

Fall Semester 2009  
**Math 5301**

**Course Information**

Course Number/Section: Math 5301.501

Course Title: Elementary Analysis I

Term: 2009 Fall

Days and Times: MW 5:30-6:45 p.m.

Room: CBW 1.103

**Contact Information**

Professor: Istvan Ozsvath

Office phone: 972-883-2174

Office Location: ECSN 3.922

E-mail Address: [ozsvath@utdallas.edu](mailto:ozsvath@utdallas.edu)

Office Hours: MW 4:00-5:00 p.m. and by appointment

**Pre-requisite:** Math 2421 and Math 3310

**Course Description:**

You will study the properties of the real number system, sequences in  $\mathbb{R}$ , continuity on  $\mathbb{R}$ , differentiability on  $\mathbb{R}$ , integrability on  $\mathbb{R}$ , infinite series of real numbers, and infinite series of functions.

**Learning Outcomes:**

Students will explore concepts related to the real number system and study mathematical analysis based on these numbers. The knowledge they gain in this class will enable them to study subjects such as: real and complex analysis, partial and ordinary differential equations, numerical analysis, fluid mechanics, and differential geometry.

**Required Text:**

William R. Wade, *An Introduction to Analysis*, Third or Fourth Edition, Upper Saddle River: Prentice Hall, 2004.

**Recommended Text:**

Walter Rudin, *Principles of Mathematical Analysis*, Third Edition, McGraw-Hill Book Company

**Course Policies:**

No make-up exams, except under extraordinary circumstances.

Late Work: All students are expected to turn in the home work problems and take the exams at the time announced.

Class Attendance: required

Classroom: Students are expected to behave professionally. We highly encourage questions; but discussions among students during the class period is not appreciated. *Cell phones, ringers, buzzers, beepers, alarms, and computers must be turned off.*

**Academic Calendar:**

August 24: First Day of Classes

September 7: Labor Day

September 28: Religious Holiday

September 30: Review

October 7: Midterm

December 7: Last Day of Classes (Review)

December 16 (at 5:00 p.m.): Final Examination

**Schedule of Classes**

Topics:

1<sup>st</sup> and 2<sup>nd</sup> week: “The Real Number System”

3<sup>rd</sup> and 4<sup>th</sup> week: “Sequences in  $\mathbb{R}$ ”

5<sup>th</sup> week and 6<sup>th</sup> week: “Continuity on  $\mathbb{R}$ ”

October 5<sup>th</sup> **Review**

October 7<sup>th</sup> : **Midterm**

7<sup>th</sup> week and 8<sup>th</sup> week: Differentiability on  $\mathbb{R}$ ”

9<sup>th</sup> and 10<sup>th</sup> week: “Integrability on  $\mathbb{R}$ ”

10<sup>th</sup> and 11<sup>th</sup> week: “Infinite Series of Real Numbers”

12<sup>th</sup> and 13<sup>th</sup> week “Infinite Series of Functions”

14<sup>th</sup> and 15<sup>th</sup> week:

December 7: **Review**

December 9: I’ll be in my office from 3-6 to answer all the question you would like to ask.

**Grading Criteria:** The final course grade will be derived as follows:

Homework assignments:	30%
Midterm Exam	30%
Final Exam	40%

