

# Overview

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Slide 1

## DSC381 Probability & Simulation Based Inference

### Part I: Probability

1. **Events & probability:** “what is probability” – axioms and prob calculus
2. **Discrete random variables:** numerical summaries of chance experiments, and how to work with them
3. **Moments:** useful inequalities

### Part II: Statistical inference

#### Part I: (ctd.)

7. **Moment generating functions:** more inequalities<sup>1</sup>
8. **Continuous r.v.:** (real valued) numerical summaries
9. **Normal distribution:** “the most beautiful of all” :-)

#### Part II: Statistical inference (ctd.)

using probability to make decisions in the face of uncertainty

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<sup>1</sup>The section # in the video is outdated.