**Data Management and Analysis for Social Sciences (DMASS)**

This course aims to provide students with an overview of the theoretical and practical foundations required for managing and analyzing data, especially those in social sciences. It starts with an introduction to some basic ideas of statistics like probability, data structure, and data types. will examine the different kinds of probability theory, probability distribution, and data-generating process. Once getting a solid understanding of the probability theory, we will move on to study hypothesis testing and model estimation. More importantly, this course will combine the theoretical content with a rich set of applications so that students can polish up their coding skills in R as well as apply what they learn in real-world cases.

packages: tidyverse, datatable,

Week 1

Introduction to Data Analysis

Practice: Hello, World!

Week 2

Probability

Practice: Data Structure and Types

Week 3

Descriptive Data Analysis

Practice: Importing and Collecting Data

Week 4

Probability Distribution

Practice: Data Formatting and Transformation

Week 5

Sampling Distribution

Practice: Generating Sampling Distributions and CLT

Week 6

Hypothesis Testing for Means

Practice:

Week 7

Hypothesis Testing for Proportions

Practice:

Week 8

Correlation and Testing

Practice:

Week 9

ANOVA

Practice:

Week 10

Simple Linear Regression - Introduction

Practice:

Week 11

Simple Linear Regression - Assumptions and Diagnostics

Practice:

Week 12

Simple Linear Regression - Interpretation

Practice:

Week 13

Logistic Regression - Classifying

Practice: