Spring 2-1-2018

STAT 452.01: Statistical Methods II

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Course Information
- **Instructor**: David Patterson, Math 208, 243-6748, david.patterson@umontana.edu
- **Office Hours**: See Moodle page.
- **Prerequisites:** Stat 451 or equivalent.
- **Textbook:** Stats: Data & Models, 4th ed., by DeVeaux, Velleman, & Bock. This will be supplemented by notes and other handouts. An optional book is The Statistical Sleuth by Ramsey and Schafer, any edition.
- **On-line homework**: I will post optional assignments on MyStatLab for the first part of the course. These will count as 1/5 of your homework grade if they help you. Course ID is Patterson?????. Instructions for accessing MyStatLab are on Moodle.
- **Software:** Assignments will require the use of R Studio and R Markdown.
- **Computer lab:** Stat 458 is an optional 1-credit course. The instructor is Quy Cao.

Catalog description
Continuation of STAT 451. Multiple regression, experimental design, analysis of variance, other statistical models.

Learning Outcomes :
1. To understand multiple linear regression, model building, and associated normal-based inference procedures.
2. To understand analysis of variance and to carry out analyses of variance for a variety of experimental designs, including completely randomized and randomized block designs.
3. To understand the assumptions behind standard statistical inference procedures for linear regression and analysis of variance.
4. To gain exposure to a wide variety of applied problems, and understand how statistical methods were used to answer specific scientific questions.
5. To carry out analyses of real data sets and communicate the results in written form.

Topics
We will cover chapters 23-30 in the textbook, and then proceed to additional material on multiple regression, design of experiments and generalized linear models.

Important dates:
- **Tuesday, January 31**: last day to add courses by Cyberbear.
- **Fri, February 9**: last day to drop classes or change grading option by Cyberbear.
- **Monday February 19:** Presidents' Day holiday.
- **March 26-30:** Spring break.
- **Monday, April 2:** last day to drop course or change grading option with paper form signed by advisor and instructor. Changes after this date require Dean's signature.
- **Friday, May 4**: last day of classes.

Grading (+/- grading will be used):

- **Homework**: 40%
- **Midterm Exams 1,2**: 20% each. Tentative dates are **Wed, Feb 28** and **Wed, Apr 11** in late afternoon/early evening. Makeups are given at instructor's discretion and only in cases of emergency or other important circumstances. If you cannot make it to an exam, you must let me know BEFORE the exam is given.
- **Final Exam** 20%. **Wednesday, May 9, 10:10 – 12:10.** The final will not be given early.

Incompletes

Incompletes are given at the discretion of the instructor and are only considered in cases where the student has been in attendance and doing passing work up to three weeks before the end of the semester, and for reasons beyond the student's control and which are acceptable to the instructor, the student has been unable to complete the requirements of the course on time. Negligence and indifference are not acceptable reasons.

Students with disabilities are welcome to discuss accommodations with me.

Academic Honesty

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary action by the University. All students need to be familiar with the Student Conduct Code. You can find it in the A-Z index on the UM home page..