

# Teaching Statement

A major element in my mission as an educator and a researcher is teaching; whether it is advising students or developing and teaching courses in formal classroom settings. I enjoy teaching, and believe it is as important as excellence in research to progress our field. I found communicating ideas with students by teaching courses and guiding graduate students, as well as to practitioners by leading seminars and workshops, to be a rewarding experience that I am looking forward to continue through developing, updating, and teaching various courses at different levels of the computer science curriculum.

**Teaching Philosophy and Style.** My teaching philosophy is summarized in an old saying: “Tell me and I forget. Teach me and I remember. Involve me and I learn”. The main characteristic of my teaching style is an active learning class, where students are brought to the threshold of their capabilities. I believe teachers should not provide answers to all questions, but drive students to their real potential by teaching them the necessary tools and skills to be independent thinkers. To achieve this goal, engaging students in the learning process is essential; many computer science courses are abstract, and engaging students would greatly improve their experience. Furthermore, establishing a fair and clear grading policy that encourages students to go beyond taught contents, setting clear and realistic goals to achieve, and identifying and fixing misconceptions at early stages in the learning process—where the grading policy should allow students to learn from their mistakes, are all pivotal. Also, I believe that teachers should be accessible to students, thus fulfilling the intended message of teaching. Finally, while at UB, and more recently at UCF, I learned the importance of continuous feedback in teaching (and adopted that as part of my teaching philosophy): students should be, whenever possible, surveyed during the semester on the material taught, their expectations, and the performance of their instructor, towards coping with shortcomings, and improving the process outcomes.

**Teaching Experience.** To date, I have taught a balanced set of systems and security courses; both graduate and undergraduate. In total, I taught eight different courses; revised six existing and proposed three new courses (one not taught yet). At UB, I taught “Advanced topics in computer security” (graduate), “Modern cryptography and computer security” (graduate), and “Introduction to computer security” (undergraduate), which I developed. At UCF, I taught “Secure software development and assurance” (undergraduate), “Advanced topics in computer security and computer forensic” (graduate), “Secure operating systems and administration” (undergraduate), “Foundations of Computer Security & Privacy”, and “Natural Language Processing” (graduate). I substantially revised the first course by adding content on threat modeling, common criteria, certification, web security, secure coding, and legal and ethical issues. For the second and third course, I redesigned them to cover trends in the area. I developed the fourth course, and volunteered as a last-minute replacement of a colleague who extended her maternity leave for the fifth course (out-of-area course); the course has become one of the most popular in the department, is often fully booked, and I have become the permanent instructor of the course. I additionally developed “Advanced Software Systems Security”, a new graduate course to be offered as part of a master’s program in computer security.

**Outcomes.** My evaluation at UB for the three graduate courses offered was 4.96, 4.0, and 4.6, respectively and 3.7 for the undergraduate course. At UCF, my course evaluation was 3.7–5.0 (out of 5), with the majority of courses well above 4.0, which placed me above the department and college ratings. In those evaluations, students acknowledged the time and effort spent cultivating various practical tools and concepts in the classroom, as expressed in recent evaluations, e.g., “Prof. has a unique way to motivate students and you wouldn’t mind waking up a little early to make it to this morning class for that weekly inspiration to work better.”, “This was one of the best courses I’ve ever taken. The professor took a very active part in class and in giving feedback.”, “Class was engaging and productive. I wish more classes were like this.”, “was considerate of our time spent while reading the papers and adjusted the workload accordingly to the entire class, while maintaining high expectations of us.”, “was always helpful in discussions. He explained problems in a very clear manner without giving away the answer”, “He provoked interest in the otherwise dry material, explained concepts well, and made an enjoyable atmosphere”, and “Very friendly and interactive”.

**Conclusion.** As a faculty member, I have been contributing to the computer science curriculum (and systems security curriculum) by introducing and teaching various graduate and undergraduate courses, three of which I have introduced for the first time, and six revised. In teaching those courses, I have been following an active teaching style and philosophy that have been particularly appreciated by students, as indicated in their feedback reports, while leaving various avenues of improvement. In the future, I will pursue the same teaching style with iterations of improvements. While security and associated teaching are my “comfort zone”, as I have demonstrated, I will also be qualified to teach courses in the general area of systems (including computer networks, operating systems), as well as introductory computer science courses.