Yeditepe University

Faculty of Arts and Sciences, Department of Mathematics

**Syllabus for Math 171 - Calculus for Economics I**

(Fall 2013)

**Instructor Sections E-mail**

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**Textbook:** Introductory Mathematical Analysis, 13th Edition 2011, by Ernest Haeussler, Richard S. Paul, Richard Wood, Pearson Prentice Hall

**Attendance**: Students are expected to attend all class meetings and are responsible for all of the material covered in class. Any changes in this syllabus will be announced during class meetings.

**Homework and Quizzes**: There will be no graded quizzes or homework.

**Exams:** There will be one midterm exam and a final exam.

**Midterm :** November 5, 2013, Tuesday, 17:30-19:00

**Final Exam:** to be announced.

**Course Grading:** Your course grade is decomposed as follows: 40% Midterm + 60% Final Exam

Your letter grade will be assigned based on the course grade distribution of all students. All students must get at least 25 from final exam to success the course.

**Course Web**: <http://mimoza.marmara.edu.tr/~uyahsi/MATH171.htm>

**Facebook:** [MATH171 Ekonomiciler için Matematik](https://www.facebook.com/groups/448802135154252/)<https://www.facebook.com/groups/448802135154252/>

**Course Plan:**

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| **Week** | **Subject** | **Week** | **Subject** |
| 1 | 1. **Algebra Refresher**

Real numbers, Exponents and radicals, Operations with Algebraic Expressions, Factoring, Fractions, Linear equations, Quadratic equations | 8 | **10. Limits and Continuity****10.1** Limits**10.2** Limits (Continued)**10.3** Continuity**10.4** Continuity Applied to Inequalities |
| 2 | **1. Applications and More Algebra****1.1** Applications of Equations, **1.2** Linear Inequalities, **1.3** Applications of Inequalities**1.4** Absolute Value, **1.5** Summation Notation | 9 | **11. Differentiation****11.1** The Derivative**11.2** Rules for Differentiation |
| 3 | **2. Functions and Graphs****2.1** Functions, **2.2** Special Functions**2.3** Combinations of Functions | 10 | **11.3** The Derivative as a Rate of Change**11.4** The Product Rule and the Quotient Rule**11.5** The Chain Rule |
| 4 | **2.4** Inverse Functions, **2.5** Graphs in Rectangular Coordinates, **2.6** Symmetry, **2.7** Translations and Reflections | 11 | **12. Additional Differentiation Topics****12.1** Derivatives of Logarithmic Functions**12.2** Derivatives of Exponential Functions |
| 5 | **3. Lines, Parabolas, and Systems****3.1** Lines, **3.2** Applications and Linear Functions, **3.3** Quadratic Functions | 12 | **12.4** Implicit Differentiation**12.5** Logarithmic Differentiation**12.7** Higher-Order Derivatives |
| 6 | **4. Exponential and Logarithmic Functions****4.1** Exponential Functions, **4.2** Logarithmic Functions, **4.3** Properties of Logarithms**4.4** Logarithmic and Exponential Equations | 13 | **13. Curve Sketching****13.1** Relative Extrema**13.2** Absolute Extrema on a Closed Interval |
| 7 | **5. Mathematics of Finance****5.1** Compound Interest, **5.2** Present Value**5.3** Interest Compounded Continuously | 14 | **13.3** Concavity, **13.4** The Second-Derivative Test, **13.5** Asymptotes, **13.6** Applied Maxima and Minima |