

COURSE SYLLABUS

YEAR COURSE OFFERED: 2021

SEMESTER COURSE OFFERED: Fall

DEPARTMENT: Mathematics

COURSE NUMBER: MATH 4331: 14374/6312: 14375

NAME OF COURSE: Introduction to Real Analysis I

NAME OF INSTRUCTOR: Dr. Anna Vershynina

MEETING TIME/PLACE: MWF 9:00-10:00am SEC 104

The information contained in this class syllabus is subject to change without notice. Students are expected to be aware of any additional course policies presented by the instructor during the course.

Class website with complete up-to-date information:

<https://www.math.uh.edu/~anna/Teaching.html>

Major Assignments/Exams

Homework: 25%

2 Midterms: 40%

Final: 35%

Textbook

We will be using the following book:

- Kenneth Davidson, Allan Donsig, "Real Analysis with Application: Theory in Practice", Springer 2010

Prerequisites:

Math 3333 or 3334, as well as Math 3325.

List of discussion/lecture topics

The following list is preliminary and subject to change

- The topology of \mathbb{R}^n
- Cauchy sequences, limits, compactness

COURSE SYLLABUS

- Continuity, monotonicity and intermediate values
- Differentiation and the Riemann Integral
- Fundamental Theorem of Calculus
- Normed and inner product spaces
- Convergence of sequences of functions
- Compactness in function spaces

Presence in Class

Attendance in this class is required. Your presence in class each session means that you:

- Are NOT exhibiting any [Coronavirus Symptoms](#) that makes you think that you may have COVID-19
- Have NOT tested positive or been diagnosed for COVID-19
- Have NOT knowingly been exposed to someone with COVID-19 or suspected/presumed COVID-19

If you are experiencing any COVID-19 symptoms that are not clearly related to a pre-existing medical condition, do not come to class. Please see [Student Protocols](#) for what to do if you experience symptoms and [Potential Exposure to Coronavirus](#) for what to do if you have potentially been exposed to COVID-19. Consult the (select: [Undergraduate Excused Absence Policy](#) or [Graduate Excused Absence Policy](#)) for information regarding excused absences due to medical reasons.

Face Covering Policy

To reduce the spread of COVID-19, the University strongly encourages everyone (vaccinated or not) to wear face coverings indoors on campus including classrooms for both faculty and students.

Counseling and Psychological Services (CAPS) can help students who are having difficulties managing stress, adjusting to college, or feeling sad and hopeless. You can reach CAPS (www.uh.edu/caps) by calling 713-743-5454 during and after business hours for routine appointments or if you or someone you know is in crisis. Also, there is no appointment necessary for the [“Let's Talk” program](#), which is a drop-in consultation service at convenient locations and hours around campus.

COVID-19 Information Students are encouraged to visit the University's [COVID-19](#) website for important information including on-campus testing, vaccines, diagnosis and symptom protocols, campus cleaning and safety practices, report forms, and positive cases on campus. Please check the website throughout the semester for updates.

Vaccinations Data suggests that vaccination remains the best intervention for reliable protection against COVID-19. Students are asked to familiarize themselves with pertinent [vaccine information](#), consult with their health care provider. The University strongly encourages all students, faculty and staff to be vaccinated.

COURSE SYLLABUS

Reasonable Academic Adjustments/Auxiliary Aids The University of Houston complies with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, pertaining to the provision of reasonable academic adjustments/auxiliary aids for disabled students. In accordance with Section 504 and ADA guidelines, strives to provide reasonable academic adjustments/auxiliary aids to students who request and require them. If you believe that you have a disability requiring an academic adjustments/auxiliary aid, please contact [the Justin Dart Jr. Student Accessibility Center](#) (formerly the Justin Dart, Jr. Center for Students with DisABILITIES).

Excused Absence Policy Regular class attendance, participation, and engagement in coursework are important contributors to student success. Absences may be excused as provided in the University of Houston [Undergraduate Excused Absence Policy](#) and [Graduate Excused Absence Policy](#) for reasons including: medical illness of student or close relative, death of a close family member, legal or government proceeding that a student is obligated to attend, recognized professional and educational activities where the student is presenting, and University-sponsored activity or athletic competition. Under these policies, students with excused absences will be provided with an opportunity to make up any quiz, exam or other work that contributes to the course grade or a satisfactory alternative. Please read the full policy for details regarding reasons for excused absences, the approval process, and extended absences. Additional policies address absences related to [military service](#), [religious holy days](#), [pregnancy and related conditions](#), and [disability](#).

Recording of Class Students may not record all or part of class, livestream all or part of class, or make/distribute screen captures, without advanced written consent of the instructor. If you have or think you may have a disability such that you need to record class-related activities, please contact the [Justin Dart, Jr. Student Accessibility Center](#). If you have an accommodation to record class-related activities, those recordings may not be shared with any other student, whether in this course or not, or with any other person or on any other platform. Classes may be recorded by the instructor. Students may use instructor's recordings for their own studying and notetaking. Instructor's recordings are not authorized to be shared with anyone without the prior written approval of the instructor. Failure to comply with requirements regarding recordings will result in a disciplinary referral to the Dean of Students Office and may result in disciplinary action.

Technology requirements You should have a scanner or certain smartphone apps that allow you to scan your handwritten homework into a pdf file. Alternatively, certain tablets and tablet apps allow you submit your written work directly from the tablet.

Syllabus Changes Due to the changing nature of the COVID-19 pandemic, please note that the instructor may need to make modifications to the course syllabus and may do so at any time. Notice of such changes will be announced as quickly as possible through UH email.

UH Email Email communications related to this course will be sent to your [Exchange email account](#) which each University of Houston student receives. The Exchange mail server can be accessed via Outlook, which provides a single location for organizing and managing day-to-day information, from email and calendars to contacts and task lists. Exchange email accounts can be accessed by logging into Office 365 with your CougarNet credentials or through Access UH. They can also be

COURSE SYLLABUS

configured on [IOS](#) and [Android](#) mobile devices. Additional assistance can be found at the [Get Help](#) page.

Honor Code Statement Students may be asked to sign an honor code statement as part of their submission of any graded work including but not limited to projects, quizzes, and exams: *“I understand and agree to abide by the provisions in the [University of Houston Undergraduate Academic Honesty Policy](#) (or [University of Houston Graduate Academic Honesty Policy](#)). I understand that academic honesty is taken very seriously and, in the cases of violations, penalties may include suspension or expulsion from the University of Houston.”*