## Probability

Math $563 \quad$ Fall 2019

Times: MWF 11
Room: Math 501

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This course is a first introduction to probability theory, assuming some familiarity with real analysis. It should be useful for those both interested in theory and applications which use concepts of 'randomness'.

Tentative schedule: Probability spaces, random variables, etc.
Laws of large numbers
Central limit theorems
Conditional expectation and martingales
Random walks

Roughly, we will try to cover each in equal measure. However, we may speed up or spend more time on some topics.

| Text: | Durrett, Probability: Theory and Examples, $4^{\text {th }}$ Ed., Cambridge. <br> Available freely through UA Library |
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| References: | Books by Chung, Chow and Teicher, Breiman, Gray and Fristedt, Resnick, Kallenberg, and <br> others at this level. [It's a good idea to read another text to see different viewpoints.] |
| HW: | Roughly every 10 days. <br> Exams:Midterm and Final (both TBA) <br> Grades:$\quad 1 / 3$ marks for HW, Midterm and Final |

