Course Syllabus

Syllabus for MATH 3210-002 Fall 2022

Foundations of Analysis I

Course Description

This is a very preliminary version of the syllabus

Instructor: Henryk Hecht, JWB 329.

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Days/time: MTWF 9:40 am-10:30 am in LCB 215.

CANVAS access will be activated on Friday, August 19, 2022.

Office Hours: Dates and times to be decided.


Additional Resources: there will be supplementary notes posted. You may use Internet resources on your own risk. However, using theorems and results, etc. which are not discussed in class is not acceptable in homework, tests and the final exam.

General Goals: The main goal of this course is: to provide students with a rigorous approach to the theory behind calculus of single variable This is the first course of the MATH 3210–3220 sequence of Foundations of Analysis, a sequence designed to develop the mathematical sophistication of students, while giving them a much deeper understanding of calculus and its foundations than can be provided in the standard courses (MATH 1210, 1220, and equivalent). The emphasis is on improving student's ability to understand and explain concepts in a logical and complete manner and refine their skill at proofs and mathematical arguments.

Course Content:

The course covers the following chapter-topics in the textbook:

Supplementary notes will be provided.

Chapter 1: The Real Numbers

Chapter 2: Sequences

Chapter 3: Continuous Functions

Chapter 4: The Derivative
Chapter 5: The Integral
Chapter 6: Infinite Series

Assignments and Grading:
Grading is based on homework, two tests, and the final the exam. Homework is assigned on a (roughly) weekly basis. Many of the homework exercises involve proving theorems or providing examples that illustrate the course material.

Final grade is assigned using the following evaluation method:

Weekly homework assignments, count 40% toward the final grade.
Tests, count 40% toward the final grade.
Final Exam, counts 20% toward the final grade.

The lowest three homework scores are dropped.

Additional events which can improve your final grade:
Extra Credit Quizzes (they will start after the first test) can add up to 10% to your total grade. Details will be given later in the course.

Suppose you took both tests and the final exam percent is higher that the lower test percent Then your lower test percent will be replaced by the final percent.

Typically letter grades are assigned as: A: 94%+, A-: 89%-93%, B+: 84%-88%, B: 80%-83%, B-: 74% - 79%, C+: 68%-73%, C: 61%-67%, C-: 55%-60%, D: 50%-54%, E: < 50%

Test Dates:

10/04/2022 Tuesday Test 1
11/30/2022 Wednesday Test 2
12/13/2022 Tuesday Final Exam

Both tests will be held In Person in our room during the regular meeting time.
The final exam will be held In Person in our room from 8:00am to 10:00am.
The course starts on Monday 01/10/2022 and ends on Tuesday 04/26/2022.
More about Homework. You may consult with your colleagues on homework. However, your final work and write-up has to be your own.

More about Tests. Tests are open textbook (our textbook). They are also open notes. However, the notes must be based entirely on the textbook and material presented in class. You cannot use results from other sources. In particular, you cannot use results from internet. You cannot communicate with anybody during the test. All electronic devices, earphones, etc. must be turned off.

Students are encouraged to review the Student Code for the University of Utah:
https://regulations.utah.edu/academics/6-400.php

Course Delivery Technical Details

All the information about the course will be provided on Canvas. Students should log in into their Canvas account at least once a day.

I will post notes relevant to the lectures. I will teach in class using the blackboards installed in the room. Aside from introducing concepts and proofs we will work in class on multiple problems. Questions are strongly encouraged.

Homework will be posted on Canvas as a dated assignment and must be returned on Canvas by the due date.

If you have a tablet or a similar computerized writing surface, the simplest method is usually to download the exam or homework pdf, write directly on that, and then reupload it to Canvas. Otherwise, if you have a printer you can print out the exam, write on that, and then scan and upload the writeup. If you do not have a printer you can simply write your solutions on a blank piece of paper, clearly indicating which problem you are solving. If you do not have a scanner there are many apps that convert your smartphone into a scanner. Please make sure you have an app that can convert the files into pdf format.

Good Luck!