Economics 4370/7370: Quantitative Economics
Fall 2009

Instructor: Oksana Loginova, 333 Professional Bldg, (573)882-4229, loginovao@missouri.edu
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Office Hours: Tuesday/Thursday 11am-12pm and 2-3pm
Class Time and Location: Tuesday/Thursday 12:30-1:45pm, 132 Middlebush

Course Description: The aim of this course is to provide an introduction to the mathematical language of economic theory. Topics include matrix algebra, multivariate calculus, and optimization.

Textbooks: Alpha C. Chiang & Kevin Wainwright, *Fundamental Methods of Mathematical Economics*, 4th ed. (required); Knut Sydsaeter & Peter J. Hammond, *Mathematics for Economic Analysis* (recommended).

Course Requirements and Grading: There will be a number of homework assignments, a midterm exam (October 8) and a final exam (Wednesday, December 16, 8-10am). Both exams are of the problem-solving type. Your grades will depend on your performance on the homework assignments (15%), the midterm exam (35%) and the final exam (50%).

Make-Up Exams: Make-up exams will generally not be given. A request for alternative arrangements must be in writing and must be accompanied by appropriate documentation for not taking the scheduled exam.

Academic Honesty: The MU policy on academic honesty will be strictly implemented. Any academic dishonest action will be reported to the university.

Disabilities: If you have special needs as addressed by the Americans with Disabilities Act and need assistance, please notify the Office of Disability Services, A048 Brady Commons, (573)882-4696. Reasonable efforts will be made to accommodate your special needs.

Major Topics:

1. Static (or Equilibrium) Analysis (Ch. 3–5 of Chiang & Wainwright)
   - matrix algebra
   - application to market and national-income models
2. Comparative-Static Analysis (Ch. 7–8 of Chiang & Wainwright)
   - rules of differentiation
   - comparative-static analysis of general-function models
   - application to market and national-income models
3. Optimization Problems (Ch. 9–13 of Chiang & Wainwright)
   - exponential and logarithmic functions
   - optimization with one and more choice variables
   - optimization with equality and inequality constraints
   - utility maximization, least-cost combination of inputs and profit maximization