

STAT 542

Applied Linear Models

Fall 2015

Instructor: Brian Steele

Room: Math 314

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Time: Monday, Wednesday, Friday, 1:10-2:00 PM

Math 311

Prerequisites: STAT 452 or Math 442

Textbook: Linear Models with R, 2nd Ed. Julian Faraway. CRC Press 2015. A copy of the text will be on reserve in Mansfield Library.

Office Hours: Tuesday 1-2:30 PM, Thursday, 12:10-2 PM , and by appointment.

Web Page: [http://web.math.umt.edu/steele/STAT 542](http://web.math.umt.edu/steele/STAT_542)

Grading: Homework: 60% (~6 assignments), Midterm: 20%, Final 20%. The final is scheduled for Monday, December 14th from 1PM to 3PM.

Homework will be textbook problems primarily consisting of short computational exercises and longer data analyses. Math graduate students will be asked to do mathematically-oriented problems, though others are encouraged to do them for extra-credit. Working with others on homework is encouraged, so long as you hand in your own work, and do not simply copy someone else's work.

Course Material and Objectives: The course topic is regression analysis and is intended for students in disciplines both within and outside of mathematics who are seeking statistical tools for data analysis. Emphases are split between on methods for data exploration and inference. The statistical programming language R will be used extensively for statistical analysis and students will be expected to write R programs (scripts in the R lexicon) for data-based homework problems. Some, but not extensive, instruction on R programming will be provided during class hours. R is available in the Math department computer lab and can be downloaded for free from <http://www.r-project.org/>.

Additional Course Information: CRN:75089. Deadline to Add/Drop is November 1. The last day to petition for a drop or change of grading options is December 11.

Misconduct All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. All students need to be familiar with the Student Conduct Code. Available for review online at <http://www.umt.edu/SA/VPSA/index.cfm/page/1321>.

Special Accommodations Students with disabilities are welcome to discuss accommodations with me.

Table 1: **Summary of Topics**

Week	Chapter
1	1 and 2
2	2
3	3
4	4 and 5
5	6
6	7
7	8
8	9
9	11
10	12 and 13
11	14
13	15
14	16