SUMMER 2026	MATH 101 • CALCULUS I

INSTRUCTOR & LECTURES

FATİH ECEVİT
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MIDTERM EXAM: THURSDAY, JULY 23 AT 18:45
FINAL: Date to be determined by the registration office

ATTENTION

Midterm date is fixed and will not be changed. There will be NO makeup exam. See the ASSESSMENT below.

COURSE MOODLE-PAGE

- You are required to follow the announcements made through the **course Moodle-page** and the **lectures**.

TEXTBOOK

THOMAS, WEIR, HASS Thomas's Calculus, Early Transcendentals

PROBLEM SESSIONS

- You are advised to follow the problem sessions regularly.

ASSESSMENT

- **Midterm Exam (40%) and Final Exam (60%)**
- There will be a **minimum score** requirement (to be determined later) from the mid-term exam in order to take the final examination.
- **In case you miss one of the exams, you fail the course.** In any case, there will be **no make-up exam** even if you have an acceptable excuse. There will be **no E-exam.**

STUDENTS WITH DISABILITIES

- Students with disabilities should inform the teaching assistants as soon as possible.
- Additionally, they should contact the teaching assistants at least 5 days prior to each exam.

CONTENTS (relevant sections from the textbook) [Subject to change]

1. Functions	1.1 Functions & Their Graphs 1.2 Combining Functions; Shifting & Scaling Graphs 1.3 Trigonometric Functions 1.5 Exponential Functions 1.6 Inverse Functions & Logarithms
2. Limits & Derivatives	2.1 Rates of Change & Tangents to Curves 2.2 Limit of a Function & Limit Laws 2.3 Precise Definition of a Limit 2.4 One-Sided Limits 2.5 Continuity 2.6 Limits Involving Infinity, Asymptotes of Graphs

3. Differentiation	3.1 Tangents & the Derivative at a Point 3.2 The Derivative as a Function 3.3 Rules for Polynomials, Exponentials, Products & Quotients 3.4 The Derivative as a Rate of Change 3.5 Derivatives of Trigonometric Functions 3.6 The Chain Rule 3.7 Implicit Differentiation 3.8 Derivatives of Inverse Functions & Logarithms 3.9 Inverse Trigonometric Functions 3.10 Related Rates
4. Applications of Derivatives	4.1 Extreme Values of Functions 4.2 The Mean Value Theorem 4.3 Monotonic Functions & the First Derivative Test 4.4 Concavity & Curve Sketching 4.5 Indeterminate Forms & L'Hopital's Rule 4.6 Applied Optimization 4.8 Antiderivatives
5. Integration	5.1 Area & Estimating with Finite Sums 5.2 Sigma Notation & Limits of Finite Sums 5.3 The Definite Integral 5.4 The Fundamental Theorem of Calculus 5.5 Indefinite Integrals & the Substitution Rule 5.6 Substitution & Area Between Curves
6. Applications of Definite Integrals	6.1 Volumes Using Cross-Sections 6.2 Volumes Using Cylindrical Shells 6.3 Arc Length
7. Integrals & Transcendental Functions	7.1 The Logarithm Defined as an Integral
8. Techniques of Integration	8.1 Integration by Parts 8.2 Trigonometric Integrals 8.3 Trigonometric Substitutions 8.4 Integration of Rational Functions by Partial Fractions 8.7 Improper Integrals
10. Infinite Sequences & Series	10.1 Sequences 10.2 Infinite Series 10.3 The Integral Test 10.4 Comparison Tests 10.5 The Ratio & Root Tests 10.6 Alternating Series, Absolute & Conditional Convergence 10.7 Power Series 10.8 Taylor & Maclaurin Series 10.9 Convergence of Taylor Series 10.10 The Binomial Series & Applications of Taylor Series