Spring 2020: CIS 410/510 Data Science Studio
MW 10-11:20
Professor Steve Fickas
fickas@cs.uoregon.edu

This is a new course that is based on a premise: no matter what discipline you are in, your research will eventually require you to work with data. Data Science is a field that can help you. The course's target audience is upper-division and graduate students who anticipate using data in their research but have no experience with the concepts and tools of Data Science. The course title includes "Studio" to denote it is very much a hands-on course. Most of class time will be spent working on Data Science problems, interacting with fellow students and the professor. Students will be given data sets from a variety of fields and will learn how to explore them to address interesting questions and gain new insights.

The overall goal of the course is to provide a Data Science foundation. The course is designed to help students learn the basics and later build on those foundations in future courses at the UofO or online. To provide this foundation, the course will give you an opportunity to do the following:

1. Learn how to manage and share big data sets with others.
2. Become familiar with Python and jupyter notebooks to practice Data Science workflow. Jupyter notebooks and Python support online work spaces where you'll learn how to wrangle data, ask exploratory questions of data, visualize data, and test our assumptions about the data we're using.
3. Explore the topic of *machine learning*, an important and commonly used Data Science tool.
4. Develop an awareness of the controversies surrounding the uses and misuses of data.
5. Do a final project using your own data.

While the course will focus on the concept of *exploratory programming*, there is **no** programming prerequisite; the course makes no assumptions about prior programming experience[1]. Introductory material will be part of the course. Given the studio nature of the course, you will be using a laptop in class. You can bring your own or borrow one during class.

If you believe the course is a good fit with your interests, please contact the Professor by email: fickas@cs.uoregon.edu. He will clear you for registration.

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[1] Because the course assumes no programming experience, it is not a good fit for students that are majoring or minoring in CIS or have experience with the workflow supported by jupyter notebooks. If students are familiar with R/RStudio, it is likely they have covered the majority of course topics and the course may be a poor fit for them. Feel free to contact the Professor if unsure.