



STA 3032, Spring 2018

Engineering Statistics

Section 7370 MWF 5th period 11:45-12:35 pm LIT 109

INSTRUCTOR: SUMAN BHATTACHARYA (sumankbhattachar@ufl.edu)

TEACHING ASSISTANTS:

1. PEILIANG BAI (baipl92@ufl.edu)
2. ZEREN XING (zeren.xing@ufl.edu)

OFFICE HOURS:

Name	Office	Time
SUMAN BHATTACHARYA (Instructor)	FLO 105	M W 12:50 pm - 1:40 pm
PEILIANG BAI (TA)	FLO 105	R 10:40 am-12:40 pm
ZEREN XING (TA)	FLO 116D	T 12:45am-1:45pm

You must show up within the first 30 minutes of an office hour

COURSE WEBSITE: e-learning

COURSE NOTES: e-learning. Notes contain material not in the textbook.

The instructor reserves the right to update any parts of this syllabus as necessary. Students will promptly be notified of any changes.

REQUIRED TEXT: Probability and Statistics for Engineers and Scientists; 9th Edition; ISBN-13: 978-0-13-411585-6; Walpole, Myers, Myers and Ye.

Students: Please login at the following website and Opt-In to receive your required MyStatLab access code, which will be used to register within Canvas: <https://www.bsd.ufl.edu/G1CO/IPay1f/start.aspx?TASK=INCLUDED> Codes can also be purchased at the bookstore, but at a higher cost. Any code obtained outside of UF All Access will not work for the course. There will be discounted loose-leaf texts available in the bookstore, but only the access code is required. Step-by-step instructions will be posted in Canvas for registering the access code.

COURSE DESCRIPTION: A survey of the basic concepts in probability and statistics with engineering applications. Topics include probability, discrete and continuous random variables, confidence interval estimation, hypothesis testing, correlation, regression, and analysis of variance.

PREREQUISITE(S): MAC 2311 (or equivalent). The use of integrals will be used greatly throughout the class.

CREDIT HOURS: 3

SOFTWARE: You might need a computer for some of the homework assignments and practice. There will **not be any in-class lesson on how to use software**, but questions are welcomed regarding this **only in office hours**. The main software used in class will be R.

PURPOSE OF THE COURSE: To comprehend **basic concepts of probability and statistics**, and to make meaningful inferences on relevant data sets.

COURSE GOALS and OBJECTIVES: At the completion of this course, students will be able to:

1. Produce and interpret appropriate graphs and descriptive statistics for one and two variables.
2. Know and apply the basic probability rules, the concepts of expected value and variance for discrete and continuous variables.
3. Know how to find the probability distribution of some statistics based on a "random" sample.
4. Understand point estimation, confidence interval estimation and test of hypotheses.
5. Carry out and interpret one-sample and two-sample analyses for means and proportions.
6. Carry out and interpret statistical modeling using multiple regression and analysis of variance.
7. Access, manipulate and analyze data using statistical software.

GRADES:

- There will be **three in-class exams** (25% each) and approximately **seven quizzes**, counting for 25% in total.
- The usual 10 point scale (90% for an A, 87% for an A-, 83% for a B+, 80% for a B,...) will be used for grading. **All grades are final and non-negotiable.**

EXAMS:

- **Three exams** (non-cumulative, except the last one) are **tentatively** scheduled:
 - Exam 1: Friday, February 16 (8:20 - 10:10 p.m.)**
 - Exam 2: Friday, March 23 (8:20 - 10:10 p.m.)**
 - Exam 3: Wednesday, May 2 (10 am - 12 pm) (cumulative)**
- All exams will be **closed notes**. Though you are permitted to bring one 8.5 by 11 inches sheet of paper **consists only of formulas written on both sides** to each exam. **Copying any solution to the homework problems into the formula sheet will be considered as an act of plagiarism.**
- **Only one make-up exam** will be offered and you must either let the instructor know well before the scheduled day of the exam which you need to be excused from (for a non-emergency reason), or produce a proof of emergency (or medical problem) as soon after the missed exam as possible. **The make-up exam will take place after the third exam, and it will be cumulative.**

HOMEWORK EXERCISES and QUIZZES:

- There will be approximately **seven in-class quizzes**, typically scheduled on **every other Friday**, based on homework exercises assigned about a week before. Each will take place **during the final 10 to 15 minutes of class time**. **No books, notes or other references may be used during a quiz**. All quizzes have **equal weight** for grading. **No make-up quizzes will be offered**.
- You are encouraged to discuss homework problems with other students; however, **you must answer on your own during the quizzes**. Solutions to the homework exercises will be posted after the quizzes.
- The instructor and Teaching Assistants make every effort to ensure that grades assigned are scrupulously fair and reflect the quality of the work concerned. Due to this process of consultation and the use of uniform grading criteria, the TAs have complete authority in all actions that they undertake regarding the quizzes, and the instructor is unlikely to rescind any of their decisions.

SUGGESTED ADDITIONAL EXERCISES: In order to master the course material it is essential that you work as many exercises as possible. For this reason, along with the weekly homework exercises, additional suggested exercises from the textbook will also be posted on the course web-page on a regular basis. You are not expected to submit answers to these suggested exercises, but you should solve all of them to keep up with the pace of the course and thoroughly learn the material. This will also help you prepare for the exams.

LECTURE ATTENDANCE: **Classroom lecture attendance is recommended, yet not strictly enforced.** You are responsible for learning all material presented during lecture, and any topic covered is a potential exam topic (unless otherwise stated).

REASONABLE ACCOMMODATIONS: To request classroom accommodation, please be certain that you have made all necessary arrangements with the Dean of Students Office, and obtain from them documentation to submit to the instructor at the time of your request. A request must be made to the instructor at least one week in advance of the date for which the accommodation is requested. This course information and policies sheet can be made available in alternative formats to accommodate print-related disabilities. Contact the instructor for more information. Being on vacation or booking a trip prior to the completion of the semester is not a valid reason to request a makeup. Please reference the *Academic Calendar*.

ACADEMIC INTEGRITY: Please familiarize yourself with the Student Honor Code and Academic Honesty Guidelines outlined in your University of Florida Student Guide at <https://www.dso.ufl.edu/%20sccr/process/student-conduct-honor-code>