WEST VIRGINIA UNIVERSITY, DEPARTMENT OF ECONOMICS
COURSE SYLLABUS ECON721-MATHEMATICAL ECONOMICS (3 CREDITS)

Term: Fall 2011 (Section 1, course number 80669) Time and place: see course schedule.
Teacher: Dr. Feng Yao Office: BUE 406 E-Mail: feng.yao@mail.wvu.edu Phone: 304-293-7867
Office Hours: TR 13:00 to 14:30 or by appointment. Web: http://community.wvu.edu/∼fy006/

Teaching assistant: Kathleen Sheehan, Office: B &E 262, Email: kathleen.sheehan@mail.wvu.edu,
Tel: 304-293-7947 Office Hour: MW 11:30-12:30 or by appointment.

Textbook: Chiang, A.C. and K. Wainwright, Fundamental methods of mathematical economics, 4th
    edition, McGraw-Hill.

Prerequisites: Calculus or undergraduate mathematics for economists, taken within past four years.

Course Objectives: This course is an introduction to mathematical economics. It will provide the neces-
    sary tool box for the economic theory and econometrics courses. We will cover the matrix algebra,
    comparative static analysis and constrained optimization.

Expected learning outcomes:

1. Use the tools of matrix algebra in economic applications.

2. Apply the implicit function theorem with the calculus tools to perform comparative static
   analysis.

3. Understand the constrained optimization techniques in economics models and apply them in
   economic problems.

Instructional Procedures: Lectures, class participation, exams, homework assignments.

Evaluations procedures:

1. Course Requirements: reading the notes with textbook and working on the homework is
   required. Your grade will be based on a midterm (42%), final non-comprehensive exam (50%),
   homework (8%). Midterm in tentatively scheduled on Sept. 8 Thursday. Final is tentatively
   scheduled on Oct. 28, Thursday.

2. Grading scale: Grade=G A: G>=90% B: 80%<=G<90% C: 70%<=G<80% D: 60%<=G<70%
   F: G<60%

3. Attendance policies: attendance is recommended for the class. Students who are absent from
   class for any reason are responsible for missed work. No make-up exam unless arrangement
   has been made with the instructor's approval in advance. No later homework.

4. Homework will be assigned at the beginning of each chapter and the due date will be announced
   in class a week in advance. Each set will be graded briefly for correctness and completeness.

Course Schedule and topic outline-subject to change:

1. Linear models and matrix algebra chapter 4
   Weeks 1, Aug 22 - Aug 26.
   Mon 10:00-11:15AM room 401, Tues 8:30-9:45AM room 244, 10:00-11:15AM room 244

2. Linear models and matrix algebra chapter 5
   Wed 10:00-11:15AM room 401, Th 8:30-9:45AM room 244, 10:00-11:15AM room 244
   Fri 10:30-11:20AM room 401
3. Comparative statics and derivative chapter 6
   Weeks 2, Aug 29 - Sept 2
   Mon 10:00-11:15AM room 401, Tues 8:30-9:45AM room 244, 10:00-11:15AM room 244
4. Rules of differentiation and use in comparative statics chapter 7.
   Wed 10:00-11:15AM room 401, Th 8:30-9:45AM room 244, 10:00-11:15AM room 244
   Fri 10:30-11:20AM room 401
5. Comparative static analysis of general function models chapter 8.
   Week 3, Sept 5-9
   Tues 8:30-9:45AM room 244, Wed. 10:00-11:15AM room 401
   Midterm on Sept 8 Th 8:30-9:45AM room 244, cover chapter 4-7.
6. Optimization: chapter 9.
   Week 4, Sept 12-16
   Tues 8:30-9:45AM room 244, Wed 8:30-9:45PM room 401, Th 8:30-9:45AM room 244

   Weeks 5-10, Sept 19 - Oct 28.
   Tues 8:30-9:45AM room 244. Th 8:30-9:45AM room 244
7. Optimization for multi-variable case: chapter 11.
   Week 5, Sept 20 Tues, Sept 22 Thu. Week 6, Sept 27 Tue, Sept. 29 Thu.
8. Optimization with equality constraints: chapter 12.
   Week 7, Oct 4 Tues, Oct 6 Thu. Week 8, Oct 11 Tues, Oct 13 Thu.
9. Optimization with inequality constraints: chapter 13.
   Week 9, Oct 18 Tues, Oct 20 Thu.
10. Review: Week 10, Oct 25, Tuesday. Final exam: Oct 27 Thu.

Days of Special Concern: WVU recognizes the diversity of its students and the needs of those who wish to be absent from class to participate in Days of Special Concern, which are listed in the Schedule of Courses. You should notify my by the end of the second week of classes or prior to the first Day of Special Concern, whichever is earlier, regarding Day of Special Concern observances that will affect your attendance. I will make reasonable accommodations for tests that you may miss as a result of observing a Day of Special Concern.

Statement on Social Justice: West Virginia University is committed to social justice. I concur with that commitment and expect to foster a nurturing learning environment based upon open communication, mutual respect, and non-discrimination. Our university does not discriminate on the basis of race, sex, age, disability, veteran status, religion, sexual orientation, color or national origin. Any suggestion as to how to further such a positive and open environment in this class will be appreciated and given serious consideration.

If you are a person with a disability and anticipate needing any type of accommodation in order to participate in this class, please advise me and make appropriate arrangement with Disability Services (293-6700).

Statement on Academic Dishonesty: West Virginia University expects every member of its academic community to share the historic and traditional commitment to honesty and integrity. Academic dishonesty is defined to include but is not limited to the following: plagiarism; cheating and dishonest practices in connection with examinations, papers and projects; forgery, misrepresentation and fraud. Such behavior will not be tolerated and will be handled according to university guidelines (please refer to the Student Handbook for details).