Office: SH – 141
Office Hours: T and R: 10:00 to noon.
e-mail address: atkin@iit.edu
Class Hours:  M and W: 11:25 to 12:40 PM, SH - 118

**Description:** Time and frequency domain representation of continuous and discrete time signals. Introduction to sampling and sampling theorem. Time and frequency domain analysis of continuous and discrete linear systems. Fourier series convolution, transfer functions. Fourier transforms, Laplace transforms, and z-transforms. 3-0-3

**Prerequisites:** ECE 213

**Course Objectives:**
After completing this course, the student should be able to:
1. Understand mathematical descriptions and representations of continuous and discrete signals and systems.
3. Understand the impulse response of a system and the convolution operator.
4. Use transform techniques for the analysis of LTIS.
5. Use Fourier and Laplace Transform analysis for continuous-time LTIS.
6. Use z-Transform analysis for discrete time systems.

**Course Topics**
2. System Modeling and Analysis in the Time Domain.
3. The Fourier series.
5. The Laplace Transformation.
6. Applications of the Laplace Transform.
7. State-Variable Techniques.

References:

Grading: Coursework will be graded as follows:
1. Homework 15% (every week, due on Mondays)
2. Exams 1 25% (09/24/08)
3. Exams 2 25% (10/29/08)
4. Final exam 35% (12/08/08; 2:00 to 4:00 PM)

Homework solutions will be posted in the Blackboard on Wednesdays. HW should be submitted (hard copies) at the beginning of the class on Mondays. No late HW will be accepted without previous instructor consent.

Grade scale:
A: 87 – 100
B: 74 – 86
C: 60 – 74
D: 50 – 59