Teaching Statement – Dr. Noah B. Jacobsen
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As a teacher in the field of science and engineering, I believe in empowering the student. The exciting scientific and technological challenges facing our world are well served by an ability to assimilate and create new knowledge outside of a classroom.

From my industry experience with Alcatel-Lucent, Bell Labs, I learned that creative thinking and participation in dynamic team environments leads to high achievement. From my teaching experience at Columbia University and NYU-Poly, I can offer the following thoughts on how educators in the field of science and engineering may empower their students for success:

1. *Exemplify a creative process:* Teachers have an opportunity to exemplify a creative thought process. As scientists and engineers, we tackle challenging problems and participate in communities that are supposed to advance society. In our roles as educators, we should draw upon the scientist/engineer experience and demonstrate a constructive process that is requisite for success in the field. Discovery is a culmination of one's knowledge and experience that can be enabled with a pedagogy based on constructive principles.

2. *Encourage ideas:* Ideas are new, original, futuristic, classical, different, similar and/or otherwise. Knowledge is advanced with a multitude of conceptual approaches and we gain from the perspective that arises by considering many ideas. Thus a prosperous learning environment encourages the generation of many ideas.

3. *Encourage participation:* Our peers are one of our best teachers and the classroom can be a dynamic environment in which the students also play the role of educator. Examples include: problem solving in teams and in laboratory settings, presenting solutions to the class, and subject matter presentations.

4. *Promote self-guided learning:* Innovations arise from the freedom to explore and discover. As research mentors, we can empower our students by encouraging them to pursue their own ideas and set their own curriculum, e.g. self-defined research projects and interdisciplinary coursework.

In summary, achievement in science and engineering is facilitated by constructive and open thinking as well as accumulated knowledge and experience. Teaching a creative process empowers our students to achieve success throughout their careers.

Course interests:

- Control/Linear Systems Theory
- Information Theory
- Probability Theory
- Analog/Digital Communications