INF383D: Mathematical Foundations of Information Studies (Spring 2010)
Syllabus (as of 1/11/2010)

Meetings: Wednesdays 1:30-4:30pm, UTA 1.212
Course website: http://www.ischool.utexas.edu/~ml/r-sp10/

Instructor: Matt Lease   Email: ml at ischool dot utexas dot edu
Phone: (512) 471-9350   Office: UTA 5.450
Office Hours: By appointment

Overview: This course will provide hands-on learning of basic statistics and probability using the interactive R programming language. Enrollment will be limited to 11 to allow close interaction between students and the instructor and foster a supportive environment for those with limited computing background. Besides grounding theory in a concrete, applied setting, knowledge of "R" will provide a practical skill students can subsequently apply for analyzing quantitative information arising within their particular area of information studies.

Objectives:

- Develop a vocabulary and expertise for understanding and applying introductory statistics and probability
- Develop specific skills and experience with working with R: using and interacting with the development environment, and reading, designing, implementing, running, evaluating, and debugging R programs.
- Develop experience applying computational analysis based on statistics and or probability to one or more problems in Information Science
- Develop general computing and programming skills which can be reapplied to other software tools and programming languages beyond R

Prerequisites: There are no official prerequisites for this course. However, students should are expected to be comfortable with general purpose computing and working with finite math such as advanced algebra and trigonometry.


Coursework and Grading: course grades will be based upon

- Homework and (small) quizzes 50%
- Two midterms: 15% each
- Final project: 20%

Late homework will be accepted only under exceptional circumstances (e.g., medical or family emergency).
Homework and quizzes: We will follow the course textbook fairly closely during the semester. Each week, readings from the book will be assigned to provide background for the next week’s class and/or reinforce topics of the previous class. Along with readings, homework problems will be assigned each week, which will also predominantly come from the book. Some problems from the textbook have answers provided so students can self-check their work as well. We may also have some small quizzes (e.g., consisting of a problem or two) in class just to verify everyone is staying on top of material and to identify early any particular topics one may need to brush up on.

Collaboration policy: students are encouraged to discuss readings and homework, but homework is intended to be completed individually in order to provide a low-stress opportunity to challenge oneself and prepare for in-class midterms and the final project. A good rule of thumb is to take nothing in writing away from discussion so as to prove to oneself that problems can be individually solved from start to finish.

Final project. The final project is intended to let you apply and refine your knowledge of R and statistics to a problem of interest to you. As such, it will be largely self-selected, subject to approval of your proposal by the instructor. You will write a short proposal to make sure your ideas are clear enough to be put in writing, and you will share it with the class informally. At the end, you will submit a written report, a working R program (with any requisite data needed to run it), and make a short presentation to the class on the results. Grading will focus primarily on the final written report and program.

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The University of Texas Honor Code

The core values of the University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity, and responsibility. Each member of the University is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and community.

Electronic mail Notification Policy

All students should become familiar with the University's official e-mail student notification policy. It is the student's responsibility to keep the University informed as to changes in his or her e-mail address. Students are expected to check e-mail on a frequent and regular basis in order to stay current with University-related communications, recognizing that certain communications may be time-critical. It is recommended that e-mail be checked daily, but at a minimum, twice per week. The complete text of the policy is available at http://www.utexas.edu/its/policies/emailnotify.html.

In this course e-mail will be used as a means of communication with students. You will be responsible for checking your e-mail regularly for class work and announcements. Note: if you are an employee of the University, your e-mail address in Blackboard is your employee address.
Disability accommodation

Any student with a documented disability requiring academic accommodations should contact the Services for Students with Disabilities area of the Office of the Dean of Students at 471-6259 (voice) or 471-4641 (TTY for users who are deaf or hard of hearing) as soon as possible to request an official letter outlining authorized accommodations.