



Sungkyunkwan University (SKKU) International Summer Semester (ISS) 2019  
"New Experience, New Engagement"

## Foundations of Statistics (ISS\_3166)

Prof. Sang-Wook Kim, Sungkyunkwan University

### SHORT COURSE DESCRIPTION

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Scrutinized analysis of quantitative data is the cornerstone for understanding and explaining empirical phenomena in social sciences nowadays. Statistics is one of the most essential tools to make sense of social phenomena by means of collecting, organizing, interpreting, and presenting quantitative data. This course covers the fundamental ideas and tools to carry out statistical analysis of the social-scientific data, with the most emphasis laid on making statistical inferences from the sample to the population.

### READING MATERIALS

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There is no text book for this course. The course notes will be emailed to the students for each week.

### COURSE REQUIREMENTS AND GRADING

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Evaluation of student's performances in this course will be done on the basis of three components altogether: attendance, assignments, and exams. To reiterate: all students are expected to show up every class meeting on time throughout the semester (attendance will be checked every day; in case of illness or emergency, students are strongly encouraged to notify the problem well in advance by sending a short email to TA (#####), and bringing necessary documentations later on); a total of four assignments that is designed to conduct statistical analysis of real dataset (e.g.,  $t$ -tests, cross-tabulation, ANOVA, and OLS regression) will be provided; two in-class exams, mid-term and final (non-cumulative), are going to be taken—each exam is going to contain numerous (probably 20-30) short-essay questions. The points assigned to each of the three components are as follows: attendance = 10 points; assignments = 20 points (4 assignments \* 5 points); exams = 70 points (2 exams \* 35 points). With the P/F grading guidelines for the ISS University-wide, students are expected to exceed at least 60 points (in total) in order to pass this course -- those who are lagging behind 60, if any, won't have the P grade in due courses. Another P/F guidelines concern the attendance policy: Students are expected to have less than 4 unexcused absences in order to pass -- those who have 4+ unexcused absences throughout the semester won't be able to have the P grade, either.

### COURSE SCHEDULE

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#### – WEEK I –

##### Tuesday (26 June)

Introduction to the Course

Topic 1: Social Research Process and Statistical Analysis

##### Wednesday (27 June)

Topic 1 (*Continued*)

##### Thursday (28 June)

Topic 2: Descriptive Statistics

##### Friday (29 June)

Topic 3: Inferential Statistics: Basic Ideas, Logics, and Procedures

– WEEK II –

Monday (2 July)

Topic 4: z-test

Tuesday (3 July)

Topic 5: t-test (Assignment #1)

Wednesday (4 July)

*Review for the Mid-Term!*

Thursday (5 July)

**Mid-Term Exam**

Friday (6 July)

No Class (Field Trip)

– WEEK III –

Monday (9 July)

Topic 6:  $\chi^2$ -test (Assignment #2)

Tuesday (10 July)

Topic 7: F-test (ANOVA)

Wednesday (11 July)

Topic 7 (*Continued*) (Assignment #3)

Thursday (12 July)

Topic 8: OLS Regression (Assignment #4)

Friday (13 July)

No Class (Field Trip)

– WEEK IV –

Monday (16 July)

*Review for the Mid-Term!*

Tuesday (17 July)

**Final Exam**

Please be advised that the above schedules would be subject to changes as the course goes on.