STA 3032, Summer A 2018

Engineering Statistics

Section 1054 MTWRF 2nd period 9:30-10:45 am TUR L011

INSTRUCTOR: SUMAN BHATTACHARYA (`sumankbhattachar@ufl.edu`)

TEACHING ASSISTANT: XUAN CAO (`caoxuan@ufl.edu`)

OFFICE HOURS:

Name	Office	Time
SUMAN BHATTACHARYA (Instructor)	FLO 105	MW 11-12 pm
XUAN CAO (TA)	116D	MTW 3-4 pm

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

COURSE WEBSITE: `e-learning`

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

COURSE COMMUNICATION: Via `e-learning`.

- Canvas discussion forum.

- Office hours.

- E-mail (from course website) for questions regarding course policies.

All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussion and chats. Please refer to expected class netiquette `http://teach.ufl.edu/wp-content/uploads/20`

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 note that this course will be participating in the UF All Access program. 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 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. Note that this class is not intended for teaching R, but will be using that into the statistical paradigm.

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 **two in-class exams** (40% each) and approximately **six online quizzes**, counting for 20% in total. The quiz with minimum grade will be dropped.

- 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:

- **Two in-class exams** (non-cumulative) are **tentatively** scheduled:

  Exam 1: Thursday, May 31
  Exam 2: Wednesday, June 20

- All exams will be **closed notes**. A formula sheet might be provided during the exams, if required. **You are not allowed to bring in your own formula sheet**.

- **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 be cumulative**.

HOMEWORK EXCERCISES and QUIZZES:

- There will be approximately **six online quizzes**, typically scheduled on **every Friday**, based on homework exercises assigned about a week before. All quizzes have **equal weight** for grading. **No makeup quizzes will be offered**.

- You are encouraged to discuss homework problems with other students; however, **you must answer on your own during the quizzes**.

- The instructor and Teaching Assistant 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 TA have complete authority in all actions that they undertake regarding the quizzes, and the instructor is unlikely to rescind any of their decisions.

READING ASSIGNMENTS: To help you better understand the class lecture, reading assignments will be given before each class; you are expected to read the sections assigned from the textbook in order to understand the class lecture well. Please follow the announcements.

LECTURE ATTENDANCE: Classroom lecture attendance is highly recommended. You should keep an account of things we actually discuss in class, as any topic covered in lectures 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`

EVALUATIONS: Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at `https://evaluations.ufl.edu`. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open.