage them for scientific inquiry and critical thinking. I would also like to recommend that students explore further by extra reading and searching for alternatives or better approaches. Only through the questioning and deep thinking, students can be empowered with self-confidence that the knowledge has been well gained and can be applied for solving practical problems. The ultimate goal of successful teaching is to enable the students to master and to skillfully deploy the knowledge exposed to them.

3 Teaching Interests

My background in computer science and electrical engineering along with my graduate research in the wireless networking area makes me confident in teaching a wide range of courses at both undergraduate and graduate levels. I am also capable of teaching most introductory-level undergraduate classes in electrical and computer engineering.

Mathematics: probability and random processes, linear systems, probability for electrical and computer engineering, queuing theory, stochastic processes, analytical methods of electrical engineering, and advanced engineering mathematics, etc.

Computer systems: computer networks, data communication networks, computer organization and architecture, computer programming, distributed systems, and advanced topics in computer engineering, etc.

Communication systems: communication systems, wireless communications, communications over fading dispersive channels, (broadband) digital communications, signals and systems, telecommunication systems engineering, and advanced topics in communications, etc.

In closing, I strongly believe in the dual functions of a university as both a research facility and an educational institution. I put forcefully the best teaching efforts I am capable of at each stage of my professional career to improve my teaching skills and abilities.