ECON 3620 – 002: Mathematics for Economists
Summer Semester (1st Half) 2018
TH 9:10AM-12:00PM; Bld 73 Rm 107

Instructor: Kevin Conner
Email: kevin.conner@utah.edu
Office Hours: MW 9:10AM-11:10AM
Office Location: Building 72, desks on northern end of the bottom floor
(send and email if you have trouble finding me)

Required Materials
Chiang, A., & Wainwright K. (2004). Fundamental Methods of Mathematical Economics (Fourth Edition). ISBN-10: 0070109109, ISBN-13: 97780070109100.

Other supplemental resources will be made available through the course's Canvas page as necessary.

Course Description
This course is meant to teach you some of the most important mathematical tools used in intermediate and advanced economics courses. We will cover mostly topics from linear algebra and calculus with a focus on methods for solving optimization problems. Concepts will often be taught in a more "pure math" or abstract way than you may be used to, but it will always be related back to important economic models or principles.

Perquisites
College Algebra, ECON 2010 and ECON 2020

Course Outcomes
By the end of this course you will:
- Know the basic elements of a mathematical model and their limitations.
- Be able to solve many of the optimization problems that arise in economics.
- Be able to interpret mathematical economics models, and maybe build some of your own!

Teaching and Learning Methods
Class sessions will be divided between conventional lecture and in class group work. Expect that I will be lecturing at most half of the time, with the rest being composed of in class group activities. Because of the important group activity elements of this course it is especially important that you keep up with assignments.

Assignments
There are four major things that you will need to complete this semester:

- Office Hour Visit:
    - I would like each of you to meet with me during my office hour some time in the first two weeks of class, just for a few minutes. There are two purposes for this, first, I want to make sure all of you know where I can be found and second, I want to get to know all of you a bit. This will be factored into the in-class participation grade.
- Problem Sets
    - For each section we cover you will be required to complete 3-10 problems of your choosing from that section. I will specify how many from each section at the conclusion of each class. This may be substituted with a more specific assignment from time to time that will be graded, but **in general these problems will not be graded**. I will only be checking for completion. Despite this it is very important to do your best to select a variety of different types of problems and complete them correctly. The same sort of problems will be on the exams, and the only way to get better at solving problems is to do a bunch of problems!
- Quizzes
    - At the beginning of class there will sometimes be a quiz of material covered in the previous class. It will be very short, only 1-3 questions. This is primarily intended to show me how well all of you are doing and let me know if we need to spend some more time on something.
- Final Exam:
    - A written exam to take place during the final exam period over all material covered in the course. **I will provide a study guide. This exam will be administered a week before the end of the class**. This will give me time to grade and return it to you. At which point you will have the opportunity to correct any mistakes you made on the exam to regain up to half the points you initially lost. For example, say you initially received 70% on your exam, if you corrected all mistakes you would be able to get 85%. It is very important to me that the exam should provide you with an opportunity to further your understanding of the material even if you initially received a poor grade.

Grading Policy (Evaluation Methods & Criteria)
Grades will be determined according to the following weights (subject to change)
- In Class Participation 10%
- Problem Sets 25%
- Quizzes 25%
- Final Exam 40%

Grading Scale: E (0-59), D- (60-62), D (63-66), D+ (67-69), C- (70-72), C (73-76), C+ (77-79), B- (80-82), B (83-86), B+ (87-89), A- (90-92), A, (93-100)

Tentative Course Outline
- Introduction
  - Models and Mathematical Economics
  - Algebra and Graphing Review
- Linear Algebra
  - Vectors
  - Matrices
- Calculus
  - Differentiation
  - Optimization
- Extra (topics we will cover if we have time)
  - Integration
  - An introduction to differential equations

Important Dates

Classes begin………………………………………………………………………………...Monday, May 14
Last day to add, drop (delete), elect CR/NC, or audit classes…………………Thursday, May 17
Memorial Day holiday……………………………………………………………………Monday, May 28
Last day to withdraw from classes……………………………………………………...…Friday, June 1
Final Exam………………………………………………………………………………Tuesday, June 12
Last day of class…………………………………………………………………………Tuesday, June 19

Course Policies
1. ***Attendance and Participation.*** No specific grade will be attached to attendance, nor will attendance be taken. However, due to the large proportion of the grade attached to participation, it will be very difficult to do well in this course without regular attendance.
2. ***Electronic Devices.*** Please avoid using electronic devices for non-class related activities during class time.
3. ***Late Work and Make Up Exams.*** Late work will be accepted up to a week late, though at a penalty. No makeup exams will be provided. This policy may be waved in the case of prior arrangement with me, an emergency, and as required by university policy.

University Policies
1. ***The Americans with Disabilities Act***. The University of Utah seeks to provide equal access to its programs, services, and activities for people with disabilities. If you will need accommodations in this class, reasonable prior notice needs to be given to the Center for Disability & Access, 162 Olpin Union Building, (801) 581-5020. CDA will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in an alternative format with prior notification to the Center for Disability & Access.

2. ***Addressing Sexual Misconduct***. Title IX makes it clear that violence and harassment based on sex and gender (which Includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veteran's status or genetic information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to the police,

3. ***Student Academic Conduct.*** In order to ensure that the highest standards of academic conduct are promoted and supported at the University, students must adhere to generally accepted standards of academic honesty, including but not limited to refraining from cheating, plagiarizing, research misconduct misrepresenting one's work, and/or inappropriately collaborating.
   [Complete policies available at http://regulations.utah.edu/academics/6-400.php]

4. ***Student Wellness.*** Personal concerns such as stress, anxiety, relationship difficulties, depression, cross-cultural differences, etc., can interfere with a student's ability to succeed and thrive at the University of Utah. For helpful resources contact the Center for Student Wellness - www.wellness.utah.edu; 801-581-7776.

Note: This syllabus is meant to serve as an outline and guide for our course. Please note that I may modify it with reasonable notice to you. I may also modify the Course Schedule to accommodate the needs of our class. Any changes will be announced in class and posted on Canvas under Announcements.