

Topics in Statistics (Statistics 359)
Instructor: Wenxin Jiang
Office Address: 2006 Sheridan Road, room 21
Lecture Time: TTH 9:30-10:50
Office Hour: W 9:30-10:30
Phone: 491-5081
E-mail: wjiang@northwestern.edu

COURSE DESCRIPTION: Methods are described for modelling binary responses with multiple explanatory variables. Potential topics include: statistical decision theory, binary regression models, cluster analysis, probabilistic conditional independence, and graphical models.

PREREQUISITES: Courses in probability and statistics comparable to Statistics 320-1,2; and a course in multiple regression comparable to Statistics 350. Familiarity with a statistical computing software such as MINITAB or SPSS.

TEACHING METHOD: Lectures.

EVALUATION: homeworks and presentation of a related topic.

READINGS:

Mastering Data Mining : Art and Science of Customer Relationship Management
Michael J. A. Berry, Gordon Linoff
John Wiley, Paperback,
Published December 1999, 494 pages, ISBN 0471331236

The Elements of Statistical Learning:
Data Mining, Inference, and Prediction (Springer Series in Statistics)
Trevor Hastie, Robert Tibshirani, Jerome Friedman
Springer-Verlag, Hardcover,
Published May 2002, 533 pages, ISBN 0387952845

Graphical Models in Applied Multivariate Statistics
Joe Whittaker
ISBN: 0-471-91750-8 Hardcover 466 Pages, Wiley, April 1990

SCHEDULE: (tentative.)

WEEK	MATERIALS	REFERENCES
1	decision theory	BL99
2	logistic regression	BL99
3	neural networks	BL99
4	decision trees	BL99
5	performance measure	BL99
6	clustering	BL99
7	association rules	BL99
8	graphical models	W90
9	student presentations*	books / journals

*: Please talk to me about your topic by the end of the 7th week.