Class: Tuesday, Thursday, 2:00pm—3:15pm in Gilmer Hall, 166.
Instructor: Leonid Petrov
Office: 209 Kerchof Hall
Preferred email for the course: lenia.petrov+5110s15@gmail.com (if using any of my other email addresses, put the tag 5110s15 somewhere in the subject!)
Office hours: Tuesday: 12:00pm–1:30pm; Thursday: 11:00am–12:30pm
or by appointment (I encourage you to make as many appointments as you need if you have a scheduling conflict with my official hours. The preferred way to make them is by email.)

Prerequisites for the course: Familiarity with topics from MATH 3100 (or equivalent probability course) and knowledge of linear algebra, or instructor’s consent.

Topics:
- Fundamental elements of stochastic processes
- Markov chains
- Random Walks and Brownian motion
- Martingales
- Other topics (TBA)

Among many interesting topics in the course, we’ll learn a way to answer questions like:

If two immortal people were placed on the opposite sides of an uninhabited Earthlike planet, how long would it take them to find each other if they're moving at random? (see picture on the right; question is inspired by “What If?” book by Randall Munroe)

Main textbook:
The basic reference for the course is

Additional books:
The main textbook may be complemented by additional materials on selected topics. At your option, it may also be complemented by the following good fundamental references (containing many examples):

There is also a free (GNU Free Documentation License) textbook containing some nice examples:

Learning:
The best way to learn the subject it is to do the homework problems every week. Please ask me questions about things you do not understand, either in class or in my office. DON’T wait until you feel completely lost!
Grading:
Homeworks will be assigned and collected each week. Some of them may be graded.
Your course grade will be based on quizzes/mini-exams (see dates below). The quiz material will come from homeworks. There is no final exam.

Collaboration, independent work, honor code:
You are encouraged to work together to learn material and prepare for quizzes. Teams of two work very well. Most mathematicians work in pairs to take advantage of the challenge-defend discussions that help us understand things better. Of course, some learning will also require independent work, such as reading assignments and some practice problems.

You are required to work independently on the quizzes. So when working together with others, make sure you are preparing yourself to take the quiz independently.

The honor code is taken seriously. Any honor code violations pertaining to the quizzes will be automatically referred to the Honor Committee.

Classes schedule:
week 1. 1/13, 1/15
week 2. [1/20, 1/22*]
week 3. 1/27, 1/29
week 4. 2/3*, 2/5
week 5. 2/10*, 2/12
week 6. 2/17*, 2/19
week 7. 2/24*, 2/26
week 8. 3/3*, 3/5
week 9. 3/17*, 3/19
week 10. 3/24*, 3/26
week 11. 3/31*, 4/2
week 12. 4/7*, 4/9
week 13. 4/14*, 4/16
week 14. 4/21, 4/23
week 15. 4/28

No classes: 3/10, 3/12 (Spring break)
No office hours: 1/27, 1/29, 4/14, 4/16, 4/28
Last class: 4/28 or 4/23

Quizzes (approximately):
1/20, 1/29, 2/12, 2/26, 3/19, 4/2, 4/21

Homeworks due (approximately):
1/22, 2/3, 2/10, 2/17, 2/24, 3/3, 3/17, 3/24, 3/31, 4/7, 4/14,