

Full Time 1-year Adjunct Position (2012-2013 academic year)
Engineering Science Department, Trinity University

Qualifications: MS or PhD in chemical engineering or equivalent engineering discipline with experience in teaching at the undergraduate level.

Responsibilities: Teach 9 contact hours each semester for the 2012-2013 academic year. Participate in course assessment activities.

Fall 2012

Teach one section of a 3-hour Feedback Control Systems lecture course plus 2 sections of the associated laboratory. The candidate must be familiar with transient models of simple electrical and mechanical systems, Laplace transform techniques, linear system dynamics, and control system analysis using root locus and frequency response techniques. The candidate must lecture and supervise laboratory projects involving modeling and parameter estimation, real-time control implemented in software and/or analog breadboards, data acquisition using LabView and simulation using MATLAB control system toolbox.

Spring 2013

Teach two sections of a 3-hour introductory engineering analysis and design course. A prime objective of the course is to introduce students to engineering computations using MATLAB and Excel. The candidate will also supervise a semester competitive design project for 11 to 13 groups of first year engineering students. The candidate must be familiar with MATLAB programming and spreadsheet calculations.

Teach one section of a 3 hour lecture course in Biochemical Engineering. The course includes enzyme kinetics, introductory biochemistry, genetics, cell metabolism, cell growth models, and fermentation processes. The candidate must be familiar with bioreactors used in the bioprocessing industry.