MATH/STAT 289: Introduction to Data Science, Fall 2020

Instructor:	**Taylor Arnold**
E-mail:	`tarnold2@richmond.edu`
Website:	`https://statsmaths.github.io/stat289-f20`

Description:

Data science is an interdisciplinary field concerned with drawing knowledge from data and communicating those results to various audiences. Data science needs to be learned *by doing* data science. At the end of the semester, students will have acquired a toolkit of methods, and the knowledge of how to use them in practice, to address important social, cultural, and scientific questions with data-driven techniques.

Prerequisites:

The pace of this course assumes that students have had some prior exposure to a programming language and have taken a course in which statistical techniques were applied to the analysis of real-world datasets. Prior knowledge of R is useful but not required. As an alternative starting point for anyone without this background, we suggest students consider taking MATH209. Several sections of this course are being offered this semester.

Website and Software:

All of the materials and assignments for the course will be posted online on the course's website. These notes will continue to be available for your reference after the semester has finished. This course will make use on an online platform called RStudio Cloud. Students will be asked to sign-up for an account (internet access and a modern browser are required; no other software is needed).

Method of Instruction, Fall 2020:

Due to social distancing guidelines and the need to maximize flexibility, Data Science is being taught using online instruction. Classes will be presented remotely over Zoom. Information about office hours and other logistics will be presented at the first course meeting. In the event of changes to policies regarding residence and instruction, the course structure and grading scheme of the course should remain the same; all reasonable requests for deadline extensions and accommodations will be honored.

Grading:

There will be several class projects assigned throughout the semester. Each project will be distributed with a rubric and assigned a total number of overall points. Projects will be submitted through Box. At the end of the semester, the overall project grade will be determined by adding together the total number or earned points and dividing by the total number of available points. Final grades will be determined according the following:

- **Projects:** 70%
- **Participation:** 30%

Participation grades will be given according to the rubric posted on the website. There are no exams for this course.

Alternative Grading:

Some students may be unable to travel to campus due to the ongoing COVID-19 pandemic. It is the University's policy that all enrolled students should be prepared to attend courses remotely from wherever they are; in reality this may be difficult due to shifted time-zones and situations at home. As an alternative, students will be given the option to follow the course material asychronously and receive a final grade based entirely on their project scores. In the interest of equity, this option is open to all students, but must be chosen during the first week of the semester.

Additional Policies:

A more detailed introduction to the class and its contents are given in the notes provided on the course website. If you have any questions regarding the course policies that are not covere, or that you find unclear, please ask for clarification at any point in the semester.