



STA 3032 Engineering Statistics Summer A 2020

Note: Due to the COVID-19 situation, this course will be delivered online.

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Collectively, the instructor and TAs are a resource to help students succeed in the course. They may be contacted by email, Canvas messaging, or videoconference. The instructor is the primary point of contact for administrative matters. The TAs are the primary points of contact for instructional matters.

Class: Section 1054 (online)

Coverage: 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.

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

Lectures: Forty video lectures will be delivered asynchronously through ZOOM and available for playback in Canvas. Lecture and course notes will be available in Canvas.

Homework: Eleven homework assignments will be submitted in Canvas through Pearson My Lab and Mastering. 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 the course. My Lab and Mastering has several built-in features to assist you with your homework. Use them wisely to facilitate your learning—not just to get the right answer!

Project: A **two-person** 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 the course. The data collection phase of the project will be due at 11:59 pm on Sun, May 31, and the data analysis phase of the project will be due at 11:59 pm on Sun, Jun 14. Late projects will **not** receive credit.

Exams: Three online exams will be given from 9:30 am to 10:45 am on the following dates:

Fri, May 22

Fri, Jun 5

Fri, Jun 19

The exams will each consist of 20 multiple-choice questions. An electronic formula sheet and a set of statistical tables will be given for each exam. A scientific or graphing calculator without external communication capability may be used on the exam. No other aids (physical, electronic, or otherwise) are permitted. A TA review session will be held 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. Any approved make-up exams will be given at the end of the semester at a time to be determined by the instructor. **No** credit will be given for an exam that is not taken.

Canvas: Students should log in to Canvas regularly to complete homework, view and download lecture and course notes, check announcements, and participate in class discussions. Visit <https://elearning.ufl.edu> or call 352-392-4357 for help with Canvas, and visit www.pearsonmylabandmastering.com for help with Pearson My Lab and Mastering.

Success: A consistent commitment to the course is expected of every student. I encourage every student to be fully engaged in the learning process when viewing the lecture videos. Several important concepts and methods are covered in much more detail in the lectures than in the textbook, course notes, or homework assignments. A superficial effort will not likely lead to success in the course.

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 minimum point totals required to earn various grades will be as follows:

A	A-	B+	B	B-	C+	C	D	E
900.0	880.0	860.0	780.0	760.0	740.0	660.0	600.0	0

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 type 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.

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.

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://gatorevals.aa.ufl.edu/students/>. Summaries of the evaluation results can be found at <https://gatorevals.aa.ufl.edu/public-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	Date	Lessons	Topic(s)	HW Due
Mon	May 11	0	Welcome Video; Course Resources	
Tue	May 12	A1, A2	Introduction; Descriptive Statistics	Quiz
Wed	May 13	A3, A4	Basic Probability; Probability Rules	#1
Thu	May 14	A5, A6	Discrete Univariate; Discrete Bivariate	
Fri	May 15	A7, A8	Continuous Univariate; Continuous Bivariate	#2
Mon	May 18	A9, A10	Bernoulli & Binomial; Multinomial & Hypergeometric	
Tue	May 19	A11, A12	Geometric & Negative Binomial; Poisson & Uniform	#3
Wed	May 20	A13, A14	Exponential & Gamma; Normal	
Thu	May 21		Study for Exam #1	#4
Fri	May 22		Exam #1 9:30am–10:45am	
Mon	May 25		No class – Memorial Day	
Tue	May 26	B1, B2	Sampling Distributions; The Central Limit Theorem	
Wed	May 27	B3, B4	One Proportion Estimation; One Proportion Testing	#5
Thu	May 28	B5, B6	Two Independent Proportions; T and One Mean Estimation	
Fri	May 29		Project Data Collection	#6
Mon	Jun 1	B7, B8	One Mean Prediction and Testing; Two Independent Means	
Tue	Jun 2	B9, B10	Two Dependent Means; Two Dependent Proportions	#7
Wed	Jun 3	B11, B12	X^2 & Goodness-of-Fit Test; Homogeneity & Independence Tests	
Thu	Jun 4		Study for Exam #2	#8
Fri	Jun 5		Exam #2 9:30am–10:45am	
Mon	Jun 8	C1, C2	Completely Randomized Design; Analysis of Variance F-Test	
Tue	Jun 9	C3, C4	Multiple Comparisons of Means; Randomized Block Design	
Wed	Jun 10	C5, C6	Two-Factor Design with Interaction; Simple Linear Regression	
Thu	Jun 11	C7, C8	SLR Correlation & Determination; SLR Analysis of Variance	#9
Fri	Jun 12		Project Data Analysis	
Mon	Jun 15	C9, C10	SLR Parameter and Output Inference; Multiple Regression	
Tue	Jun 16	C11, C12	MR Analysis of Variance; MR Determination & Correlation	#10
Wed	Jun 17	C13, C14	MR Parameter and Output Inference; MR Model Extensions	
Thu	Jun 18		Study for Exam #3	#11
Fri	Jun 19		Exam #3 9:30am–10:45am	