STATEMENT OF TEACHING PHILOSOPHY

I love teaching. I get a wonderful warm feeling when a class has gone well because the students were excited, inspired, or curious. I also believe that teaching is hard work. It takes a great effort to prepare a lecture that is both engaging and educational. Finally, I believe that I still have a lot to learn about teaching. In the three courses I’ve taught, and several I’ve been a teaching assistant for, I’ve discovered that I am a good teacher. I’m not satisfied with “good”, however, I want to be great! Here are some lessons that I’ve learned towards fulfilling this aspiration:

Lesson One: Corporate Downsizing Can Be Fun

In fall 1995 and spring 1996 I was the teaching assistant for Database Fundamentals, an advanced Computer Science course for graduate students and seniors. I constantly asked the instructors for the opportunity to teach. My persistence won out and I was able to lecture several times. One of the best lectures I gave, according to instructors and students alike, was an introduction to the ORACLE Database System.

There were two key reasons why this lecture was successful: accessibility and humor. The lecture was readily available to students anytime and anyplace because of my decision to put all the material on the web. Students were able to electronically browse the lecture at the same time they were writing ORACLE programs for projects and homework.

Humor also played an important role in the success of the lecture. Instead of explaining a long list of ORACLE’s functions with examples, I told a story. The story centered on a fictitious company and a database that could be used to perform day-to-day operations. Students learned about ORACLE’s capabilities as they discovered who made the most money (the accountants), how to downsize using DELETE, and how to give the mailroom employees a raise so the mail would get delivered.

The success of the web pages went beyond the classroom. Students began confessing to me that they’d given the location of the web pages to friends in industry. I started getting e-mail from people from as far away as India with compliments, comments, and questions. RCS, the Institute's computing service, has asked me to maintain the pages as a resource for the entire Rensselaer community: (http://www.cs.rpi.edu/~dugan/oracle.html).

Lesson Two: Things Aren't Always What They Seem

In summer 1996, I was finally able to teach Database Fundamentals. I had visions of Robin Williams in the movie "The Dead Poet's Society" filling minds with knowledge and fire for learning using humor and compassion. I couldn't wait to get started!

Looking back on it now, I'd have to say that I unwittingly set myself up for a terrible first-time teaching experience. The reality of the situation was that I was teaching a semester long class in six weeks, with two four hour lectures per week. The class was part of Rensselaer's distance learning program, so personal contact with students was difficult, and my main audience in the classroom was the eye of a cold video camera.
At the end of the course, I was extremely frustrated and disheartened. From the videotapes of my lectures, I could see I was NOT Robin Williams. My lectures seemed kind of dry. I presented the material in a clear, organized fashion, but something was missing! I'm not a natural at this, I thought. It's really hard!

I started thinking about leaving Rensselaer and returning to industry. After all, I'd come to the Doctoral Program for the sole purpose of becoming a teacher and things weren't working out. I couldn't understand what was going on. Friends, family, co-workers, and fellow students had told me all my life that I'd be a great teacher. My own intuition told me I'd be good. How could so many people be wrong? What happened in that class? I decided that I'd try my hand at teaching a few more times. If things went poorly, I thought, I'd return to industry.

**Lesson Three: Teaching Is The Bombs**

Later that same summer I taught a class called "Computer Research" for Junior and Senior High School students in an NSF sponsored Summer Science Enrichment Program. The purpose of the grant was to bring more minorities into technical and engineering disciplines by getting underrepresented children excited about science. My job was to teach 50 kids about computers. The tools were my imagination and a lab with the fastest, internet connected, multimedia PCs on campus.

The class was an incredible experience. I figured early on what was missing from the Database class I'd taught: Enthusiasm and Feedback. These kids were genuinely excited about using the computers and the material I was teaching them. That energy was infectious and I became more excited and animated when presenting them with a new concept. The feedback was great too. It was easy to figure out how the class was going. If the students were bored, they would make faces or raise their hands and say "Mr. Dugan. This is boring!". If they were enthralled, I'd see smiles and hear, "This is the BOMBS!". We worked together to make the class interesting and fun. My faith in a teaching career was restored.

**Lesson Four: To Do Is To Learn**

In the fall of 1996 I taught a third class: Data Structures and Algorithms. It was an accelerated course in Computer Science for students outside the department who have been exposed to some programming. Based on my summer teaching experiences, I selected a classroom equipped with computers the students could use. I also decided to survey my students several times during semester to see if they were having problems with the material, my teaching style, etc. as well as what they liked about the course. Through these surveys, I discovered that the students enjoyed classes where I alternated between lecture and hands-on experiments.

I'll never forget one morning as I moved around the classroom giving help during an in-class exercise. I received a wonderful compliment. One of my students who had been having trouble with complexity analysis said to me, "You know Bob, I think I'm finally getting this!"

And I thought to myself, so am I.