MATH 289: Applied Regression Analysis, Fall 2017
Tuesday, Thursday 09:00-10:15 JPSN, G28

Instructor:	**Taylor Arnold**
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Office hours:	Tuesday, Thursday 10:30-12:00 or by appointment

Computing:

The focus of this course will be on applied statistics and data analysis over symbolic mathematics. To facilitate this, nearly every class assignment and exam will involve some form of computing. No prior programming experience is assumed or required.

We will use the **R** programming environment throughout the semester. It is freely available for all major operating systems and is pre-installed on many campus computers. You can download it and all supporting files for your own machine via these links:

`https://cran.r-project.org/`
`https://www.rstudio.com/`

I strongly recommend using your own machine for the assignments in this course. The lab computers will be available as well, though I find them to be quite slow. We will devote a substantial amount of the time learning how to work within the R programming framework.

References:

There is no required textbook for the course, but we will pull from a number of sources for material. The following texts are freely available online and highly recommended:

- Garrett Grolemund, Hadley Wickham. *R for Data Science*. O'Reilly Media, First edition, 2016. Online: `http://r4ds.had.co.nz/`.
- David M Diez, Christopher D Barr, Mine Çetinkaya-Rundel. *OpenIntro Statistics*. OpenIntro, Inc., Third Edition, 2015. Online: `https://www.openintro.org/stat/`.

Other free references for particular sections will be mentioned throughout the course.

Course Website:

All of the materials and assignments for the course will be posted on the class website:

`https://statsmaths.github.io/stat289`

At the end of the semester, this version of the course will be archived and available for your reference.

GitHub:

All of your work for this semester will be submitted through GitHub, the same platform that hosts our website. You'll need to set up a free account, which we will cover during the week of class.

Grades:

All grades in this course will be given on as a letter grade. While occasionally possible to receive pluses / minuses or fractional points, these will usually be given a whole letter grade.

I expect most students to get full marks (A) for labs and participation. Students found to be delinquent in either will first receive a written warning, followed by an initial 50% reduction (C) in the respective grade, and finally a 100% reduction (F).

Your final grade will be determined by converting all grades into a numeric scale as follows (pluses increase the number by 0.33 and minuses decrease the number by 0.33):

Numeric Score	Final Grade
4	A
3	B
2	C
1	D
0	F

I want to make the grading extremely transparent, so your final grade will simply consist of taking your weighted numerical average using the following weights:

- Labs, 25%
- Projects, 75% (25% each)

And reading off of the following chart (grades are rounded to the second digit):

Numeric Score	Final Grade
3.84 - 4.00	A
3.50 - 3.83	A-
3.17 - 3.49	B+
2.84 - 3.16	B
2.50 - 2.83	B-
2.17 - 2.49	C+
1.84 - 2.16	C
1.50 - 1.83	C-
0.00 - 1.49	F

Labs:

Most class meetings, particularly in the first half of the semester, will have an interactive lab associated with it. These consist of a set of questions that must be answered with either small snippets of code or short descriptive answers. Your solutions must be uploaded to your GitHub page.

Projects:

You will complete three data-oriented projects throughout the semester. These are short written documents that mix code, graphics, and prose to provide a comprehensive analysis of a data set. These must also be uploaded to GitHub.

Exams:

This course has no exams, final or otherwise.