

## Analysis 1, MATH 5101 (Fall 2009)

**Text:** *Principles of Mathematical Analysis*, W. Rudin

**Instructor:** Peter Topalov

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**Scope of the course:** The course gives a rigorous proof-based introduction to Mathematical Analysis. It is the first part of a two-semester Analysis course which intends to prepare students for ordinary and partial differential equations, probability and many other fields of mathematics.

**The course will cover the following topics:**

- Metric spaces;
- Convergence and continuity;
- Differentiation;
- Riemann integration;
- Sequences of functions.

**Grading:** The grade will be based on homework assignments and possibly a final and a test.