University of British Columbia, Department of Statistics
STAT 306 Finding Relationships in Data
2016-2017 Term 2

Description	Modeling a response (output) variable as a function of several explanatory (input) variables: multiple regression for a continuous response and logistic regression for a binary response. Finding low-dimensional structure: principal components analysis.
Instructor	Term 2: Professor Harry Joe
Class place/time	Lecture: Tues and Thurs, 9:30am -11:00am. Term 2: Earth Sciences Building 1012
Course web page	To be announced on the first day of class.
Course text	Course notes (from UBC Bookstore)
Prerequisite	One of MATH 152, MATH 221, MATH 223 and one of STAT 200, STAT 241, STAT 251, BIOL 300, COMM 291 and one of MATH 302, STAT 302.

STAT 306 COURSE OUTLINE

Part 1:

- Simple linear regression: least squares
- Multiple regression: regression in matrix notation, least squares estimation, inference for regression parameters, categorical predictors, transformations
- Residual analysis and model diagnostics
- Variable selection: stepwise methods, cross-validation

Part 2:

- Logistic regression for binary data and Poisson regression for count data
- Principal component analysis

Homework:

- WebWork for assignments and labs
- Team-based term project

Date of last revision: June 2016