Course prerequisite

A previous course in statistics, or AP credit in Statistics (score 5)

Textbook

(Placed on Reserve in the Brown Library)

Course web site:
https://collab.itc.virginia.edu/portal

Syllabus

- Introduction to R
- Univariate data analysis
  - categorical data, numeric data
  - barplots, boxplots, histograms
  - normality testing
- Bivariate data analysis
  - correlations and linear regressions
- Multivariate data analysis
- Probability distributions
- Simulations
- Confidence intervals and hypothesis testing
Course Objectives (ABET)

- **Data analysis:** Each data set has a story to tell and the goal is to find that story by running R programs that implement basic statistical techniques.
- **Simulations:** This is an important tool for all engineering disciplines. Most new designs are tested with simulations, often even before building a first prototype. Having the ability to interpret data generated with simulations is critical to successful engineering design.

Enhance teamwork skills (EQ)

ABET: Accreditation Board for Engineering and Technology

Class and office hours

1. Meet twice weekly for class lectures (T/R 9:30-10:45)
2. Office hours
   - Wed 3-4, Rice 407
3. TA Computing Help Session
   - Thurs: 5-5:50, New Cabell Hall 368

Office location and phone numbers
1. Office location: Rice Hall 407
2. Phone number: 434-982-2208
3. E-Mail: mv5g@virginia.edu

See FAQ Forum on https://collab.itc.virginia.edu/portal

Resources for extra help

- My goal: Enable learning of this course material for all students
- Please take advantage of TA Computing Session and my office hours; we can set up additional time if needed
- Ask for help
- Piazza discussion

Grading

- Homework assignments: 24%
- Project: 8%
- Course evaluation submission: 1%
- Class participation: 1%
- Examinations: 3
  - 22% each
Teamwork

- Homework assignments and Project (teams of 4)
  - “In survey after survey of employers, teamwork skills are at the top of the list of attributes they would like to see more of in their new hires” Oakley et al., 2004
  - Free riders discussion
  - Peer-rating forms (self-rating included)
    - Preparedness level, and contribution to the discussion
    - One peer-rating form submission before each exam
    - Individual assignment scores will depend on these ratings
  - Opportunity to change teams after each exam

Policy with respect to Honor Pledge

I trust every student in this course to fully comply with all of the provisions of the UVA Honor system. In addition to pledging that you have neither received nor given aid on all your homeworks, projects, and examinations, your signature also affirms that you have not searched on the Web specifically for complete answers to homework, project or exam problems (searches for general R programming help on the Web are permitted). All alleged honor violations brought to my attention will be forwarded to the Honor Committee. If, in my judgment, it is beyond a reasonable doubt that a student has committed an honor violation, that student could (i) receive a zero for that exam, quiz or assignment, (ii) be required to withdraw from the course, (iii) receive a penalty of a lower grade, or (iv) receive an F grade for the course, depending on the severity of the violation, irrespective of any subsequent action taken by the Honor Committee.

Extra credit

- For fairness, to accommodate one student’s request (which is usually made at the end of the semester), all students should be offered the same opportunity.
- Other students may then feel a certain pressure to undertake the extra-credit assignment at the end of the semester when students are typically pressured for time.
- Therefore, extra-credit assignments are not supported.

Late assignment policy

- Homeworks due start-of-class:
  - Submit via Collab
  - 20% penalty: one day later
- Extenuating circumstances: let me know