이화여자대학교
EWHA WOMANS UNIVERSITY

Syllabus (Fall, 2021)

Course Title	Educational Statistics (교육통계)	Course No.	21492-01
Department/ Major	Education	Credit/Hours	3
Class Time/ Classroom	Wednesday 2-3 (9:30 am – 12:15 pm)/ Education Bldg B. B155 (교B B155)		
Instructor	Name: Youn-Jeng Choi	Department: Education	
Office Hours/ Office Location			

Ⅰ. Course Overview

1. Course Description

This three-hour course covers basic descriptive and inferential statistics, including measures of central tendency and dispersion. Hypothesis testing related to one-sample z-and t-test; independent and dependent samples t-test; correlation; and simple regression are included. Statistical computer software such as SPSS and jamovi will be used for data analysis.

2. Prerequisites

This course has no specific prerequisites.

3. Course Format

Lecture	Discussion/Presentation	Weekly Quizzes	Class Activities
30%	30%	20%	20%

(Instructor can change to match the actual format of the class.)

Explanation of course format:

- This course was designed for the flipped learning. All students must watch the recorded lecture videos before class. Class activities including quizzes, data analysis using SPSS and jamovi will be performed at the classroom. There will be no lecture at the classroom but students can ask any questions about lectures when they have some difficulties to

understand the contents.

- All lectures will be presented through slides. The recorded videos and lecture slides will be posted to the Ewha Cyber Campus website before the class. Students must watch the videos and to read the lecture slides before class. Students will have opportunities for interaction and discussion during classes.
- Most classes include weekly quizzes and class activities to promote students' deep learning.

4. Course Objectives

The purpose of this course is to present an introduction to statistics that emphasizes on a conceptual understanding of statistical ideas, computer-based data analysis, interpretation of results, and written communication of statistical procedures and findings. To emphasize the application and interpretation of statistical concepts, the course includes activities and numerous assignments as well as conducting analysis using SPSS and jamovi software program.

After successfully completing this class, students shall be able to:

- examine and summarize data visually using tables and figures
- summarize data numerically using descriptive statistics (measures of central tendency and variability)
- understand the characteristics of theoretical distributions that are the basis of statistical analyses
- test research questions using inferential statistics (i.e., t-test, one-way ANOVA, Pearson correlation)
- understand errors of inference that can occur in hypothesis testing
- communicate the rationale for and results of statistical analyses
- use statistical software to examine data and calculate descriptive and inferential statistics

5. Evaluation System

☐ Relative evaluation ☑V Absolute evaluation ☐ Others :

- Explanation of evaluation system:

- **Attendance and Class Participation (11 points)**
  Attendance and participation will be evaluated based on the class activities at the classroom. Grades in this category will be assigned holistically (at an overall level), based on attendance and participation across the entire semester. If students do not watch the recorded lectures, one point reduction will be given because our course adopted flipped learning.
- **Quizzes (10 @ 3 points each = 30 points)**
  There will be 10 quizzes, each worth a maximum of 3 points. The purpose of the quizzes is to build on and confirm your understanding of the material covered in lecture and textbook and provide practice for the exams. Quizzes must be submitted to Cyber Campus. Students may help each other in completing quizzes; Students may not copy or duplicate another person's homework; doing so will be considered a violation of the policy on academic integrity and will be treated accordingly.
- **SPSS/jamovi Computer Assignments (6 @ 4 points each = 24 points)**
  This course will feature six SPSS/jamovi exercises to allow sufficient practice of the principles. You are allowed and encouraged to work on exercises in groups, but the assignments must be turned individually and you must write your answer in your own words. Each exercise will be graded on a 4-point scale and you must submit all SPSS/jamovi output files.
- **Midterm and Final Exams (20 points for midterm and 15 points for final)**
  The exams will be based on lecture, textbook, and quizzes and will consist of multiple choice, short essay, and computational questions. (Note: There will be NO make-up exam without instructor consent and arrangement before the scheduled time of the exam).

Midterm Exam	Final Exam	Quizzes	Computer Assignments	Attendance & Class Participation
20%	15%	30%	24%	11%

* Evaluation of group projects may include peer evaluations.

Ⅱ. Course Materials and Additional Readings

1. Required Materials

Privitera, G. (2017). Statistics for the behavioral sciences (3rd ed.). Thousand Oaks, CA: SAGE Publications.
(optional, not required to buy, 도서관 지정도서)

- Website: https://edge.sagepub.com/priviterastats3e

2. Supplementary Materials

Privitera, G. (2017). Essential Statistics for the behavioral sciences (2nd ed.). Thousand Oaks, CA: SAGE Publications. **(This book is a concise version of Statistics for the Behavioral Sciences and you can read it at the Ewha University library, 도서관 지정도서)**
성태제(2019). 현대기초통계학 이해와 적용(8판). 서울: 학지사.

3. Optional Additional Readings

Ⅲ. Course Policies

* For laboratory courses, all students are required to complete lab safety training.

Ⅳ. Course Schedule (15 credit hours must be completed.)

Week	Date	Topics & Class Materials	Weekly Quizzes & Assignments
Week 1	(09/01)	Overview of Course	
Week 2	(09/08)	Chapter 1: Intro to Statistics	
Week 3	(09/15)	Chapter 2: Freq. Dist. In Tables and Graphs **(Lab 1)**	
Week 4	(09/22)	**No Class (Chuseok)**	
Week 5	(09/29)	Chapters 3 & 4: Central Tendency and Variability	**Quiz1**: Chapters 3 & 4 (due 9/29)
Week 6	(10/06)	Chapter 5: Probability	**Quiz2**: Chapter 5 (due 10/6)
Week 7	(10/13)	Chapters 6 & 7: Normal Distributions and Sampling Distributions	**Quiz3**: Chapters 6 & 7 (due 10/13)
Week 8	(10/20)	Chapter 8: Hypothesis Testing: effect size, power, z test	**Quiz4**: Chapter 8 (due 10/20)
Week 9	(10/27)	Chapter 9: Testing Means: One-sample t & Two independent-sample t tests **(Lab 2)**	**Quiz5**: Chapter 9 (due 10/27); **Computer assignment 1**: Chapter 9 (due 11/3)
Week 10	(11/03)	Chapter 10: Testing Means: Paired-samples t test **(Lab 3)**	**Quiz6**: Chapter 10 (due 11/3); **Computer assignment 2**: Chapter 10 (due 11/10)
Week 11	(11/10)	**Midterm Exam (Chapters 1 to 9)**	
Week 12	(11/17)	Chapter 11: Estimation and Confidence Intervals	**Quiz7**: Chapter 11 (due 11/17)

Week	Date	Topics & Class Materials	Weekly Quizzes & Assignments
Week 13	(11/24)	Chapter 12: Introduction to ANOVA **(Lab 4)**	**Quiz8**: Chapter 12 (due 11/24); **Computer assignment 3**: Chapter 12 (due 12/1)
Week 14	(12/01)	Chapter 15: Correlation **(Lab 5)**	**Quiz9**: Chapter 15 (due 12/1); **Computer assignments 4&5**: Chapter 15 (due 12/8)
Week 15	(12/08)	Chapter 16: Simple Linear Regression **(Lab 6)**	**Quiz10**: Chapter 16 (due 12/8); **Computer assignment 6**: Chapter 16 (due 12/15)
Week 16	(12/15)	**Final Exam (Chapters 10, 11, 12, 15 & 16)**	

*This schedule including quizzes and computer assignments is tentative and subject to change. Please check the Cyber Campus regularly for updates to this schedule.

V. Special Accommodations

* According to the University regulation section #57-3, students with disabilities can request for special accommodations related to attendance, lectures, assignments, or tests by contacting the course professor at the beginning of semester. Based on the nature of the students' request, students can receive support for such accommodations from the course professor or from the Support Center for Students with Disabilities (SCSD). Please refer to the below examples of the types of support available in the lectures, assignments, and evaluations.

Lecture	Assignments	Evaluation
. Visual impairment : braille, enlarged reading materials . Hearing impairment : note-taking assistant . Physical impairment: access to classroom, note-taking assistant	Extra days for submission, alternative assignments	. Visual impairment : braille examination paper, examination with voice support, longer examination hours, note-taking assistant . Hearing impairment : written examination instead of oral . Physical impairment : longer examination hours, note-taking assistant

- Actual support may vary depending on the course.

* The contents of this syllabus are not final—they may be updated.