0701M385

Fundamentals of Analysis

Instructor: TBA
Time: Monday through Friday (June 15, 2020 - July 17, 2020)
Office Hours: 2 hours (according to the teaching schedule)
Contact Hours: 60 (50 minutes each)
Credits: 4
Location: Huiquan Building
Office: Huiquan Building 518
E-mail: TBA

Course Description

Student will first understand the real number system through this lesson and then covering the convergence of sequences and basic theory of differentiation and integration.

Prerequisites

Calculus I and Calculus II (Differential and integral Calculus)

Required Textbook(s)

Fundamental ideas of analysis, by Michael C. Reed, John Wiley&Sons,1998

Course Hours

The course has 25 sessions in total. Each class session is 120 minutes in length. The course meets from Monday to Friday.

Course Schedule

Please note that the schedule is meant to give an overview of the major concepts in this course. Changes may occur in this calendar as needed to aid in the student's development.

Week 1:
- Set of Natural Numbers
- Set of Rational Numbers
- Set of Real Numbers
- Completeness Axiom
- Quiz 1

Week 2
- Sequences
- Limit Theorems for Sequences
- Monotone Sequences and Cauchy Sequences
- Series
- Quiz 2

Week 3
- Alternating Series and Integral Tests
- Continuity
- Properties of Continuous Functions
- Sequences and Series Functions
- Mid-term Exam

Week 4
- Uniform Convergence
- Differentiation and Integration of Power Series
- Mean Value Theorem
- Quiz 3

Week 5
- L'Hopital Rule
- Taylor Theorem
- Part one of Integration
- Part two of Integration
- Final exam

Grading Policy

Quizzes

There will be 3 quizzes. The purpose of the quizzes is to test your absorption of the knowledge in the textbook through your reading assignments. Each Quiz is worth 15%.

Exams
Midterm (25%) will be held on the Friday of Week 3.
Final exam (30%) will be held on the Friday of Week 5.

Homework
Homework problems will be assigned on the first day of class. You are strongly encouraged to solve all the homework problems, in order to better prepare for the tests.

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

Attendance

Attendance is mandatory in the class. It would be recorded each class and forms part of students' participation record. Students should inform the instructor at the earliest opportunity if they need to ask for a leave. All absences may have negative effect on students' final grades. Any students with more than three unexcused absences will automatically fail the course.

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.