
ISyE 2028 – Basic Statistical Methods - Fall 2015

Tentative Syllabus

This course is intended for a course in Engineering Statistics. Covers point and interval estimation of systems parameters, statistical decision making about differences in system parameters, analysis and modeling of relationships between variables.

Course will cover the following topics

- Review of probability theory and random variables (2027)
- Descriptive statistics
- Statistical estimation and sampling distributions
- Statistical confidence intervals of a single population
- Test of hypothesis of a single population
- Comparing two populations
- The analysis of variance
- Simple linear regression and multiple linear regression

Instructor: Prof. Yao Xie, Groseclose 339, email: yao.xie@isye.gatech.edu

Class Time and Location: TR, 3:05 pm - 4:25 pm, Instr Center 209. From Aug. 18 to Dec. 3.

Instructor Office Hour: Thursday 2-3pm, Groseclose 339. Please come prepared.

Class Website: T-square

Class material available on our website includes

- Announcements
- Course syllabus
- Homework assignments and solutions
- Slides and other lecture material
- Practical exams
- Your course grades on exams and homework
- Any other important announcements

Make sure the scores in T-square are consistent with what you got. We will not make any change in grading for works older than 2 weeks.

Class Mailing List: Registered students are automatically subscribed to the class mailing list.

Class TA: Chuanping Yu, Email: cyu301@gatech.edu

TA Office Hour: Monday, 1:30-2:30pm, Location TBD.

Textbook: Applied Statistics and Probability for Engineers, 5th Edition, Douglas C. Montgomery and George C. Runger.

Recommended: An Introduction to Statistical Learning: with Applications in R, G. James, D. Witten and T. Hastie and R. Tibshirani, 1st ed 2013.

Prerequisites: ISyE 2027.

Honor Code: For any question involving Academic Honor Code issues, please consult me, the teaching assistant, or www.honor.gatech.edu

Software: R statistical software package will be used for the example discussed in class, home assignments and examination. Please install the R software on your laptop from <http://cran.r-project.org> You will use this software for homework assignments.

Grading Policy: Quizzes and class participation 8% (there will be a few unscheduled quizzes), Submitting Teaching Evaluation – 2%, Homework – 10%, Midterm 1 – 25%, Midterm 2 – 25%, Final – 30%

Homework: There are about 8 assignments in total. The homework should be handed in **before the end of the class on the due date**. The lowest homework-score will be dropped. Late Homework will NOT be accepted. **No make-ups**. Assignments will include both exercises and computer problems; the computer problems will ask you to carry out statistical analysis using computer statistical software. Keep in mind that you should not hand in raw computer output. Conclusions and interpretation of results are more important than good printouts. You are allowed to work together with other students on homework, as long as you write up and turn in your own solutions. You are also allowed (and encouraged) to ask me questions, although you should try to think about the problems before asking. Request for re-grading the Homework/Exams/Quizzes should be made within a week of returning Homework/Exams/Quizzes.

Midterms: There will be two in-class midterm exams during the class. The midterms are close notes (including assignment solutions) and close textbook but two and respectively, four two-sided pages with formulas will be allowed. Do not write homework solutions on the formula sheet. You are not allowed to use your cell phone. The notes have to be self-made. Do not copy from others. You may print out and bring the normal table, t table, and F table. **No make-ups**.

Midterm 1: Oct. 1, Thursday

Midterm 2: Nov 10, Tuesday

Final exam: The final is a 3-hour exam reviewing the material (lectures and assignments) provided in this course throughout the full semester. The exam is close notes (including assignment solutions) and close textbook but four (two-sided) pages with formulas will be allowed. Do not write homework solutions on the formula sheet. The notes have to be self-made. Do not copy from others. Please print out and bring the normal table, t table, and F table. **No make-ups. You should not take this class if you know you have an exam conflict.**

Final Date: Dec. 10, 2015, Thursday, 11:30am–2:20pm.

Bonus project presentation dates: Tuesday Dec. 1 and Thursday Dec. 3 (last day of class).