# STA 3180 Statistical Modelling: Missing Data

# STA 3180 Statistical Modelling: Lecture Notes on Missing Data

## Key Concepts

- Missing data is a common problem in statistical analysis.

- Missing data can be due to various reasons such as non-response, data entry errors, or data that was not collected.

- Missing data can lead to bias and inaccurate results if not handled properly.

- There are several methods for dealing with missing data, including complete-case analysis, multiple imputation, and maximum likelihood estimation.

## Definitions

- Missing data: Data that is not available or has not been collected.

- Complete-case analysis: A method of dealing with missing data by removing any observations with missing values from the analysis.

- Multiple imputation: A method of dealing with missing data by replacing missing values with multiple imputed values.

- Maximum likelihood estimation: A method of dealing with missing data by using the maximum likelihood approach to estimate the parameters of a model.

## Practice Multiple Choice Questions

Q1. What is missing data?

A. Data that is not available or has not been collected.

B. Data that has been removed from the analysis.

C. Data that has been replaced with imputed values.

D. Data that has been estimated using the maximum likelihood approach.

Answer: A. Data that is not available or has not been collected.