

STA 3180 Statistical Modelling: Missing Data

Topic: Missing Data

I. Introduction to Missing Data

- A. Definition of Missing Data
- B. Types of Missing Data
- C. Reasons for Missing Data

II. Exploratory Data Analysis

- A. Descriptive Statistics
- B. Visualization Techniques

III. Imputation Methods

- A. Mean Imputation
- B. Median Imputation
- C. Mode Imputation
- D. Hot Deck Imputation
- E. Multiple Imputation

IV. Model-Based Imputation

- A. Regression Imputation
- B. Maximum Likelihood Estimation

V. Strategies for Exam Problem Solving

- A. Read the problem carefully and identify the type of missing data
- B. Identify the appropriate imputation method to use
- C. Calculate the imputed values
- D. Analyze the results and draw conclusions
- E. Check your work for accuracy