Course Announcement for the Fall of 2003

Special Issues in Semiconductor Manufacturing

EE290H

Professors Costas J. Spanos and Kameshwar Poolla

Tue & Thu 9:30-11:00
Grading based on 2 Exams, Homeworks and Independent Projects  (3 Units)

This course addresses the issue of transferring novel IC technologies to production. Three main topics will be covered:

• Experimental design techniques are used to optimize an IC fabrication process. We will discuss techniques ranging from simple comparison of treatments to complex multivariate response surface analysis.

• The widespread application of statistical process control (SPC) in IC production was a major strategic goal for the 1990s. The goal for this decade is Advanced Process Control (APC). We will cover traditional SPC methods and we will detail their continuing evolution towards APC.

• Integrated circuits and fabrication processes must be designed for optimum manufacturability. We will address this issue by discussing several Design for Manufacturability techniques and tools.

The course is self-contained for the student whose background includes IC processing (EE143) and design (EE140 or EE141).