ECON 451: Introduction to Mathematical Economics
MW 2:00 PM - 3:15 PM (ST 0200)

Instructor:	Dr. Shantanu Bagchi
Office:	ST 101-A
Email:	sbagchi@towson.edu
Textbook:	Chiang, Alpha C. and Wainwright, Kevin, *Fundamental Methods of Mathematical Economics*, McGraw-Hill Irwin, 4th ed., 2005.
Office hours:	MW 3:30 PM - 4:45 PM

This syllabus is our contract, so please read it carefully.

- **Course Objectives:**
  Many of the economic concepts that we are familiar with can best be analyzed using some fairly straightforward mathematical tools. These tools often prove to be very powerful analytical devices because (a) a mathematical model can frame an economic problem and reinforce its implications more succinctly, and (b) economic intuition can sometimes fail, whereas mathematical models can illuminate various counter-intuitive situations. Although we will often build rather abstract mathematical models, we will always try to connect these models to economic theory, to current economic events, and to economic decisions that we make in day-to-day lives. This course should help develop a solid base in matrix algebra, differential calculus, and optimization methods that are used in economics, and also familiarize you with how to implement these methods in a computer.

- **Prerequisites:** ECON 309, ECON 310, and MATH 211 or MATH 273.

- **Blackboard:** Two major functions will be handled through Blackboard:

  - Announcements will be posted on Blackboard.
  - Course documents, e.g. Slides, assignments and solution sets will be available for download on Blackboard.

  As you will notice throughout this course, I will break down material from every chapter into slides. These slides will only be a summary of the material, and they will simply serve as pointers to the concepts and examples that I want you to learn. These slides are **NOT** a substitute for the textbook, and you will **NOT** pass this class if you do not read the textbook and the other assigned reading materials.

- **Cell Phone Policy:** No cell phones are allowed in class. If a cell phone rings or vibrates in class, or if I see you using it, I will make a note of it and take 20% off of your next graded work. There are no exceptions. If you need to have your cell phone in the "on" position because of an out-of-the-ordinary situation, then you will need to let me know in advance.

- **General Classroom Policies:**
  The following rules will be enforced in the classroom:

  1. No entry after 5 min. into class time. **NOTE:** Any violation of this policy will lead to the student being marked absent for that day.

2. No cell phone calculators during tests; only regular calculators allowed.

- **Examinations and Assignments:**
  There will be two (2) mid-terms and one (1) final exam, and each exam will be based on material covered since the previous exam. Homework assignments and/or quizzes will also be given periodically. There are also participation credits for this course: participation will count for 20% of the overall points, and will be awarded to only those students with **3 (three) or less** absences.
  NOTE: late homework assignments will receive **zero** credits with absolutely no exceptions.

- **Exam dates:**
  The exams will be held on the following dates in class. If you are unable to attend the exams on the dates specified below, you will need to let me know **at least one week** in advance to be eligible for a make-up exam.

Exam	Date
Mid-term 1	March 9, 2015
Mid-term 2	April 8, 2015
Final Exam	May 13, 2015, 10:15 AM - 12:15 PM

- **Grading Policy:**

Item	Weight
Mid-terms (2)	40% (20% each)
Final Exam	20%
Homework assignments	30%
Participation	10%

- **Grade Scale:**

Percentage score	Grade
100-93	A
92-90	A-
89-87	B+
86-83	B
82-80	B-
79-77	C+
76-70	C
69-60	D
59 or less	F

- **Tentative Course Outline:**

Part 1: Introduction	Economic Models	Ch. 2
Part 2: Static Analysis	Equilibrium Analysis in Economics	Ch. 3
	Linear Models and Matrix Algebra	Ch. 4
	Linear Models and Matrix Algebra (Continued)	Ch. 5
Mid-term 1		
Part 3: Comparative Static Analysis	Comparative Statics and the Concept of Derivative	Ch. 6
	Rules of Differentiation and Their Use in Comparative Statics	Ch. 7
	Comparative Static Analysis of General-Function Models	Ch. 8
Part 4: Optimization Problems	Optimization: A Special Variety of Equilibrium Analysis	Ch. 9
Mid-term 2		
	Exponential and Logarithmic Functions	Ch. 10
	The Case of More than One Choice Variable	Ch. 11
	Optimization with Equality Constraints	Ch. 12
	Further Topics in Optimization	Ch. 13
Final exam		

- **Academic Integrity:**
Academic integrity is fundamental to the process of learning as well as to evaluating academic performance. While I encourage cooperation and study groups, you must abide by Towson's Student Academic Integrity Policy.

- **Students with Disabilities:**
In accordance with university policy, if you have a documented disability and require accommodations in this course, you will need to contact me at the beginning of the semester, and also before any assignment for which you will require an accommodation. Students with disabilities must verify their eligibility through the Student Disability Support Service (DSS) office, located in the Administrative Building.