Management Science and Information Systems  
COURSE NUMBER: 33:623:486  
COURSE TITLE: Optimization Modeling

COURSE MATERIALS  
†Grading: 15% class participation, 25% home works, 30% midterm, and 30% final exam.

COURSE SCHEDULE  

September 9, 2013: Introduction to optimization modeling, modeling languages, and tools. A simple production example: Gepetto’s wood carving shop. AMPL model and analysis of the problem with the model. Basics of AMPL modeling. AMPL interfaces.

September 16, 2013: Diet and blending problems. Using arrays and sets.


October 7, 2013: Building larger models: multiperiod production, multicommodity transportation, production and transportation, etc.

October 14, 2013: Parameters, sets, indexing, and building expressions in AMPL. The components of a linear program.

October 21, 2013: Transshipment problems and network linear programs.

October 28, 2013: Midterm.


November 11, 2013: Building more complex models. AMPL tools for modeling and data handling.

November 18, 2013: Piecewise linear programs.

November 25, 2013: Nonlinear programs and solvers working with AMPL. Linearization techniques.

December 2, 2013: Complementarity problems.

December 9, 2013: Multistage problems and preparations for the final.

December 16, 2013: Final exam.