Instructor: Abdullah YENER

Contact Informations:

Office: Sütlüce/B109 **Phone:** 4440413/4639 **E-mail:** ayener@ticaret.edu.tr

Time and Location: Wednesday 10:00-12:50, D-202 (for Economics and Business Administration)

Office Hours: Thursday 13:00-15:00

Course Web Page: http://ww3.ticaret.edu.tr/ayener/mat101

Textbook:

- **Main Textbook**: Calculus for Business, Economics, Life Sciences, and Social Sciences, Twelfth Edition, by M.A. Barnett, M.R. Ziegler and K.E. Byleen.

- **Refeerence Book:**

    - Introductory Mathematical Analysis for Business, Economics, and the Life and Social Sciences, 13th Edition, Ernest F.Hauessler, Richard S. Paul, Richard J.Wood.

Course Description:

Mathematics is increasingly important in terms of the expression and communication of ideas in business, economics, life sciences, and social sciences. A thorough knowledge of mathematics is indispensable for understanding almost all fields of social sciences, including both applied and theoretical fields. The objective of this course is to endow first year undergraduate students with the requisite tools needed in advanced courses such as microeceonomics, macroeconomics and econometrics. As a way of showing the importance of mathematics in social sciences, all mathematical concepts studied in this part of the course will be illustrated with some applications to economics.

Content of the Course: The course will be centered around several main topics covering the notion of linear equations and graphs, functions, limits and the derivatives with their applications to business and economics.

The list below is a rough guideline for the content of the course. Depending on the class and/or other things, I reserve the right to skip/fast forward certain topics in order to pay more attention to certain others.

1. **Linear Equations and Graphs:** Linear Equations and Inequalities, Graphs and Lines.

2. **Functions and Graphs:** Functions, Elementary Functions: Graphs and Transformations, Quadratic Functions, Polynomial and Rational Functions, Exponential and Logarithmic Functions.

3. **Limit:** Introduction to Limits, Infinite Limits and Limits at Infinity, Continuity.

4. **Derivatives with Applications:** The Derivative, Basic Differentiation Properties: constant function rule, power rule, constant multiple property, sum and difference properties, product and quotient rules, Differentials, Marginal Analysis in Business and Economics: marginal cost, revenue, and profit, marginal average cost, revenue, and profit.

5. **Additional Derivative Topics:** Continuous Compound Interest, Derivatives of Exponential and Logarithmic Functions, The Chain Rule, Implicit Differentiation, Related Rates, Elasticity of Demand.

Grading:

Grades will be based upon a midterm and a final examination with weights of approximately **%40** and **%60**, respectively.

Exam:

- One midterm and one final exam will be administered during the course. A simple calculators may be required to complete some questions. Students will work individually on the exam. Exam will has a time limit and students will not be free to consult notes and textbooks during the examination.

- If you miss a midterm but present your instructor with an acceptable reason for having done so, you will be given a make-up exam. There will be **no make-up given for the make-up exam!**

- Students may see their exam papers and object to them at the **specified objection time only!** I am not legally obliged to show you your exam papers and provide objection hours. The formal procedure is for you to send a written request to the Department and we evaluate your request and regrade if necessary. This means that paper-review hours are not a right that you have, but only a convenience I provide to the students.

- Cheating and plagiarism are serious offenses resulting in an F grade and disciplinary action.