- **Instructor** Vladimir Pozdnyakov
  Email `vladimir.pozdnyakov@uconn.edu`
  Office Hours Tu/Th, 11AM-Noon
- **Lectures** Tu/Th 12:30PM - 1:45PM, AUST 103
- **Class Web Page** HuskyCT
- **Text** A Probability Path *by Sidney I. Resnick*
- **Syllabus**
  - **Basic Set Theory**: Terminology and Notation, Limits of Sets, Fields, Monotonic Class, Dynkin's theorem, Borel σ-fields
  - **Probability Space**: Definition and Basic Properties, Cumulative Distribution Function, Set Induction: Dynkin's Theorem Again, Construction of Probability Spaces: Discrete Models, Construction of Probability Spaces: Uncountable Spaces, Lebesgue Measure on $[0; 1]$
  - **Random Variables**: Measurability Approximation by Simple Random Variables, Limits and Measurability, Composition and Measurability, Random Elements of Metric Spaces
  - **Independence**: Definitions of Independence, Basic Criterion of Independence, Borel-Cantelli Lemmas, Tail σ-field. Kolmogorov's 0-1 Theorem
  - **Expectation**: Expectation of Simple Functions, Expectation (Lebesgue Integral), Properties of Expectation, Taking Limits under Expectation Sign, Uniform Integrability, Inequalities for Expectations, Radon-Nikodym Theorem, Change of Variables in a Lebesgue Integral, Product Spaces and Fubini's Theorem
- **Homework, Midterm and Final Exams**
  - there will be about 10 homework assignments
  - both exam will be in-class, written exams
- **Grades**
  - grades are based on the following weighed sum: homework (30%) + midterm (30%) + final exam (40%)
  - the final exam covers the entire course