

**Engineering Statistics**  
**STA 3032 (17168) Section 4437**

**Fall, 2022**

## Course Information

**Time:** MWF 9:30 AM – 10:25 AM (Period 3)

**Location:** WM0100 (<https://campusmap.ufl.edu/#/index/0100>)

**Instructor:** Somnath Bhadra

**Office:** 105 Griffin Floyd Hall

**E-mail:** [somnath.bhadra@ufl.edu](mailto:somnath.bhadra@ufl.edu)

**Office Hours:** Zoom/GFlo 105 MWF 10:45AM-11:45AM

**Zoom link:** <https://ufl.zoom.us/j/4819574508>

**Teaching Assistant:** Yuhua Zhang

**Office:** 234 Griffinn Floyd Hall

**E-mail:** [yuhua.zhang@ufl.edu](mailto:yuhua.zhang@ufl.edu)

**Office Hours:** W 2:00PM-5:00PM

**Zoom link:** <https://ufl.zoom.us/j/7346912034>

**Teaching Assistant:** Partha Sarkar

**Office:** 218 Griffin Floyd Hall

**E-mail:** [sarkarpartha@ufl.edu](mailto:sarkarpartha@ufl.edu)

**Office Hours:** T 8:30AM-11:30AM

**Zoom link:** <https://ufl.zoom.us/j/98027513124>

**Textbook:** Walpole, Myers, Myers, Ye, *Probability and Statistics for Engineers and Scientists* (9<sup>th</sup> ed). You can buy it here:

<https://www.pearson.com/en-us/subject-catalog/p/probability-statistics-for-engineers-science/P200000007119>

If you need help buying it, here's a guide:

<https://www.youtube.com/watch?v=wp2nnqjprkU>

## Objective

## Prerequisite

MAC 2311 or equivalent course.

## Course Contents

A study of basic concepts in probability and statistics with engineering applications. Topics include descriptive statistics, probability, random variable, discrete and continuous distributions, sampling, estimation, hypothesis testing, ANOVA, simple and multiple linear regression.

Lectures will cover (roughly) chapters 1-12 (excluding 7) of the book and a bit introductory part of 13 and 14.

Week	Topic
Week 1	Descriptive Statistics and basic probability
Week 2	Probability rules and discrete random variables
Week 3	Continuous random variable and joint continuous random variable
Week 4	Familiar discrete distributions
Week 5	Normal distribution and EXAM 1
Week 6	Sampling distribution, Confidence interval and hypothesis testing
Week 7	Inference for two independent proportions and confidence interval for one mean
Week 8	Hypothesis testing for one mean and inference for two independent means
Week 9	Inference for two dependent means and proportions and goodness-of-fit test
Week 10	Homogeneity and independent test and EXAM 2
Week 11	ANOVA of completely randomized design and multiple comparison of means
Week 12	ANOVA for randomized block design, two factor design with interaction and Simple Linear Regression
Week 13	SLR correlation, inference for parameter and output values and Multiple Regression
Week 14	Thanksgiving break
Week 15	MR ANOVA and correlation and inference for parameter and output values and model extensions
Week 16	Trying to complete things and review
Monday Dec 12	EXAM 3

Table 1: Tentative Schedule

## Tentative Course Schedule

A tentative weekly schedule of the course will be as in table (1)

## Course/Exam modality

The course will be offered in offline mode. Instructor will try to find a way to record the lectures in zoom during the class will upload them in the Canvas. Masks are recommended however not required for students while attending in-person classes.

Important: Exams are strictly in-person and will be proctored by the TAs.

## Course Website

Students should log in to Canvas to complete Home-works, check announcements, take part in discussions. Visit the link <https://elearning.ufl.edu> to access the Canvas.

## Grades

- There will be three in-class exams (25% each, counting for 75% in total) . There will be bi-weekly home-work assignments (counting for 25% in total).

A tentative grading scale will be as in table (2):

## Exams

- Three (**non-cumulative**) exams that will be given during the night time (7:20PM-8:20PM) are tentatively scheduled:

l1bel= Ex1m 0:, leftm1rg1n=10 **Friday, Sep 23** (Syllabus: Everything covered in Week 1-5)

l2bel= Ex2m 0:, leftm2rg2n=20 **Friday, Oct 28** (Syllabus: Everything covered in Week 6-10)

l3bel= Ex3m 0:, leftm3rg3n=30 **Monday, Dec 12** (Syllabus: Everything covered in Week 11-16)

- You will be provided with a pre-printed formula sheet and a set of statistical tables. A scientific or graphing calculator without external communication capability may be used. No other aids (physical, electronic or otherwise) will be permitted.
- 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.

## Homework Exercises

- There will be a total of 6 home-works, typically will be scheduled to be submitted on each Friday, by midnight, on Canvas. Everyone should upload a **PDF** copy of their home-works. Late submissions will **NOT** receive credit.
- You are encouraged to discuss homework problems with other students; however, try to not make a copy paste of other students' home-work.
- 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 TAs have complete authority in all actions that they undertake regarding the home-works, and the instructor is unlikely to rescind any of his decisions.

Grade	Range
A	90-100
A-	86-89
B+	80-85
B	75-79
B-	72-75
C+	70-71
C	65-69
D	60-65
E	0-59

Table 2: Grading Scale

## **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 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 fully expected. You are responsible for learning all material presented during lecture, and any topic covered is a potential exam topic (unless otherwise stated).

## **Reasonable Accommodations**

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565) near the beginning of the semester by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be reviewed with the instructor in order for the accommodations to be implemented in the course. Students must also schedule exams individually through the DRC.

## **Academic Integrity**

UF students are required to adhere to both the Student Conduct Code and the Student Honor Code, <https://sccr.dso.ufl.edu/students/student-conduct-code/>, in all aspects of the course. On exams, students will write and sign the Honor Pledge: “On my honor, I have not given, received, or witnessed unauthorized aid on this exam.” Students are also bound by honor to report academic misconduct to the instructor. Any student found in violation of the Honor Code will receive a final course grade of “E” and may be subject to additional disciplinary action by the University. Thank you in advance for making a personal commitment to maintaining a high standard of integrity and for helping promote an atmosphere of respect for one another that is conducive to learning, both in class and online.