

# **STA 3180 Statistical Modelling: Regression**

Topic: Regression

## **I. Introduction to Regression**

A. Definition of Regression

B. Types of Regression

1. Simple Linear Regression

2. Multiple Linear Regression

3. Polynomial Regression

4. Logistic Regression

C. Assumptions of Regression

## **II. Estimation of Regression Parameters**

A. Least Squares Estimation

B. Maximum Likelihood Estimation

## **III. Model Evaluation**

A. Goodness of Fit

B. Residual Analysis

## **IV. Problem Solving Strategies**

A. Understand the problem and identify the type of regression to use

B. Check assumptions of the model

C. Estimate the parameters of the model

D. Evaluate the model

E. Interpret the results

## **V. Conclusion**

A. Summary of Regression

B. Applications of Regression