Introduction to Analysis – Math 3345
Fall 2022

Professor: Dr. David Milan **Office**: RBN 4006

Office Hours: MWF 9-10am, or by appointment.

Email: dmilan@uttyler.edu **Office Phone**: 903-565-5839 (email is best)

Web: class page on blackboard

Class Meeting Time: MWF 9:05 am – 10:00 am

Required Text: *Understanding Analysis* by Stephen Abbott

Prerequisites: Math 3425 (Foundations of Mathematics)

Course Description: This course is concerned with the rigorous proofs underlying the theory of calculus. We will carefully examine such topics as limits, continuity, differentiation, and integration. Eventually we will have built enough theory to prove some of the deeper results presented in calculus such as the Mean Value Theorem and the Fundamental Theorem of Calculus.

Learning Outcomes: Upon completion of this course, students should be able to do the following:

- Prove facts about convergence and divergence of sequences of real numbers
- Prove facts about continuity, differentiation, and integration of functions.
- Construct examples and counterexamples displaying basic properties concerning continuity, differentiation, and integration.

Course Evaluation: Your grade will be based on:

Daily Assignments	20%
Homework	20%
Three Midterm Exams	40%
Final Exam	20%

The grading scale will be no more harsh than 90% = A, 80% = B, 70% = C, 60% = D.

Important Dates:
Sep. 2: Census date: date to withdraw without penalty and grade replacement deadline.
Sep. 5: Labor Day
Nov. 4: Last day to withdraw.
Nov. 21-25: Thanksgiving Holiday

Approximate Daily Schedule

		Monday	Wednesday	Friday
1	Aug. 22 – Aug. 26	1.1 / 1.2	1.2	1.4
2	Aug. 29 – Sep. 2	1.5	1.5	1.6*
3	Sep. 5 – Sep. 9	Labor Day	2.1	2.2
4	Sep. 12 – Sep. 16	2.3	2.4	2.5
5	Sep. 19 – Sep. 23	Test 1	2.6	2.7
6	Sep. 26 – Sep. 30	3.1	3.2	3.3
7	Oct. 3 – Oct. 7	3.3	3.4	4.1
8	Oct. 10 – Oct. 14	4.2	4.3	4.3
9	Oct. 17 – Oct. 21	4.4	4.4	4.5
10	Oct. 24 – Oct. 28	4.6	Test 2	5.1
11	Oct. 31 – Nov. 4	5.2	5.3	5.4
12	Nov. 7 – Nov. 11	6.1	6.2	6.3
13	Nov. 14 – Nov. 18	7.1	7.2	Test 3
	Nov. 21 – Nov. 25	Thanksgiving Holiday		
14	Nov. 28 – Dec. 2	7.4	7.5	7.5
15	Dec. 5 – Dec. 9	Final Exams		

Attendance: Analysis is a very difficult subject. The best way to succeed in this class is to attend all of the lectures, ask numerous questions, and complete the homework as soon as possible after it is assigned.

Exams: Students should expect to write high quality proofs on all exams. The focus will not be on memorization of terminology nor will the test consist of a series of routine calculations. There will be three midterm exams (approximate dates listed above) and a comprehensive final exam.

University Policies:
See https://www.uttyler.edu/academic-affairs/faculty-resources/ and click "Syllabus Information" for a list of important University policies: student rights and responsibilities, grade replacement and forgiveness, state-mandated course drop policy, disability services, student absence due to religious observance or university sponsored events, and social security and FERPA.