

## UNIT 5: Continuous random variables

- Why continuous?
  - physical quantities are often continuous
  - the power of calculus easier to analyze
  - convenient approximations
- Same threads as in the discrete case:
  - definitions, notation
  - properties of expectation and variance
  - conditioning and independence
  - total probability/expectation theorem
- Additional elements:
  - some concepts are more subtle
  - interesting versions of Bayes' rule