Math 6320 (Fall 2019): Course Syllabus
Professor William Ott

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Overview. We will study measure theory, integration, L^p spaces, functions of bounded variation, absolute continuity, elements of functional analysis, Hilbert space theory, and differentiation of measures.

Literature.

- **(1)** Required textbook
    - **(a)** *Real Analysis (Modern Techniques and Their Applications, 2nd Edition)* by Folland
- **(2)** Additional resources
    - **(a)** *Real Analysis for Graduate Students* by Bass (http://bass.math.uconn.edu/3rd.pdf)
    - **(b)** *Analysis (2nd Edition)* by Lieb and Loss
    - **(c)** *Real Analysis (3rd Edition)* by Royden (See also the update by Royden and Fitzpatrick.)
    - **(d)** *Real and Complex Analysis (3rd Edition)* by Rudin
    - **(e)** *Real Analysis: Measure Theory, Integration, and Hilbert Spaces* by Stein and Shakarchi
    - **(f)** *An Introduction to Measure Theory* by Tao

Assignments. You will be given weekly problem sets. Several randomly selected problems from each set will be graded. No late submissions will be accepted. Your lowest problem set score will be dropped when your course grade is computed.

Grading. Your course grade will be based on assignments and exams. The distribution is as follows.

Assignments	35%
Exams 1–2	20% each
Final Exam	25%

Digital interfacing.

- **(1)** Course material such as assignments, reading information, exam material, solutions, and announcements will be available here:

    http://www.math.uh.edu/~ott/

- **(2)** Scores on assignments and exams will be accessible via the Blackboard system.

UH CAPS statement. 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 (https://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. No appointment is necessary for the "Let's Talk" program, a drop-in consultation service at convenient locations and hours around campus (http://www.uh.edu/caps/outreach/lets_talk.html).