

Part III — Statistics

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These notes are not endorsed by the lecturers, and I have modified them (often significantly) after lectures. They are nowhere near accurate representations of what was actually lectured, and in particular, all errors are almost surely mine.

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1 Representation and summary of data - location

Definition (Quantitative variables and Qualitative variables).

Definition (Continuous variable and discrete variable).

Definition (Grouped data).

Definition (Ungrouped data).

2 Representation and summary of data - measures of dispersion

3 Representation of data

4 Probability

5 Correlation

6 Regression

7 Discrete random variables

8 The normal distribution

9 Binomial distribution

10 Poisson distribution

11 Continuous random variables

12 Continuous uniform distribution

13 Normal approximation

14 Population and samples

15 Hypothesis testing

16 Combination of random variables

17 Sampling

18 Estimation , confidence intervals and tests

19 Goodness of fit and contingency tables

20 Regression and correlation

21 Quality of tests and estimators

22 One-sample procedures

23 Two-sample procedures