Statistical Programming Language

Course Syllabus - Spring 2021

Instructor : Kipoong Kim

Office Hours : Monday and Wednesday: 15:00 - 16:00 PM, and by appointment

Office : Room 203, Laboratory Building

E-mail : kkp7700@gmail.com

Lecture Hours : Mondays and Wednesdays, 13:30-14:45 PM, Zoom

Prerequisite : Introduction to Statistics, Mathematics(I)

Textbook : No textbook is required in this course.

References : Matloff, N. (2011). The art of R programming: A tour of statistical software design. No Starch Press.
Braun, W. J., & Murdoch, D. J. (2016). A first course in statistical programming with R. Cambridge University Press.

Course Overview : This course provides students with an introduction to a wide range of concepts and techniques in R programming that they need to conduct data analysis.

Course Objectives:

- To introduce the concepts of data structures and types.
- To provide understanding of statistical inference.
- To familiarize students with R programmings for decision making.
- To help students understand how to solve the pratical issues when dealing with R programming.

This course will be a foundation for students who are interested in becoming the next generation data scientists.

Course Schedule :

Weeks	Agenda	Assignments	Remarks
Week 1	Brief Introduction into using R		
Week 2	Introduction to statistical programming		
Week 3	Introduction to statistical programming	Assignment 1	
Week 4	Data structures and data types		
Week 5	Data structures and data types	Assignment 2	
Week 6	Random number and functions		
Week 7	Random number and functions	Assignment 3	
Week 8	Midterm Exam		
Week 9	Basic graphs	Assignment 4	
Week 10	Sampling distribution of statistics		
Week 11	Sampling distribution of statistics	Assignment 5	
Week 12	Statistical estimation		
Week 13	Statistical estimation	Assignment 6	
Week 14	Hypothesis testing		
Week 15	Hypothesis testing	Assignment 7	
Week 16	Final Exam		

Grade Policy :

- **Evaluation**:
  - **Homework (30%)**

    Late HW is NOT accepted

    Copying HW from others will get you 0 point for that assignment.
  - **Midterm (30%)**
  - **Final (40%)**
  - **Class Participation** (Bonus points): Answering a question during class will get you 1 point in the homework score
- (Tentative) **Final Course Grade**

  A+ and A0 : less than 30%

  B+ and B0 : less than 70%

  F : Final Score $\leq$ 30