Statement of Teaching Interests   Rean Griffith

As a student I have benefited more from instructors who were able to guide me in the application of fundamental techniques than from instructors who focused heavily on the mechanics of fundamental techniques. The interesting thing about this statement is that it is not limited to a specific discipline or educational level/grade. I can easily draw examples from my primary, secondary and tertiary education and highlight a cross section of subjects I have taken (e.g. English Literature, Mathematics, History, French, Micro&Macro-Economics, Finance, Operating Systems, Programming Languages, Software Engineering, Network Security and Database Systems) where I gained more from the class than just the facts, theories or methods. This was a direct result of instructors who were able to teach the fundamentals, while not losing sight of the importance of helping students understand when and why we can apply them.

My future teaching style will be based on the philosophy that knowing the details of fundamental techniques is as important as understanding when to use them. As an instructor my goal is to strike a balance between the two objectives: teaching the fundamentals and helping students to understand what they need to do to be able to employ one or more of the techniques they have been exposed to. My past instructors have employed a number of techniques in achieving their idea of balance including, but not limited to:

1. critical discussions that separate the conceptual solution from the mechanical solution (the specific tools and techniques students can/may use),
2. emphasizing the specification or re-specification of the problem, or parts thereof, as an approach to assist students in identifying reasonable techniques for use in developing their solutions,
3. building on familiar concepts (some of which may be drawn from other disciplines),
4. sometimes filling in the tedious details to allow students to focus on the key aspects of a problem's solution,
5. varying the proportion of credit (grades and praise) assigned to the mechanical vs. the conceptual parts of the solutions of homework, midterm and final questions depending on the intended focus of these assessments.

Some of these techniques I have already employed during the supervision of a 1-year research project by a Masters student (Ritika Virmani-Khanna) in our lab and as a Teaching Assistant (T.A.) for Database Systems (COMS 4111) with Prof. Ken Ross and Advanced Software Engineering (COMS 4156) with Prof. Gail Kaiser. The 1-year research project resulted in two refereed publications, two technical reports and an on-going collaboration with Mrs. Virmani-Khanna after her graduation. Performing T.A. duties for Database Systems and Advanced Software Engineering were rewarding experiences. As a T.A. for Database Systems I was responsible for developing the solutions to theory and programming homework assignments, grading homework assignments, the midterm and final, holding office hours and managing ten 2-person team projects where each team conceptualized, designed, implemented and successfully demonstrated a database-driven web-application. As a T.A. for Advanced Software Engineering I was the project manager for five 4-person teams. Each team was required to implement a software system, and produce accompanying design and testing documentation, over three iterations using a component-model (CORBA, COM/COM+, EJB, .NET) and the Extreme Programming (XP) methodology.

With my background in systems research and software systems I am prepared to teach undergraduate courses in operating systems, database systems and software engineering.
My goal for these courses is to provide students with a solid understanding of the fundamentals as well as a glimpse of state-of-the-art research directions. An important component of these classes will be individual and group projects designed to expose students to the practical details of real-world systems. For example, operating system assignments requiring the understanding and modification of select portions of a contemporary operating system kernel. At the graduate level, I plan to teach seminar courses in my research area, self-managing systems. This is inherently an interdisciplinary area of research, which would allow me to interact with a wide cross section of students and faculty members from a variety of disciplines inside and outside of Computer Science.