

MATH747: Real Analysis II

Room:

Days:

Time:

Instructor:

E-mail:

Office hour:

Course Text: ***Measure, Integration, and Real Analysis by Sheldon Axler***

Grade Scale

A+: 0.975 – 1.00

A: 0.85 – 0.975

B+: 0.825 – 0.85

B: 0.60 – 0.825

C+: 0.575 – 0.60

C: 0.45 – 0.575

D: 0.40 – 0.45

F: <0.40

Distribution

0.60 : Midterm, End of Term & a Final

0.20 : Class Presentation

0.10 : Class Participation

0.10 : Homework

Topics

Chapter 6: **Banach Spaces**

6A Metric Spaces

6B Vector Spaces

6C Normed Vector Spaces

6D Linear Functionals

6E Consequences of Baire's Theorem

Chapter 8: **Hilbert Spaces**

8A Inner Product Spaces

8B Orthogonality

8C Orthonormal Bases

Chapter 10: **Linear Maps on Hilbert Spaces**

10A Adjoints and Invertibility

10B Spectrum

10C Compact Operators

10D Spectral Theorem for Compact Operator

Chapter 11: **Fourier Analysis**

11A Fourier Series and Poisson Integral

11B Fourier Series and L^p of the Unit Circle
11C Fourier Transform

Course Policies

- Class will operate in 50-minute segments with a short break from 20:20 until 20:30.
- The Midterm exam will take place on
- The End of Term exam will take place on.
- Only the final will be a cumulative exam.
- The Final counts as two tests though.
- Last class meets on
- The Final Exam will take place on
- Any student who misses any student's presentation (including their own) will receive a 0 for class participation.
- Homework assignments must be submitted as a PDF created using the LaTeX markup language.
- There is no extra-credit, all grace is built into the grade scale.
- There are no make-up exams.
- Every student's grade must and will be calculated in the exact same way.
- Any academic dishonesty (i.e. cheating, plagiarizing, or fraud) will result in an immediate failure of the course.

Addendums

- The attached schedule is tentative and subject to change. However, the exam dates are set in stone.
- If you are someone with special needs and you are registered with the Office of AccessABILITY, I have to hear directly from that office about any dispensations.
- Furthermore, for purely logistical reasons, if you are registered with the Office of AccessABILITY I need to know at least one day in advance of an exam about what I must do.
- Before the final exam begins, a student may request to take this course with a Pass/Fail grade scale (i.e. 0.700 or better is passing and anything less is failing). However, one may only do this if they have attended at least 66% of the classes and done 75% of the homework.

Hunter College Policy on Academic Integrity: Hunter College regards acts of academic dishonesty (e.g., plagiarism, cheating on examinations, obtaining unfair advantage, and falsification

of records and official documents) as serious offenses against the values of intellectual honesty. The college is committed to enforcing the CUNY Policy on Academic Integrity and will pursue cases of academic dishonesty according to the Hunter College Academic Integrity Procedures.

ADA Policy: In compliance with the American Disability Act of 1990 (ADA) and with Section 504 of the Rehabilitation Act of 1973, Hunter College is committed to ensuring educational parity and accommodations for all students with documented disabilities and/or medical conditions. It is recommended that all students with documented disabilities (Emotional, Medical, Physical, and/or Learning) consult the Office of AccessABILITY, located in Room E1214B, to secure necessary academic accommodations.

For further information and assistance, please call: (212) 772- 4857 or (212) 650-3230.

Hunter College Policy on Sexual Misconduct. In compliance with the CUNY Policy on Sexual Misconduct, Hunter College reaffirms the prohibition of any sexual misconduct, which includes sexual violence, sexual harassment, and gender-based harassment retaliation against students, employees, or visitors, as well as certain intimate relationships. Students who have experienced any form of sexual violence on or off campus (including CUNY-sponsored trips and events) are entitled to the rights outlined in the Bill of Rights for Hunter College.

a. Sexual Violence: Students are strongly encouraged to immediately report the incident by calling 911, contacting NYPD Special Victims Division Hotline (646-610-7272) or their local police precinct, or contacting the College's Public Safety Office (212-772-4444).

b. All Other Forms of Sexual Misconduct: Students are also encouraged to contact the college's Title IX Campus Coordinator, Dean John Rose (jtrose@hunter.cuny.edu or 212-650-3262) or Colleen Barry (colleen.barry@hunter.cuny.edu or 212-772-4534) and seek complimentary services through the Counseling and Wellness Services Office, Hunter East 1123.

Changes: Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice.