

Preview of Topic 3: Two or more RVs

One experiment, one outcome, one or more RVs.

- examples:
- voltage at several points in a circuit
 - sampling audio at multiple time instants
 - sampling an image at different pixel location
 - height and weight of a random individual

Extend existing tools/concepts to 2 or more RVs

PMF, CDF, PDF (ch 5.2-5.4)

Independence (ch 5.5)

Conditional probabilities (ch 5.7)

moments and summary statistics (ch 5.6)

common joint pdfs (ch 5.9)

functions of a pair of RV (ch 5.8)

Creating new tools/concepts for 2 or more RVs

moment generating function (ch 4.7)

Law of large numbers and Central Limit theorem (ch 7.1-7.3)

Parameter Estimation (ch 5.7 and 8.2+)