



STA 3032 Engineering Statistics

Spring 2020

Instructor: John Seppala
116A Griffin-Floyd Hall
jseppala@ufl.edu
352-273-2971
MTWR 11:15am-12:00pm

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:

Jaewoong Joo 234 Griffin-Floyd Hall jaewoongjoo@ufl.edu TBD x:xxxx-x:xxxx	Somnath Bhadra 234 Griffin-Floyd Hall somnath.bhadra@ufl.edu TBD x:xxxx-x:xxxx
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The TAs are your primary points of contact for assistance with course material and the use of technology.

Class: MWF 3:00pm-3:50pm Period 8
Little Hall 109 Section 7393

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, discrete and continuous distributions, sampling, interval estimation, hypothesis testing, analysis of variance, and linear and multiple regression. Credits: 3. Prerequisite: MAC 2311 or the equivalent.

Exams:

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

Fri, Feb 7

Fri, Mar 20

Wed, Apr 22

The exams will each consist of 20 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 8:00am on Wed, Apr 29. **No** credit is given for an exam that is not taken.

Homework:

Eleven homework assignments will be submitted in Canvas through MyStatLab. Due dates are given in advance, and late homework will **not** receive credit. The lowest homework score 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!

Project:

A project will be assigned during the semester and submitted in Canvas. The project will consist of an in-depth analysis of a data set using procedures learned in class. The project **must** be done with one other classmate. The data collection phase of the project will be due at 11:30 pm on Mon, Feb 17, and the data analysis phase of the project will be due at 11:30 pm on Fri, Mar 27. Late projects will **not** receive credit. More details about the project 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:

Daily attendance is expected of every student. I encourage every student to arrive to class prepared to engage in the learning process that unfolds during each day's lesson. Several important concepts and methods are covered in much more detail in lecture than in the textbook, course notes, or homework assignments. Poor attendance is often a major contributing factor to low exam grades.

Grading:

Numeric grading will be on a point system as follows:

Exams	3 x 200	= 600 points
Homework	10 x 20	= 200 points
Project	1 x 150	= 150 points
Syllabus Quiz	1 x 50	= 50 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/>, 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.

Students with Disabilities:

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.

Faculty Course Evaluations:

Student feedback is welcomed by the instructor and beneficial to both current and future students in the course. Students are requested to provide feedback on the quality of instruction in this course by completing two brief confidential evaluations, both at the midpoint of and 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	Chap:Sect	Topic(s)	HW Due
Mon	Jan 6		0:0	Syllabus	
Wed	Jan 8	A1	1:1-7	Descriptive statistics	
Fri	Jan 10	A2	2:1-4	Basic probability	
Mon	Jan 13	A3	2:5-7	Probability rules	
Wed	Jan 15	A4	3:2; 4:1-3	Discrete random variables	
Fri	Jan 17	A5	3:4a; 4:1-3	Jointly distributed discrete random variables	#1
Mon	Jan 20			No class – Civil Rights Day	
Wed	Jan 22	A6	3:3; 4:1-3	Continuous random variables	
Fri	Jan 24	A7	3:4b; 4:1-3	Jointly distributed continuous random variables	#2
Mon	Jan 27	A8	5:2-3	Binomial, multinomial, and hypergeometric dist.	
Wed	Jan 29	A9	5:4-5	Geometric, negative binomial, and Poisson dist.	
Fri	Jan 31	A10	6:1,6	Uniform, exponential, and gamma dist.	#3
Mon	Feb 3	A11	6:2-4	Normal distributions	
Wed	Feb 5		Review		#4 (R)
Fri	Feb 7		Exam #1		
Mon	Feb 10	B1	8:3-7	Sampling distributions	
Wed	Feb 12	B2	9:3,10	Confidence intervals for one proportion	
Fri	Feb 14	B3	10:1-3,8	Hypothesis testing for one proportion	
Mon	Feb 17			No class – Project data collection due	
Wed	Feb 19	B4	9:11; 10:9	Inference for two independent proportions	#5
Fri	Feb 21	B5	9:4-6	Confidence intervals for one mean	
Mon	Feb 24	B6	10:4	Hypothesis testing for one mean	
Wed	Feb 26	B7	9:8; 10:5a	Inference for two independent means	#6
Fri	Feb 28			No class – Spring Break	
Mon	Mar 2			No class – Spring Break	
Wed	Mar 4			No class – Spring Break	
Fri	Mar 6			No class – Spring Break	
Mon	Mar 9	B8	9:9; 10:5b	Inference for two dependent means	
Wed	Mar 11	B9	9:9; 10:5b	Inference for two dependent proportions	#7
Fri	Mar 13	B10	10:11	Goodness-of-fit test	
Mon	Mar 16	B11	10:12-13	Homogeneity and independence tests	
Wed	Mar 18		Review		#8 (R)
Fri	Mar 20		Exam #2		
Mon	Mar 23	C1	13:1-3	ANOVA for a completely randomized design	
Wed	Mar 25	C2	13:6	Multiple comparisons of means	
Fri	Mar 27			No class – Project analysis due	
Mon	Mar 30	C3	13:7-8	ANOVA for a randomized block design	
Wed	Apr 1	C4	14:1-3	ANOVA for a two-factor design with interaction	
Fri	Apr 3	C5	11:1-3	Simple linear regression	
Mon	Apr 6	C6	11:12,8	SLR correlation and analysis of variance	#9
Wed	Apr 8	C7	11:4-6	SLR inference for parameters and output values	
Fri	Apr 10	C8	12:1-2	Multiple regression	
Mon	Apr 13	C9	12:4,6a	MR analysis of variance and correlation	#10
Wed	Apr 15	C10	12:5,6b	MR inference for parameters and output values	
Fri	Apr 17	C11	12:1,8	MR model extensions	
Mon	Apr 20		Review		#11 (T)
Wed	Apr 22		Exam #3		