0701M110

Calculus I

Time: October 20, 2025 - November 21, 2025; M, T, Thr, 8:40am-12:00pm

Office Hours: by appointment

Contact Hours: 60 (50 minutes each)

Credits: 4

Location: Online, Zoom

Instructor: TBA

Email: TBA

Course Description

Review of algebraic and trigonometric functions and their graphs, the concepts of limit and continuity, theory and techniques of differentiation, and applications of differentiation, introduction to the theory and techniques of integration.

Required Textbook(s)

"Calculus", 10th Edition by Larson. Coverage: Chapters 1-6, Select Sections

Prerequisites

Students are assumed to have taken and passed a pre-calculus course. In particular, students should be proficient in high school algebra and geometry, as well as trigonometry. Moreover, they should have studied exponential and logarithmic functions.

Grading Policy

Your grade in this course will be determined by your performance in the following categories:

Participation (Q&A)	5%
Homework	20%
Quizzes	10%
Exam 1	20%
Exam 2	20%
Final Exam (Cumulative)	25%
Total	**100%**

Late Policy:

Quizzes and exams will not be accepted if submitted late, so please plan accordingly. Homework submitted after the deadline will incur a 10% penalty per day, and no submissions will be accepted more than 5 days late. This penalty applies only to work submitted after the deadline.

Grading Scale

The instructor will use the grading system as applied by JNU:

Definition	Letter Grade	Score
Excellent	A	90~100
Good	B	80~89
Satisfactory	C	70~79
Poor	D	60~69
Failed	E	Below 60

Course Schedule

Week 1:

- (Monday) 1.2: Finding Limits Graphically and Numerically
- (Monday) 1.3: Evaluating Limits Analytically
- (Tuesday) 1.4: Continuity and One-Sided Limits
- (Tuesday) 1.5: Infinite Limits
- (Thursday) 2.1: The Derivative and the Tangent Line Problem
- (Thursday) 2.2: Basic Differentiation Rules and Rates of Change

Week 2:

- (Monday)2.3: Product and Quotient Rules and Higher-Order Derivatives
- (Monday)2.4: The Chain Rule
- (Tuesday) 2.5: Implicit Differentiation
- (Tuesday) 2.6: Related Rates
- (Thursday) 3.1: Extrema on an Interval
- (Thursday) *EXAM 1 (Weeks 1 - 2)*

Week 3:

- (Monday) 3.2: Rolle's Theorem and the Mean Value Theorem
- (Monday) 3.3: Increasing and Decreasing Functions and the First Derivative Test
- (Tuesday) 3.4: Concavity and the Second Derivative Test
- (Tuesday) 3.5: Limits at Infinity
- (Thursday) 3.6: A Summary of Curve Sketching
- (Thursday) 3.7: Optimization Problems

Week 4:

- (Monday) 4.1: Antiderivative and Indefinite Integration
- (Monday) 4.2: Area
- (Monday) 4.3: Riemann Sums and Definite Integrals
- (Tuesday) 4.4: The Fundamental Theorem of Calculus
- (Tuesday) 4.5: Integration by Substitution
- (Thursday) 5.1: The Natural Logarithmic Function: Differentiation

- (Thursday) 5.2: The Natural Logarithmic Function: Integration
- (Thursday) *EXAM 2 (Weeks 3 - 4)*

Week 5:
- (Monday) 5.4: Exponential Functions: Differentiation and Integration
- (Monday) 5.5: Bases Other than e and Applications
- (Tuesday) 6.2: Growth and Decay
- (Tuesday) 8.7: Indeterminate Form and L'Hopital's Rule
- (Thursday) *FINAL EXAM (Cumulative)*

Attendance

You are expected to log in to Zoom to attend class and actively participate in discussions. Attendance will be recorded for each session and will contribute to students' participation records. Students should inform the instructor as early as possible if they need to request a leave of absence. All absences may negatively impact students' final grades. Attendance will be taken at both the beginning and end of each class. If you arrive more than 10 minutes late or leave more than 10 minutes early, your attendance will not be recorded. You are expected to actively participate in class discussions. During the session, you may be randomly selected to assist in solving examples to assess your understanding of core concepts. Additionally, you should be prepared to work through assigned examples during practice time.

Academic Integrity

As members of the Jinan University academic community, students are expected to be honest in all of their academic coursework and activities. Academic dishonesty, includes (but is not limited to) cheating on assignments or examinations; plagiarizing, i.e., misrepresenting as one's own work any work done by another; submitting the same paper, or a substantially similar paper, to meet the requirements of more than one course without the approval and consent of the instructors concerned; or sabotaging other students' work within these general definitions. Instructors, however, determine what constitutes academic misconduct in the courses they teach. Students found guilty of academic misconduct in any portion of the academic work face penalties that range from the lowering of their course grade to awarding a grade of E for the entire course.