STA 3032 Engineering Statistics Fall 2019

Instructor:

John Seppala
116A Griffin-Floyd Hall
jseppala@ufl.edu
352-273-2971
MTWR 12:15pm-1:15pm

The instructor is your sole point of contact for matters pertaining to course administration, course policy, course grades, and examinations. The instructor is also your secondary point of contact for assistance with course material and the use of technology.

TAs:

Wei Hsieh
115B Griffin-Floyd Hall
hsiehwei@ufl.edu
MW 3:00pm-5:00pm

Jaewoong Joo
234 Griffin-Floyd Hall
jaewoongjoo@ufl.edu
TR 8:00am-12:00pm

Delaney Gomen
234 Griffin-Floyd Hall
gomendp@ufl.edu
MW 1:30pm-3:00pm

The TAs are your primary points of contact for assistance with course material and the use of technology.

Class:

MWF 9:35am-10:25am Period 3
Weil Hall 270 Section 4437

Textbook:

Probability and Statistics for Engineers and Scientists (9e), by Walpole, Myers, Myers, and Ye. The e-book is in Canvas.

Description:

A study of basic concepts in probability and statistics with engineering applications. Topics include descriptive statistics, probability, random variables, sampling, interval estimation, hypothesis testing, linear and multiple regression, and analysis of variance. Credits: 3. Prerequisite: MAC 2311 or the equivalent.

Exams:

Three exams will be given during class time on the following dates:

Fri, Sep 20 Fri, Oct 25 Wed, Dec 4

The exams will each consist of 25 multiple-choice questions. A pre-printed formula sheet and a set of statistical tables will be given. A scientific or graphing calculator without external communication capability may be used. No other aids (physical, electronic, or otherwise) are permitted. A review session will be held during the class period prior to each exam. Although many concepts learned early in the course continue to be used later in the course, the exams are not designed to be cumulative. There is not a final exam for the course. Make-up exams will **only** be given for **documented** cases of emergencies and **extreme** illnesses. Proper notification should be given to the instructor as soon as possible. All approved make-up exams will be given at 3:00pm on Mon, Dec 9.

Homework:

Twelve weekly homework assignments will be submitted in Canvas through MyStatLab. Homework is due during the exam weeks. Late homework will not receive credit. The two lowest homework scores will be dropped. Homework is assigned to help reinforce the material learned in class—and to help improve your course grade! MyStatLab has several built-in features to assist you with your homework. Use it wisely to facilitate your learning—not just to get the right answer!

Projects:

Two projects will be assigned during the semester and submitted in Canvas. Each project will consist of an in-depth analysis of a data set using a procedure learned in class. Each project must be done with one other classmate. The projects will be due at 11:30 pm on Mon, Oct 7 and Mon, Nov 25. Late projects will not receive credit. More details about the projects will be given during the semester.

Canvas:

Students should log in to Canvas regularly to complete homework, view and download class files, check announcements, and view and participate in discussions. Visit https://elearning.ufl.edu or call 352-392-4357 for help with Canvas, and visit www.pearsonmylabandmastering.com for help with MyStatLab.

Attendance:

Attendance is not a direct component of the course grade. However, poor attendance is a major contributor to low grades. I encourage every student to arrive to class prepared to engage in the learning process that unfolds during each day's lesson.

Grading:

Numeric grading will be on a point system as follows:

Exams	3 x 200	=	600 points
Homework	10 x 20	=	200 points
Projects	2 x 50	=	100 points
Free Points	1 x 100	=	100 points
Total		=	1000 points

The grading scale will be as follows:

A = 900-1000, A− = 880-899, B+ = 860-879, B = 800-859, B− = 780-799, C+ = 760-779, C = 680-759, D = 600-679, E = 0-599.

Student Honor Code:

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/. On all exams and projects, students will write and sign the Honor Pledge: "On my honor, I have not given, received, or witnessed unauthorized aid on this [exam/project]." 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 me to promote an atmosphere of respect for one another that is conducive to learning, both in class and online.

Students with Disabilities:

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

Faculty Course Evaluations:

Student feedback is welcomed by the instructor and beneficial to future students in the course. Students are requested to provide feedback on the quality of instruction in this course by completing a brief confidential evaluation towards the end of the semester at https://evaluations.ufl.edu. Summaries of the evaluation results can be found at https://evaluations.ufl.edu/results.

University Services:

The University of Florida is committed to ensuring the well-being of all students by creating a culture of care on campus. Members of the community are encouraged to look out for each other and to reach out for help as needed. Please contact one of the following resources if you or another student would benefit from services.

U Matter, We Care www.umatter.ufl.edu 352-294-2273

UF Counseling and Wellness Center www.counseling.ufl.edu 352-392-1575

UF Police Department www.police.ufl.edu 352-392-1111 (or 911 for emergencies)

Tentative Course Schedule:

Day	Lesson	Lesson	Section(s)	Topic(s)
Wed	Aug 21	A1	1.1-1.7	Descriptive statistics
Fri	Aug 23	A2	2.1-2.4	Basic probability
Mon	Aug 26	A3	2.5-2.7	Probability rules
Wed	Aug 28	A4	Ch. 3-4	Discrete random variables
Fri	Aug 30	A5	Ch. 3-4	Continuous random variables
Mon	Sep 2			No class – Labor Day
Wed	Sep 4	A6	Ch. 3-4	Jointly distributed random variables
Fri	Sep 6	A7	5.2-5.3	Binomial, multinomial, and hypergeometric distributions
Mon	Sep 9	A8	5.4-5.5	Geometric, negative binomial, and Poisson distributions
Wed	Sep 11	A9	6.1, 6.6	Uniform, exponential, and gamma distributions
Fri	Sep 13	A10	6.2-6.4	Normal distributions
Mon	Sep 16	A11	8.3-8.4	Sampling distributions
Wed	Sep 18		Review	
Fri	Sep 20		Exam #1	
Mon	Sep 23	B1	9.3	Point and interval estimation
Wed	Sep 25	B2	9.10	Confidence intervals for one proportion
Fri	Sep 27	B3	10.1-10.3	Introduction to hypothesis testing
Mon	Sep 30	B4	10.8	Hypothesis testing for one proportion
Wed	Oct 2	B5	9.4, 9.6	Confidence intervals for one mean
Fri	Oct 4			No class – UF Homecoming
Mon	Oct 7			No class – Project #1 due
Wed	Oct 9	B6	10.4	Hypothesis testing for one mean
Fri	Oct 11	B7	9.11, 10.9	Inference for two proportions
Mon	Oct 14	B8	9.8, 10.5a	Inference for two means
Wed	Oct 16	B9	9.9, 10.5b	Inference for dependent samples
Fri	Oct 18	B10	10.11	Goodness-of-fit test
Mon	Oct 21	B11	10.12-10.13	Homogeneity and independence tests
Wed	Oct 23		Review	
Fri	Oct 25		Exam #2	
Mon	Oct 28	C1	11.1-11.3	Simple linear regression
Wed	Oct 30	C2	11.12, 11.8	Correlation and ANOVA with regression
Fri	Nov 1	C3	11.5	Inference for regression parameters
Mon	Nov 4	C4	11.6	Inference for regression output values
Wed	Nov 6	C5	12.1-12.2, 12.8	Multiple regression
Fri	Nov 8	C6	12.4-12.5	Inference for multiple regression
Mon	Nov 11			No class – Veterans Day
Wed	Nov 13	C7	12.6, 12.9	Model selection for multiple regression
Fri	Nov 15	C8	13.1-13.3	ANOVA for a completely randomized design
Mon	Nov 18	C9	13.6	Multiple comparisons of means
Wed	Nov 20	C10	13.7-13.8	ANOVA for a randomized block design
Fri	Nov 22	C11	14.1-14.3	ANOVA for a two-factor design with interaction
Mon	Nov 25			No class – Project #2 due
Wed	Nov 27			No class – Thanksgiving
Fri	Nov 29			No class – Thanksgiving
Mon	Dec 2		Review	
Wed	Dec 4		Exam #3	