Teaching Philosophy and Practice

"Teaching is an art for which there is no one best approach." Teaching has been the most enjoyable and rewarding part of my responsibilities as an assistant professor for the last five years of my academic career. I cannot explain how rewarding it is when I receive letters from my former students informing me of their success in finding jobs and fulfilling their job responsibilities that have being partially influenced by the lectures and discussions in my classes.

Teaching Philosophy

I believe that teaching is an opportunity to share the excitement of knowledge with curious minds of students. It can be challenging as finding the right pitch to capture and attract the minds of a diverse audience is a non-trivial task. Therefore, a teacher should never stop refining and fine tuning his/her teaching methods to best fit the new audience. In addition, there is an immense responsibility that comes from being entrusted with a position where your actions as a role model will not only serve to enlighten but has the potential to impact the career choice of the students.

I believe that the keys to effective teaching are providing students with simple real-world examples, motivating them to discuss what they have learned, and providing them with opportunities to practice their knowledge. In addition to providing the students with informative and insightful lectures, the instructor should foster an environment in the classroom that promotes question and discussion opportunities. I believe that a course developed and taught is successful only if most of the materials are absorbed by the majority of students *during* the class sessions and reinforced by homework, study groups, and review sessions.

I believe that making a classroom interactive by asking questions, encouraging discussion, using visual aids and real-world analogies is important not only in enhancing learning but also in maintaining enthusiasm. In addition, I believe in the use of technology as a teaching aid both during and after the class. Most of the Course Management Systems provide online forums that can provide an avenue for students to ask questions, to solve problems, and to extend learning outside the classroom; if properly used and lead by the instructors.

Teaching Experience

Before starting my doctoral studies and then becoming an assistant professor, I worked in industry for about a decade. During those years, I have been involved in numerous small scale and large scale software and hardware engineering projects; starting as an inexperienced developer to the point that I could manage large teams consisting of sometimes up to 50 software and hardware engineers. Also, I had the opportunity of developing and teaching tutorials on different subjects. As a result, my experience in industry has provided me with a wealth of real-world examples and case studies that I have been using during my lectures to facilitate the understanding of the abstract concept using concrete examples. According to the students' feedback, this has been a

distinguishing factor of my lectures. During my PhD years, I have been a teaching assistant for several courses and have substituted for professors on several occasions, when I realized my passion in teaching and interacting with students in a classroom setting. This was one of the main reasons why I am now an assistant professor.

As an assistant professor, I have a passion to keep the curriculum of our school up-to-speed with the new areas of Computer Science and Information Technology. During the past five years, I have successfully developed five new courses (two undergraduate and three graduate courses); all have been approved and added to the FIU Course Catalog. I have taught 11 different courses for the first time. I have received high teaching evaluations by my students throughout my academic career (4.42 out of 5 on average) and have been enjoying the numerous thank-you letters from my past students. Moreover, I have supervised more than 40 graduate and undergraduate students during semester-long individual independent studies. In addition, to support our undergraduate IT students, I have served on the MS in IT committee for one year and participated in the development of the MS in IT proposal and two of its core courses.

Course Proposals

Graduate Courses:

- CEN 5082: Grid Enablement of Scientific Applications
- CIS 5027: Computer Systems Fundamentals
- COP 5716: Software and Data Modeling (together with Dr. Xudong He)

Undergraduate Courses:

- COP 4990: IT Automation
- CEN 4023: Component-Based Software Development

Course Taught

Graduate Courses:

- CEN 5082 Grid Enablement of Scientific Applications: Spring 2007, 2008, 2009.
- CEN 5011 Advanced Software Engineering: Fall 2004, 2005, 2006.
- CIS 6612 Autonomic Grid Computing: Summer 2006.

Undergraduate Courses:

- COP 4990 IT Automation: Spring 2009.
- CEN 4010 Software Engineering I: Spring 2005, Spring 2006, Summer 2006.
- CEN 4021 Software Engineering II: Spring 2006.
- CEN 4023 Component-Based Software Development: Fall 2005 and 2006.
- CEN 4500 Data Communications: Spring 2007.
- COP 4610 Operating Systems Principles: Fall 2006.
- CDA 4101 Structured Computer Organization: Summer 2006.

COP 4225 Advanced UNIX Programming: Summer 2007.

Teaching Evaluations

- Year 2004-2005 4.52/5.00
- Year 2005-2006 4.35/5.00
- Year 2006-2007 4.34/5.00
- Year 2007-2008 4.85/5.00

Year 2008-2009 4.04/5.00

Teaching Plans

Based on the student teaching evaluation, I am now confident of my ability to lead students through new materials and evaluate their comprehension. In addition to the courses that I have taught in the past, I am adequately prepared to teach other courses in discrete mathematics, automata theory, algorithms, data structures, and databases. For the graduate level, I would like to teach courses in advance operating systems, and distributed systems. In addition, I look forward to developing more advanced courses in IT automation, parallel programming, pervasive computing, and autonomic computing. My vision for teaching is founded on my desire and commitment to prepare students for careers in the rapidly changing fields of computing and communications. Using my industrial experience, I would like to develop and organize undergraduate and graduate project courses that give students experience in large-scale software development as well as working in groups. I look forward to this challenge with enthusiasm.

ADVISING

Summary: In December 2007 I received the Excellence in Mentoring Award by the School of Computing and Information Sciences at FIU. I have graduated one Ph.D. student (Onyeka Ezenwoye; defended in Summer 2007; currently an Assistant Professor at the Electrical Engineering and Computer Science Department of South Dakota State University) and one Master Student with Thesis (Fernando Trigoso; defended in Fall 2007; currently a Software Architect at Ultimate Software). Currently, I am advising seven PhD students (one has defended his proposal, five have passed their candidacy exam, and one is ready to take his candidacy exam). I am expecting that two of my current PhD students be graduated by Summer 2010. I have also served in the PhD Dissertation Committee of 10 PhD students and MS Thesis Committee of three MS students. In addition, in the past five years, I have advised more than 35 undergraduate students through NSF REU, NSF REU Supplement, NSF PIRE, and other industry supported research and educational programs.