Course: HMI 7530
Instructor: Dr. Jennifer Priestley
Office: T2400
Office Hours: By appt
Meeting Time: Thursday 5 – 7:45
Email: jpriestl@kennesaw.edu
Course Website: http://facultyweb.kennesaw.edu/jpriestl/courses/stat-4030-8030.php

Course Text: Notes will be provided to the class via the website.

Course Description: Programming in R is an undergraduate level course in statistical computing using the R programming environment for data management, basic statistical analysis, and simulation. The overall objective of this course is to prepare students to use the R package in both practical statistical/quantitative applications. The course will cover basic data management, basic statistical testing and basic social media analysis.
Learning Outcomes:
Students will receive instruction in the basic methods of statistical analysis as listed in the course description. By the end of the course, students will be able to:

1. Data Management
   a. Install and update R and associated add-on packages.
   b. Perform basic object-oriented computing using vectors, factors, matrices, data frames and arrays.
   c. Import and export data into and from R using various data file protocols.
   d. Perform basic data management tasks including recoding variables, converting data types, merging data, etc.
   e. Perform intermediate computing tasks such as conditional processing statements, and loops.

2. Statistical Analysis
   a. Execute simple univariate and bivariate tests, including ttests, ANOVA, correlation, chi square.
   b. Execute simple multivariate regression models.
   c. Create simple data visualizations including Histograms, Boxplots, Barcharts, Pie Charts.

3. Social Media Analysis
   a. Access and scrape Twitter to find trends by topic and by location.
   b. Execute basic Text Analysis.

Grading in this course will consist of four HW sets, one midterm and a final project:

Grading:
HW (3 problem sets, 20% each) 60%
Final Project 40%

Note that the final project will require students to obtain a dataset related to their interests. In this project, students will demonstrate their mastery of a subset of the skills taught over the course of the semester. Note that I will not provide datasets for the final project, but all datasets must be reviewed and approved BEFORE the midterm.

POLICIES:
You are expected to attend every class on time. You are responsible for any material you miss due to being late, being absent, or leaving class early.

Please refrain from off-task behavior, such as emailing, texting, and surfing the web. This behavior causes many problems: (a) you will miss out on important information, which will negatively affect your grade; (b) the students sitting around you will be distracted by your behavior (everyone behind you can see your computer screen...); and (c) I get distracted by people doing other things, which isn’t fair to the other students who are here to learn.

Assignments should be turned in at the beginning of class. Please note that I do not accept late assignments. More than 5 minutes after the start of class is late. Let me know if this is not clear.

PLEASE come talk to me if you are having trouble in any aspect of the class. I have an open door policy – you can drop by any time and we can chat (as long as I’m not in a meeting or about to go to one!). In addition, feel free to email as well; I will usually respond within 24 hours unless I’m out of town with limited internet access.

**Academic Integrity:** Every KSU student is responsible for upholding the provisions of the Student Code of Conduct, as published in the Undergraduate and Graduate Catalogs. Section II of the Student Code of Conduct addresses the University’s policy on academic honesty, including provisions regarding plagiarism and cheating, unauthorized access to University materials, misrepresentation/falsification of University records or academic work, malicious removal, retention, or destruction of library materials, malicious/intentional misuse of computer facilities and/or services, and misuse of student identification cards. Incidents of alleged academic misconduct will be handled through the established procedures of the University Judiciary Program, which includes either an “informal” resolution by a faculty member, resulting in a grade adjustment, or a formal hearing procedure, which may subject a student to the Code of Conduct’s minimal one semester suspension requirement.

**Unauthorized Collaboration:** Submission for academic credit of a work product, or a part thereof, represented as its being one's own effort, which has been developed in substantial collaboration with or without assistance from another person or source, is a violation of academic
honesty. It is also a violation of academic honesty knowingly to provide such assistance. Collaborative work specifically authorized by a faculty member is allowed. Although I do not expect cheating, plagiarism, or unauthorized collaboration in my classroom, the penalty is an F for the course...AND I will do everything within my power to have you dismissed from the University and the University System of Georgia. And, I will tell your mother.