STAT 102, Introduction to Business Statistics, Fall 2020 Syllabus

Class Info: The official class times (Philadelphia time) are Tuesdays/Thursdays:
- Section 001: 10:30 - 12:00
- Section 002: 1:30 - 3:00
- Section 003: 3:00 - 4:30

Online attendance during the official times will not be mandatory *except* for 6-8 classes which will be announced ahead of the time. For most of the classes, you'll watch prerecorded lectures posted 24-48 hours before the official times. You will use the (non-mandatory) official times to ask me questions on the prerecorded videos or on the assignments. All the interactions during the official times will be recorded and made available to you.

Prerequisite: Stat 101

People: Instructor: Kam Hamidieh, hkam@wharton.upenn.edu
TA: Matteo Sordello, sordello@wharton.upenn.edu
TA: Elsa Yang, yachong@wharton.upenn.edu

Online Office Hours: Matteo: Wednesdays 10:00 - 12:00
Elsa: Wednesdays 3:00 - 5:00
Additional hours may be added.

Text: Statistics for Business, Decision Making and Analysis by Stine and Foster, 3rd edition.
We hope you kept your book from Stat 101. Otherwise, you may consider purchasing the digital version (ISBN-13: 978-0-13-450671-5) which is substantially less expensive than the hardback:
https://www.pearson.com/store/p/statistics-for-business-decision-making-and-analysis/P100002245171/9780134506715
Do *not* get the MyLab Statistics version.

Software: Working with real data, utilizing software, and interpreting the output will be an important component in this course. We will use JMP 15; the instructions to obtain a free version are posted on the course website.

Course Site: https://canvas.upenn.edu/courses/1544257
(You'll need your Penn username and password.)

Description: We will cover Chapters 19-27 of the book but not necessarily in the same order or manner. The three major topics in this course are: multiple regression, logistic regression, and time series analysis. We will start with simple regression model but devote most of our time to learning multiple regression and logistic regression which are the workhorses of statistical modeling. The material on logistic regression and some time series material will come from my slides; additional notes may be posted. We will review some Stat 101 topics as we go along. Some Stat 101 review material may be assigned for reading.

Grading:
- Grade Components:
  - 5% Participation: These are the easy points! During the mandatory sessions you may be called on to answer some questions. You'll only lose points if you are called on but not present or refuse to participate.
  - 50% Homework: You'll have around 10 assignments. You may discuss the problems with your classmates but you must write up your own answers and submit individually. You should not simply copy and submit someone else's work; this is cheating. You will submit your homework electronically through Canvas.
  - You'll have 3 multiple choice exams, each worth 15% of your total grade. All the exams will be open notes/books/Canvas.
    - Exam 1: Thursday, October 8, 2020
    - Exam 2: Thursday, November 12, 2020
    - Exam 3: Thursday, December 10, 2020
- Letter grade assignment:
  A+/A/A- if 90 ≤ Grade ≤ 100,
  B+/B/B- if 80 ≤ Grade < 90,
  C+/C/C- if 70 ≤ Grade < 80.
  The rest is bad.   There may be a curve applied to the final grades but this is very unlikely and *has never occurred*. You will not be curved down.
- There will be no make-ups, extensions, or extra credit opportunities under any circumstances.
- You will not be excused from an exam due to a conflict with a job interview or other personal events.
- Your grade will be lowered by *at least* 2 letter grades for *any* kind of cheating.

Other Important Stuff:
- Any student with documented disability is requested to contact me within the first two weeks of class.
- Important dates: https://almanac.upenn.edu/penn-academic-calendar#row-25

Except for the exam dates, this schedule may change depending on the class progress.

Date	Major Topics	HW	Mandatory?
Tuesday, September 1, 2020	Class Introductions		
Thursday, September 3, 2020	Simple Linear Regression		
Tuesday, September 8, 2020	Simple Linear Regression		
Thursday, September 10, 2020	Large Class Exercise	1	**Yes**
Tuesday, September 15, 2020	Begin Multiple Regression		
Thursday, September 17, 2020	Multiple Regression / Details	2	
Tuesday, September 22, 2020	Multiple Regression / Assumptions		
Thursday, September 24, 2020	Multiple Regression / Variable Selection	3	
Tuesday, September 29, 2020	Multiple Regression / Interactions		
Thursday, October 1, 2020	Large Class Exercise	4	**Yes**
Tuesday, October 6, 2020	Large Class Exercise		**Yes**
Thursday, October 8, 2020	**Exam 1**		
Tuesday, October 13, 2020	Multiple Regression / ANCOVA		
Thursday, October 15, 2020	Multiple Regression / ANCOVA	5	
Tuesday, October 20, 2020	Multiple Regression / ANOVA		
Thursday, October 22, 2020	Overfitting & Cross Validation	6	
Tuesday, October 27, 2020	Large Class Exercise		**Yes**
Thursday, October 29, 2020	Begin Logistic Regression	7	
Tuesday, November 3, 2020	Logistic Regression / Estimation		
Thursday, November 5, 2020	Logistic Regression / Hypothesis Testing	8	
Tuesday, November 10, 2020	Large Class Exercise		**Yes**
Thursday, November 12, 2020	**Exam 2**		
Tuesday, November 17, 2020	Logistic Regression / ROC Curves		
Thursday, November 19, 2020	Logistic Regression / LogLikelihood	9	
Tuesday, November 24, 2020	Begin Time Series		
Tuesday, December 1, 2020	Time Series / Smoothing		
Thursday, December 3, 2020	Large Class Exercise	10	**Yes**
Tuesday, December 8, 2020	Catch up day!		
Thursday, December 10, 2020	**Exam 3**		