



THE OHIO STATE UNIVERSITY

STAT 4620

Introduction to Statistical Learning (28155) Autumn 2026

Syllabus - Instructor Information

Oh-Ran Kwon

Professional Qualifications

Ph.D. in Statistics, University of Minnesota

M.S. in Statistics, Seoul National University

B.E. in Statistics, Sungkyunkwan University

Syllabus - Required or Recommended Readings

James, G., Witten, D., Hastie, T., and Tibshirani, R. *An Introduction to Statistical Learning with Applications in R*. Springer

The textbook is available for free through SpringerLink:

<https://link.springer.com/book/10.1007/978-1-0716-1418-1>.

Syllabus - Course Schedule

Week	Topics
1	Introduction; Linear Regression: SLR, MLR, Geometry, Loss, Weighted Least Squares
2	Beyond Linear Regression; Cross-Validation
3	Classification: Logistic Regression, Linear Discriminant Analysis (LDA)
4	Bootstrap, Cross-Validation & Bootstrap Examples
5	Regularization: Ridge Regression, LASSO
6	Regularization: Dimension Reduction, PCA, PCR
7	High Dimensional Data Analysis and the Curse of Dimensionality; Spline Regression; Smoothing Splines; Local Regression
8	Smoothing Splines; Local Regression
9	Generalized Additive Models (GAM), Regression and Classification Trees
10	Trees: Boosting, Random Forests
11	Trees; Clustering: K-means, Hierarchical
12-13	Clustering: K-means, Hierarchical, Project discussion
14	Thanksgiving Break — no class
15	Additional topics – time permitting, Final project presentation
16	Final project presentation

Syllabus - University Policies

Office of Undergraduate Education - Standard Syllabus Statements

- [Academic Misconduct](#)
- [Religious Accommodations](#)
- [Accommodations for Disability and Illness](#)
- [Intellectual Diversity](#)
- [Grievances and Solving Problems](#)
- [Creating an Environment Free from Harassment, Discrimination, and Sexual Misconduct](#)
- [Copyrights](#)
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- [Mental Health Support](#)
- [Resources for Military-Connected Students](#)
- [Campus-wide Class Cancellations](#)