**Mathematical Economics**
ECON 3372 CRN 14406
BUSN 302
Fall 2016
Mondays and Wednesdays 12:00pm – 1:20pm

Professor: Dr. Daniel Pastor
Office Location: 224 COBA
Office Hours: Mondays and Wednesdays, 3:00pm – 4:00pm, or by appointment
E-Mail: **djpastor@utep.edu (Preferred contact)**

## I. INTRODUCTION

This syllabus contains important information concerning the course and work expected of you. In order to avoid misunderstandings, please read it very carefully and ask any questions you may have.

### Course Objectives

This is an introductory course in mathematical methods for economists. This is not an economics course per se, but economics examples will be presented throughout the course. Algebra and calculus will be covered in the context needed to study economics and finance. It is expected that all students have had exposure to mathematics at the college level, at least Math 1320 and preferably, Math 2301. The language of mathematics will be used to describe situations that occur in economics. Mathematical modeling is an important tool in economics, finance, business, and management.

## II. Required Material

### Textbook

**Required: Essential Mathematics for Economic Analysis,** 4th ed. By Knut Sydsæter and Peter Hammond, Pearson, 2012. ISBN-13: 978-0-273-76068-9

### Tentative Lecture Outline (Subject to change based on time or other unforeseen factors)

**PART I: INTRODUCTORY TOPICS**

- Chapter 1: Algebra
- Chapter 2: Equations
- Chapter 3: Miscellaneous
- Chapter 4: Functions of One Variable

**PART II: DIFFERENTIAL CALCULUS**

- Chapter 5: Properties of Functions
- Chapter 6: Differentiation
- Chapter 7: Derivatives in Use
- Chapter 8: Optimization

**Midterm 1 – Wednesday, October 12**

**PART II continued**

- Chapter 11: Functions of Many Variables

- Chapter 12: Tools for Comparative Statics
- Chapter 14: Constrained Optimization

**PART III: MATRIX ALGEBRA**

- Chapter 15: Matrix Algebra
- Chapter 16: Determinants

**Final Exam – Friday, December 9 from 1:00pm – 3:45pm**

**Key Dates:**

**September 5:** Labor Day – University closed
**October 28**: Last day to withdraw from classes.
**November 24-25:** Thanksgiving Holiday – University closed
**December 1**: Last day of classes

**Reading Assignments**

Reading assignments will be posted prior to each lecture and will be occasionally be accompanied by links to online lectures. You are expected to complete the assigned readings for each lecture prior to attending class. You are responsible for all assigned material. Lectures will follow the textbook but will not necessarily cover all the material. While reading through the chapters be sure to work through each of the examples presented.

**Quizzes**

To encourage you to complete the readings, there will be a 5-minute reading quiz at the start of each lecture covering the assigned material. The reading quiz will consist of questions that should be easily answered if the assigned reading was completed. Attendance is mandatory and there are no make-up reading quizzes. Please note that since there are no make-ups for the reading quizzes, it is especially important to be on time for class.

Every other Wednesday there will be a 20-minute quiz unless we have an exam. The lowest of the Wednesday quiz scores will be dropped. Each quiz will consist of mathematical problems to solve. Since the lowest quiz is dropped, there are no make-up quizzes. Please note the dates of the Wednesday quizzes: **Aug. 31, Sept. 14, Sept. 28, Oct. 26, Nov. 9, and Nov. 23**.

**Exams**

There will be two exams: One midterm and one final. **All exams are closed book, closed notes.**

Due to its comprehensive nature, the final exam requires the students to have knowledge from previous chapters. Mathematics is cumulative by nature, and the final exam is cumulative as well. The final exam will be closed book, closed notes.

Please note the date of the **Final exam**:

**Friday, December 9 from 1:00pm – 3:45pm**

If you have a conflict with this date, contact me ***at least 2 weeks in advance*** to make alternate arrangements. In addition, anyone who does not take both exams will receive a failing grade.

It cannot be emphasized enough that the material covered in this course is cumulative; what is presented in subsequent weeks depends heavily on material presented in previous weeks. If you get behind or have difficulty early on, do not delay getting help or you will have more difficulty as the course proceeds.

**Problem sets**

There will be problem sets assigned for the semester. The assignments will be available on BlackBoard and will be due one week after being posted. Late problems sets will not be accepted. The problem sets are to be used to check your understanding of the material and to help you work through some of the technical issues in this course.

I strongly urge the students to use the problem sets as preparation for the exams. Mathematics cannot be learned passively and the problem sets are a part of active learning. In addition, it may be helpful to work on the problems with another student, however, each student must turn in his or her own work.

**Evaluation Criteria**

There are no exceptions to the grading policy. I sympathize with students who are close to the cutoff for the next higher grade; however, it is unfair to others to give special consideration to any student.

Grading is as follows:

| | |
|---|---|
| Reading quizzes | 5% |
| 20-minute quizzes: | 20% |
| Problem sets: | 20% |
| Midterm: | 25% |
| Final Exam: | 30% |

**FINAL LETTER GRADING SCALE**

| Grade | Percent |
|---|---|
| A | 90-100 |
| B | 80-89 |
| C | 70-79 |
| D | 60-69 |
| F | < 60 |

**Make-up Policy**

A mid-term exam may be rescheduled under 2 circumstances only:

(1) **Religious holidays** – Requests for an alternative date for the final must be made in writing, at least 1 week in advance of the exam.

(2) **Medical emergencies** - Requests must be accompanied by a signed document from a health professional that indicates the nature of the illness, and the reason that the exam

could not be taken. In case of emergencies, **the student must contact me within 24 hours of the exam start time**; failure to do so will result in a zero exam score.

Other case will be subject to my discretion provided contact is made prior to the exam date.

## III. MISCELLANEOUS

**Notice of Policy on Cheating**

Students are expected to conduct themselves with integrity in all aspect of this course. Students who engage in scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure of the course and dismissal from the university. Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to any student or the attempt to commit such acts. Regents' Rules and Regulations, Part One, Chapter IV, Section 3, Subsection 3.2, Subdivision 3.22.

Cheating includes, among others: (1) copying from the exam of another student, engaging in written, oral, or any other means of communication with another student during an exam, or giving aid to or seeking aid from another student during an exam; (2) possession and/or use of materials during a test that are not authorized by the instructor, such as class notes, books, or specifically designed cheat sheets; (3) using, obtaining, or attempting to obtain by any method the whole or any part of an un-administered test, test answer key, homework solution; (4) collaborating with or seeking aid from another student for an assignment without authority; (5) substituting for another person or permitting another person to substitute for one's self, or to take an exam; (6) falsifying academic work for credit.

Plagiarism means the appropriation, buying, receiving as a gift, or obtaining by any other means another's work and the unacknowledged submission or incorporation of it in one's own academic work offered for credit.

Collusion means the unauthorized collaboration with another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any provision of the rules on scholastic dishonesty.

Since scholastic dishonesty harms the individual, all students, and the integrity of the university, policies on scholastic dishonesty will be strictly enforced.

**Class Etiquette**

I will make every effort to begin class promptly and end class on time. If you arrive late/leave early, please make every effort to do so quietly. Out of consideration for your classmates and the instructor, please refrain from talking with your neighbors during class.

No electronic devices will be allowed during exams. Cell phones, iPods, MP3 players, Palm devices, etc., must be turned off.

**Please make sure your cell phones and other electronic devices are turned off while you're in class.**

**Campus Carry**

Persons who hold a Concealed Handgun License can lawfully carry their gun into a UTEP classroom as long as it remains concealed. Open carry remains prohibited on campus. Should you feel someone is intentionally displaying a gun (or any other weapon for that matter), do not hesitate to call Campus Police (X 5611) or 9-1-1. For more information on campus carry, see http://sa.utep.edu/campuscarry/; for more information on overall campus safety, see http://admin.utep.edu/emergency.

**Students with Disabilities**

If you have a disability and need classroom accommodations**,** please contact The Center for Accommodations and Support Services (CASS) at 747-5148, or by email to cass@utep.edu, or visit their office located in UTEP Union East, Room 106. For additional information, please visit the CASS website at www.sa.utep.edu/cass. *CASS' Staff are the only individuals who can validate and if need be, authorize accommodations for students with disabilities.*

Please be aware that a delay in getting accommodation letters for the current semester may hinder the availability or facilitation of those accommodations in a timely manner. Therefore, it is in your best interest to get your accommodation arranged as early in the semester as possible.