

# Probability on Trees and Networks



*STOR 891 (Spring 2019)*

## General Information

- **Lectures:** Tuesday, Thursday 9:30 – 10:45 am, Hanes Hall 125
- **Website:** <https://sakai.unc.edu/portal/site/stor891-fraiman>
- **Instructor:** **Nicolas Fraiman**
- **Office hours:** Wednesday 10:30 – 12:00 pm, Hanes Hall 337
- **Email:** [fraiman@email.unc.edu](mailto:fraiman@email.unc.edu)

## Textbooks

- **“Probability on Trees and Networks”** by *Russell Lyons and Yuval Peres*. Available at [Lyons’ webpage](#) or [UNC library](#).
- **“Probability on Graphs”** by *Geoffrey Grimmett*. Available at [Grimmett’s webpage](#) or [UNC library](#).

## Description

Introduce students to fundamental models and techniques in modern discrete probability. The emphasis will be on illustrating common and important techniques rather than depth.

## Topics

- Random Walks and Electrical Networks.
- Uniform Spanning Trees.
- Branching Processes.
- Galton-Watson Trees.
- Percolation.
- Random Graphs.

## Homework

There will be three homework assignments. Discussion with fellow classmates is encouraged but you must write independent solutions and acknowledge other students in your submission.

## Presentations

There will be oral presentations at the end of the term. A list of topics will be available on Sakai. You are welcome to suggest your own. Topic selection is due on **Thursday March 28**.

## Honor Code

All students must be familiar with and abide by the Honor Code, which covers issues such as plagiarism, falsification, unauthorized assistance, cheating, and other grievous acts of academic dishonesty. For the complete honor code, please visit [instrument.unc.edu](http://instrument.unc.edu)