

**Information Sheet**  
**MATH632 Fall 2024**  
**Functional Analysis**

**Instructor:** Radu Balan

**Lectures:** Tuesday, Thursday, 12:30pm-1:45pm, MATH B0431

**Office Hours:** Thursdays 2:00pm-3:00pm, MATH 3103/MATH 2308

**Contact Information:** Email [rvbalan@umd.edu](mailto:rvbalan@umd.edu)

MATH 632 Functional Analysis is the graduate level course in mathematics that continues MATH 630 Real Analysis I and MATH 631 Real Analysis II. It presents an introduction to functional analysis and operator theory: normed linear spaces, basic principles of functional analysis, bounded linear operators on Hilbert spaces, spectral theory of selfadjoint operators, applications to differential and integral equations, additional topics as time permits.

**Prerequisite:** MATH 631

**Recommended Textbooks:**

*Functional Analysis I* (Methods of Modern Mathematical Physics), Michael Reed, Barry Simon, 1980.

*Functional Analysis*, Walter Rudin, MCG, 2<sup>nd</sup> Edition, 1991.

*Operator Theory, Part 4*, Barry Simon, AMS 2016.

**Grading.** There will be one mid-term exam (100 points), homework assignments (for a total of 100 points), and a final exam (200 points - cumulative).

**Homeworks.** Homework must be submitted on the date assigned. Homework must be prepared without consulting any other person. You may however consult any written reference. In this case you should cite the reference. Results taken from the reference should be (re)stated to the notation used in the course. Explanations should be given in complete English sentences. Written work must be legible and clear.

**Academic Integrity.** You are expected to adhere to the University's Code of Academic Integrity, available online at: <https://www.faculty.umd.edu/teach/integrity.html>

**Students with Disabilities:** If you have a documented disability and wish to discuss academic accommodations with me, please contact me as soon as possible.

**Religious Observances.** If you will be absent from class because of religious observances, please submit a list of the dates of your absences within a couple of days.