

Math 33110: Applied Regression Analysis Spring 2016

Lectures: Odd Mondays 8:00–9:50 am, Wednesdays 3:10–5:00 pm, 307 Science Classroom Building

Instructor: Wei Lin (weilin@math.pku.edu.cn)

Office hours: Thursdays 10:00 am–12:00 noon, 2nd Floor, Xiaolou Building 39, Yandongyuan

Teaching Assistants:

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Description:

This is an undergraduate-level course for students majoring in statistics, probability, or any other field where applied statistics plays an essential role. Methodology and theory for linear regression will be introduced, illustrated by examples and applications. Extensions and advanced topics, such as categorical predictors, polynomial regression, analysis of variance, weighted least squares, mixed models, transformations, regression diagnostics, variable selection, nonlinear regression, and generalized linear models, will be covered if time permits. The course will include intensive writing and programming components.

Required Text:

1. S. Weisberg, *Applied Linear Regression* (4th ed.), Wiley, 2014

Supplementary Texts:

1. G. A. F. Seber and A. J. Lee, *Linear Regression Analysis* (2nd ed.), Wiley, 2003
2. A. Agresti, *Categorical Data Analysis* (3rd ed.), Wiley, 2013

Homework:

There will be homework assignments due almost every Wednesday in class. If you missed the class, contact the TAs to turn in your homework by the end of the day. No late homework will be accepted.

Exams and Projects:

There will be a midterm exam on April 13 in class and a final exam on June 22, 2:00–4:00 pm, both closed book. Each student will also need to complete a final project that includes programming problems and written reports.

Grading:

The course grade breaks down to 20% homework, 30% midterm exam, 40% final exam, and 10% final project.

Websites:

Lecture topics, homework assignments, and course materials will be posted at <http://www.math.pku.edu.cn/teachers/linw/33110s16.html> (public) or <http://course.pku.edu.cn> (login required). The required text has a website at <http://z.umn.edu/alr4ed/>, where you can download all the data files used in the book.