Shanghai Jiao Tong University

EC313 Introduction to Statistics (Online)

Instructor Information	Gexin Yu Home Institution: College of William & Mary Email: gyu@wm.edu		
Term	June 28, 2021 - July 23, 2021	**Credits**	4 units
Course Delivery	The class will be delivered in the format of online. Other than recorded lecture videos, the instructor will arrange 2-6 hours' real-time interactions with students per week (via discussion forum, zoom meeting, and WeChat). The workload students are expected to complete to properly pass this course is about 10-15 hours per week.		
Required Texts (with ISBN)	Business Statistics—A First Course, David Levine, Kathryn Szabat, and David Stephan, 7th edition (global edition), ISBN 10: 1-29-209593-8. ISBN 13: 978-1-292-09593-6 (Print) ISBN 13: 978-1-292-09602-5 (PDF)		
Prerequisite	N/A		

Course Overview

This course is an introduction to the basic concepts and procedures behind probability and statistics. Some of the topics covered are descriptive statistics, experimental design, regression, probability, discrete random variables including the binomial distribution, the normal distribution, confidence intervals, hypothesis tests for a single parameter, inference on two samples and the chi-square distribution to test goodness-of-fit and independence. Knowledge in calculus is preferred.

Learning Outcomes

After the course, students should learn some basics concepts and methods in statistics to analyze simple problems in business.

Grading Policy

Quizzes and Homework	30%
Midterm Examination	30%
Final Examination	40%

Grading Scale is as follows

Number grade	Letter grade	GPA
90-100	A	4.0
85-89	A-	3.7
80-84	B+	3.3
75-79	B	3.0
70-74	B-	2.7
67-69	C+	2.3
65-66	C	2.0
62-64	C-	1.7
60-61	D	1.0
≤59	F (Failure)	0

Class Schedule

Date	Lecture	Readings	Recorded Video
Day 1	Introduction	Chapter 0	Video 1
Day 2	Defining and collecting data	Chapter 1	Video 2
Day 3	Organizing and visualizing variables	Chapter 2	Video 3
Day 4	Numerical descriptive measures	Chapter 3	Video 4
Day 5	Basic probability	Chapter 4	Video 5
Day 6	Discrete probability distribution	Chapter 5	Video 6
Day 7	Normal distribution	Chapter 6	Video 7
Day 8	Sample distribution	Chapter 7	Video 8
Day 9	Reading day/midterm review		No new video
Day 10	**Midterm Exam**	Chapter 1-7	
Day 11	Confidence internal estimation	Chapter 8	Video 9
Day 12	Fundamentals of hypothesis testing: one sample tests	Chapter 9	Video 10
Day 13	Two-sample tests	Chapter 10	Video 11
Day 14	One-way ANOVA	Chapter 10	Video 12
Day 15	Reading day	Chapter 8-10	No new video
Day 16	Chi-square tests	Chapter11	Video 13
Day 17	Simple linear regression 1	Chapter 12	Video 14
Day 18	Multiple regression	Chapter 13	Video 15
Day 19	Final review		No new video
Day 20	**The Final Exam**	Chapter 1-13	