My teaching philosophy views education in its many forms as an integral part of both personal and social development. I believe that teaching should be seen as a discipline in which the role of the professor adapts in response to the level, progress, and feedback of the student(s) being taught. A teacher is first and foremost an educator. However, at times the teacher must act as a leader, mentor, role model, or even a peer for the benefit of the student. They should be rounded individuals who are well-versed in their particular field of study, and thus before one can become a good teacher he/she must first be a good student.

During my graduate and undergraduate studies, I recall learning to be most enjoyable when I was engaged the learning experience. Therefore, as an educator I continually strive to ensure that my lectures captivate the minds of students through thought-provoking in-class questions and activities. I am also a firm believer that there should be an appropriate balance of theoretical teaching and practical skills-training in every course. This is particularly true in the ever-growing field of Software Engineering. As a result, I generally incorporate a semester-long group project, or series of practical assignments, into my courses to provide students with the hands-on experience necessary to be successful in an industrial setting.

This teaching statement summarizes the efforts I have made to acquire the expertise, leadership skills, mentorship abilities, and practical experience necessary to be an outstanding professor in the discipline of software engineering. It first describes my progression from graduate student to instructor in the School of Computing and Information Sciences (SCIS) at Florida International University (FIU), and then concludes with a description of my teaching activities as an Assistant Professor in the Department of Computer Science at North Dakota State University.

As a graduate student, I demonstrated proficiency in several graduate-level software engineering courses by attaining the highest letter grade possible in each of them. These included: CEN-5011 Advanced Software Engineering, CEN-6075 Software Specification, CEN 5064 Software Design, CEN-5076 Software Testing, CEN-6070 Software Verification, and CIS-6612 Special Topics in Software Engineering with a focus on Autonomic Grid Computing. I also excelled in the core CS curricula, which consisted of courses on compiler construction, computational theory, operating systems, database management systems, and algorithm analysis [1]. Upon completion of my coursework, my cumulative grade point average (CGPA) was 3.93 out of 4.0.

Florida International University
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August 2005 – July 2009
As an ambassador for student excellence, I served as the Honors Council Representative, Interim President, and President of Upsilon Pi Epsilon [2], an International Honor Society for the Computing and Information Disciplines.

As a peer mentor, I guided three undergraduate students (one visiting, two local) in the area of testing autonomic software systems during the Research Experience for Undergraduates (REU) Summer program [3, 17]. These students were able to publish a total of five research papers (1 journal article, 4 conferences) [4, 5, 6, 7, 8], and one research poster [9]. One of research papers was nominated for a best paper award in ACM SAC 2008 [8]. The students traveled to the respective conferences, and successfully presented their papers. In Spring 2008, I mentored an undergraduate student who was participating in the Student Research and Artistic Initiatives (SRAI) program [10]. The SRAI student co-authored one research paper [11] and presented one research poster [12]. Further, on separate occasions I mentored a total of four graduate students (3 PhD, 1 MS) in the Software Testing Research Group (STRG) [13].

As a teaching assistant, I assisted professors in conducting software engineering and software design courses at both the undergraduate and graduate levels. In this role, I provided continual assistance to students who were engaged in semester-long software projects. Many of the projects covered topics that spanned the entire software development life cycle, while others required the use of advanced concepts in model-driven software development. I also served as the teaching assistant for a graduate-level software testing course, for which my main responsibility was demonstrating the use of the following automated software testing tools: IBM Rational Functional Tester [14], JUnit [15], and Cobertura [16].

As an instructor of record, I was awarded the Strategic Initiative Teaching Assistantship [17] to independently teach the undergraduate course CGS 2518 Computer Data Analysis. Teaching the data analysis course provided me with initial insight into the duties, challenges, and rewards of being a professor. I was solely responsible for preparing in-class and homework assignments; developing and delivering course notes; proctoring and grading examinations; and helping students both inside and outside of class times. In Fall 2008, the Associate Dean of the SCIS appointed me to teach an upper-level undergraduate course on software engineering – CEN-4011 Introduction to Software Engineering. Students learned the fundamentals of software engineering including: requirements elicitation and analysis; UML design with modeling tools; software testing; and documentation. My overall instructor evaluation by the students in the software engineering course was 4.74 out of 5.0. In Spring 2009, the Director of the Center for Advanced Technology (CATE) [18] invited me to attend a workshop on teaching introductory CS0 courses using Python and Alice. The workshop was part an initiative by the Computing Alliance for Hispanic-Serving Institutions (CAHSI) [19] to train instructors to teach these types of courses to high school students for college credit. CAHSI subsequently granted me a monetary award to teach COP 1996 Introduction to Computer Programming using Alice [20] during Summer 2009.

As an instructor peer mentor, I hosted a tutorial session on unit testing at the 1st Workshop on Integrating Software Testing into Programming Courses (WISTPC-09) [21]. During the session, I trained CS1-CS3 instructors from various U.S. universities on the JUnit testing framework [15]. The NSF-sponsored workshop was part of a Course, Curriculum, and Laboratory Improvement (CCLI) Phase I Collaborative project entitled: “A Web-Based Repository of Software Testing Tools” [22]. Approximately 17 instructors attended the workshop, which was held at FIU in the Spring of 2009. In addition to hosting the session, I also served as a member of the WISTPC-09 organizing committee.
The first draft of the NDSU section of my teaching statement is currently under preparation.

References


