

Syllabus

- Meeting time: T, Th 3:30 - 4:45 PM at 331 국제관
- Instructor: Dr. Mingue Park
 - ▶ Office: 422 정경관, 3290-2243
 - ▶ Office Hour: Tuesday 5:00 - 6:00 PM or by appointment
 - ▶ email: mpark2@korea.ac.kr
- TA: TBA
- Textbooks
 - ▶ *Linear Models in Statistics* by Rencher & Schaalje
 - ▶ *Applied Linear Statistical Models* by Neter, Kutner, Nachtsheim & Kutner

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- Computation:

One objective of this course is to introduce R and SAS. Data files and files containing examples of R and SAS code can be copied from the Blackboard. One book that provides information and examples for performing calculations and making graphs and displays with R is *Using R for Introductory Statistics* by John Verzani.

- Grades:

- ▶ About six assignments (20%)
- ▶ Midterm exam (35%)
- ▶ Final Exam (45%)

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Main Topics

- Matrix algebra, graphs, R-computations: RS, Chapters 1-3
- Linear Models - Least Squares Estimation: RS, Ch. 11 (ANOVA) & Chapter 7 (Regression)
- Linear Models - Normal Theory Inference: RS, Chapters 4&5
- Linear Models - ANOVA, Unbalanced Experiments: RS, Chapters 13&14, NKNW, Chap. 22, Sec. 23.6
- Mixed Models: RS, Chapter 16, NKNW, Chapters 24, 28, 29

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References

I. Matrix Algebra:

- Searle, S. R., 1982, *Matrix Algebra Useful for Statistics*
- Graybill, F. A. 1983, *Matrices with Applications in Statistics*
- Harville, D. A., 1997, *Matrix Algebra for a Statistician's Perspective*

II. Linear Models:

- Searle, S. R. 1971, *Linear Models*
- Stapleton, J. H., 1995, *Linear Statistical Models*

III. Mixed models

- Littel, R. C., Milliken, G. A., Stroup, W. W., and Wolfinger, R. D., 1996, *SAS System for Mixed Models*
- Searle, S. R., Casella, G. and McCulloch, C. E., 1992, *Variance Components*