



Korea University International Winter Campus (KU IWC) 2021~2022

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December 27, 2021 ~ January 14, 2022

IWC207 – Statistics

I . Instructor

Professor : Sangbum Choi, Ph.D
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Home Institution : Department of Statistics, Korea University (<https://bit.ly/35wRSPw>)
Office : Woodang Hall #517
Office Hours : 4-5 p.m. everyday

II. Textbook

Course Textbook : **Mind on Statistics (5th Edition)** by Jessica M. Utts and Robert F. Heckard
ISBN-13: 978-1285463186
ISBN-10: 1285463188



Course Materials : All course materials will be posted on the course webpage via blackboard.
(You are not required to buy the textbook.)

Other Material **Please bring your laptop.**

III. Course Description and Objectives

Description

This course provides a broad introduction to statistical practice and data analysis techniques. It aims to equip students with a basic understanding of statistics, so that they are able to employ appropriate methods of analysis in various circumstances. The techniques learnt are widely used in the sciences, social sciences, business and many other fields of study. Topics covered include collecting data, getting information from data, data manipulation, statistical inference, regression and analysis of categorical data.

Objectives

By the end of this course students should be able to:

1. organize and summarize data graphically and numerically
2. identify the appropriate technique to use when analyzing data within the scope of the techniques covered
3. communicate the results from the analysis by writing a short report
4. manipulating and analyzing data using the statistical software R. **(Please bring your laptop.)**

Group Work

Students will learn some basic RStudio skills for reproducible research. Students are also requested to do some small data analysis that could be done interactively with other students.

IV. Grading

Attendance	:	0%
Assignments	:	25%
Midterm Exam	:	35%
Final Exam	:	40%

V. Class Outline

Date	Topic	Chapter	Remarks
Dec 27 (Mon)	Introduction to class & Introduction to R	1	
Dec 28 (Tue)	Getting information from data using graphs and summary statistics	2	
Dec 29 (Wed)	Relationships between quantitative variables	3	
Dec 30 (Thu)	Relationships between quantitative variables	3	
Dec 31 (Fri)	Sampling and surveys	4	
Jan 3 (Mon)	Gathering useful data	5	
Jan 4 (Tue)	Probability	6	
Jan 5 (Wed)	Random Variables & Midterm Exam	7	
Jan 6 (Thu)	Understanding Sampling distributions	8	
Jan 7 (Fri)	Estimating proportions with confidence	9	
Jan 10 (Mon)	Estimating means with confidence	10	
Jan 11 (Tue)	Hypotheses about proportions	11	
Jan 12 (Wed)	Hypotheses about means	12	
Jan 13 (Thu)	Inference for simple regression	13	
Jan 14 (Fri)	Inference for simple regression & Final Exam	14	