Course Syllabus (Statistical Learning)

COURSE INFORMATION	Statistical Learning Time: W234 (Wednesday 9am-noon) Place: General Building III, 8F, Room 837
INSTRUCTOR	Nan-Jung Hsu *E-mail:* njhsu@stat.nthu.edu.tw *Phone:* 03-5742646
CONTACT INFORMATION	Institute of Statistics National Tsing-Hua University Room 801, General Building III Hsin-Chu,Taiwan 30043
COURSE PRE-REQUISITES	Calculus, Statistics I and II (or equivalent courses)

COURSE DESCRIPTION — This course introduces the fundamental concepts in statistical learning. The materials include both the statistical methodologies with theoretical foundations and computations. Topics include

- Linear Regression
- Classification
- Basis Expansions and Nonlinear Regression
- Variable Selection and Regularization
- Tree-Based Methods, Bagging, and Random Forest
- Boosting and Ensemble
- SVM
- Unsupervised Learning

CLASS MATERIALS — NTHU elearning at https://eeclass.nthu.edu.tw/

TEXTBOOKS

An Introduction to Statistical Learning with Applications in R, Springer, 2013, by James, Witten, Hastie, and Tibshirani.

The Elements of Statistical Learning: Data Mining, Inference, and Prediction, 2nd edition, Springer, 2009, by Hastie, Tibshirani, and Friedman.

GRADING POLICY — Homework (60 %) + final project (or final exam) (40 %).
No Late Homework Accepted!