STATISTICS 651 (Section 602: TR - 2:20-3:35, Blocker 113)

Fall Semester, 2015

INSTRUCTOR: Dr. Suhasini Subba Rao
OFFICE: BLOCKER 432
OFFICE HOURS: Monday and Wednesday 12-1pm (and by appointment)
email address: suhasini@stat.tamu.edu

Open access lab sessions (staffed by our graduate students):

- Monday-Thursday 10-12am.
- Monday-Thursday 5-7pm.
- Sunday 3-5pm.

These takes place in BLOCKER Room 162 (close to the Daily Grind). Use this opportunity to get an alternative perspective on the material I cover.

T.A.: Yunfeng Zhang yfzhang@stat.tamu.edu, Office BLOCKER 420 Office hours: Mondays at 14:45-16:45.

WWW: www.stat.tamu.edu/~suhasini/teaching.html

TEXTBOOKS: An Introduction to Statistical Methods and Data Analysis by R. Lyman Ott and Michael Longnecker. There are two editions (5 and 6).

Prerequisite: MATH 102, or equivalent.

AIMS: For graduate students in other disciplines. A non-calculus exposition of the concepts, methods and usage of statistical data.

I will be doing practical demonstrations in class. To learn this better, if you have a laptop you can you bring it for the practical demos. If you don’t can you find someone to share with. I would greatly appreciate if you don’t surf the web or look at your phone as I teach (if you need to, you are welcome to leave the class room).

Computer stuff

- Grades can be accessed through eCampus.

- Many of the practical demonstrations in class will be done using JMP. You are strongly encouraged to use JMP for your final project. You are entitled to get JMP at no additional cost.

  Go to http://www.stat.tamu.edu/jmpinstall/jmp12/ with Username = jmpuser and Password = stat@Jmp. From here you can download the zipped directory. Extract the files, then find Launch, click on this and press run. This should install JMP on your system. If you have problems, please ask Kim Ritchie (kritch@stat.tamu.edu) the Statistics department software administrator.
• For some of the practical demos I will use Statcrunch. Some of you may benefit from Statcrunch. Unfortunately, it is not free and costs 13.50$ (I bought a 12 month licence, which was 22$). It can be obtained from http://www.statcrunch.com/. You do not have to get it, but it may be useful to you.

GRADING POLICY:

• There will be one midterm at the end of October (the date will be announced in class), one hand in homework, an assignment will be set towards the end of semester and there will be a final exam at the end of semester:
  - Homework: One large homework set in the middle of November (10%).
  - Midterm: At the end of October (date tba) (25%).
  - Assignment: Set at end of November (25%).
  - Final Exam: Wednesday 16th December 2015 from 13:00-15:00 (in Blocker 113) (40%).

• The late homework will NOT be accepted under any circumstances (this includes illness). You may discuss the HW with other students but you should write up your solutions independently of other students.

• There will be two exams (the midterm and the final exam). One of the aims of an examination, is to ensure that you learn the concepts introduced in class. Therefore cheats, really cheat themselves. Do not even contemplate cheating! If you have any problems in the course please see me.

• In the last week of November, I will set an assignment. You will have two weeks to complete it. This assignment is worth 25% of your final grade.

• If you are unable to take a test when scheduled because of illness, accident or circumstances beyond your control, notify me by telephone before the exam. A make-up test will be scheduled as soon as possible.

• A grade of incomplete (I) will be given only in the event that circumstances beyond your control were the cause of your missing the exam. This grade will not be given because you felt that you have too much other work or study or because you feel that you will not earn an acceptable grade in the course.

• No electronic devices should be used during the class.

• STATEMENT ON DISABILITIES:
  The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation for their disabilities. If you believe you have a disability requiring an accommodation, please contact the Office of Support Services for Students with Disabilities in Room 126 of the Koldus Student Services Building. The phone number is 845-1637.
• **PLAGARISM STATEMENT:**

The handouts used in this course are copyrighted. By "handouts," I mean all materials generated for this class, which include but are not limited to syllabi, quizzes, exams, lab problems, in-class materials, review sheets, and additional problem sets. Because these materials are copyrighted, you do not have the right to copy the handouts, unless I expressly grant permission. As commonly defined, plagiarism consists of passing off as one’s own ideas, words, writing, etc., which belong to another. In accordance with this definition, you are committing plagiarism if you copy the work of another person and turn it in as your own, even if you should have the permission of that person. Plagiarism is one of the worst academic sins, for the plagiarist destroys the trust among colleagues without which research cannot be safely communicated. If you have any questions regarding plagiarism, please consult the latest issue of the Texas A&M University Student Rules, under the section "Scholastic Dishonesty."

• **ACADEMIC INTEGRITY STATEMENT:**

“An Aggie does not lie, cheat, or steal or tolerate those who do.”

See also the Honor Council Rules and Procedures on the web.

http://www.tamu.edu/aggiehonor

Actually all the above is rather tedious to read. It can be summarised as follows, if you have any sense of decency, you would not bother to cheat. It’s just not worth it.

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1. What is Statistics?
2. Graphical Techniques for looking at data
3. Numerical measures for data
1. Basic concepts for discrete and continuous random variables
2. Sampling distributions
3. Central limit theorem
1. Basic concepts of interval estimation
2. Basic concepts of hypothesis testing
3. Inference about a single mean
4. Inference about two means
1. Chi-square goodness of fit test
2. Inference about single proportions
3. $r \times c$ contingency tables
1. Basic notions behind ANOVA
2. F-test for equality of means
3. Model for one-way ANOVA
4. Nonparametric alternative
5. Introduction to multiple comparisons
1. Basic concepts of linear regression model
2. Correlation
3. Inference about regression parameters
4. Inference about mean of $y$
5. Prediction intervals at a given $x$