



DEPARTMENT OF STATISTICS

STAT 101

Summer 2016

Introduction to Business Statistics Syllabus

INSTRUCTOR

Yuchao Jiang

Email: yuchaoj@wharton.upenn.edu

Office: 431.3 JMHH

CLASSES MEET

05/23/16 – 06/29/2016

Mon/Tues/Wed/Thur/Fri

9am – 10:45am

SHDH 109

No class on Memorial Day, Monday, 05/30/2016.

OFFICE HOURS (tentative)

Mon/Tues/Wed/Fri

5pm – 6pm

JMHH 441

Thurs: evening before quiz

5pm – 7pm

JMHH 441

CONTACT

- It is highly recommended and preferred that you contact the instructor *in person* after class and/or during the office hours.
- Your primary source for questions and answers should be the Canvas discussion board (see below).
- Only administrative issues and questions should be addressed to the instructor via email.

COURSE WEBSITES

Statistics 101 uses Canvas. You can gain access to Canvas by going to <https://canvas.upenn.edu>. Materials for this course will be distributed and managed via this website, and you will be able to monitor your grade entries throughout the semester. An important feature of Canvas is the **discussion board** where everybody can place questions and comments. We will be using it extensively for answering your questions about homework, exams and scheduling. You are urged to go here first to see whether your question has already been asked and answered, and, if not, to place your question so it can be answered once for everybody.

Note for non-Wharton students: If you do not have a Wharton computing account, you might want to establish one. The account provides access to the computing labs in Wharton and to the intranet. To get an account, on or after the first day of classes, go to <http://accounts.wharton.upenn.edu>.

COURSE OVERVIEW

This course develops ideas for helping to make decisions based on data. Some of the following material will be covered: data displays (including boxplots, histograms, scatterplots), summary statistics (including mean, standard deviation), uncertainty and probability as limiting relative frequency, the normal distribution as a reference standard, statistical estimation and tests, including standard errors, confidence intervals, p-values.

The course does not dwell on the details of computation—its main focus is on understanding a few deep concepts and interpreting data and statistical results.

COURSE MATERIALS

Textbook: *Statistics for Business* by Stine and Foster, 2nd edition. Several copies of this book are on reserve at the Lippincott Library Service Desk. You can borrow it for three hour time slots and copy or read and take notes as needed.

If the textbook is not sufficient, you may consult other books, such as “The Practice of Business Statistics” by Moore, McCabe, Duckworth and Sclove, or “Statistics” by Freedman, Pisani and Purves.

Computer software: JMP 12, available at <http://upenn.onthehub.com> (3-year license for \$59.95). **Make sure to select your platform** (Windows/Mac). Earlier versions of JMP will work fine. The software will also be used in Stat 102. You can save the money by just working on public Wharton computers (at Huntsman or Lippincott), all of which have JMP installed.

HOMEWORK

- There will be 5 regular homework assignments. Homework will be assigned on Canvas and will be due on Friday before the in-class quizzes (see below). A *stapled paper copy* of your solutions needs to be handed in.
- Late homework will be penalized 15% per day for a maximum of three days. Do not ask for extensions; just hand in the homework late – scan or take pictures of your homework and email them to the instructor. After three days, no credit will be given because solutions will be posted (on Tuesday). Fraction of a day counts as a full day.
- Lowest homework grade will be dropped.
- Homework is designed to teach, and you are encouraged to seek help from the instructor if you have questions. You may also work with and help each other. *You must, however, submit your own solutions, with your own write-up and in your own words. There can be no collaboration. Failure to comply will result in severe penalties.*
- Graded homework will be returned in class.
- **Missing** homework receives a score of zero and will NOT be counted as the lowest score.

QUIZZES / EXAMS

- There will be 5 quizzes taking place on Friday (5/27, 6/3, 6/10, 6/17, 6/24) at the beginning of class. The lowest score will be dropped. As such, no makeups will be given.
- The final examination will be Wednesday, Jun 29 in class. The room assignments will be announced on Canvas closer to the exam dates.
- During quizzes/examinations strict rules will be in effect with regard to *honor code*.
- You will need a *calculator* for the exams (e.g. graphing calculator). No cell phones are allowed during the exams.

GRADING

Your course grade will be calculated as 20% homework, 40% quiz, and 40% final examination.

SCHEDULE (subject to change)

Lecture	Date		Materials	Chapters in Book	Note
1	May 23 rd	Monday	Introduction; Describing Categorical Data	1-3	
2	May 24 th	Tuesday	Describing Numerical Data	4	
3	May 25 th	Wednesday	Describing Numerical Data: Case Studies	4, p136, p144	
4	May 26 th	Thursday	Describing Data and Forecasting	4	
5	May 27 th	Friday	Association between Categorical Variables	5	HW1 due; Quiz 1.
6	May 31 st	Tuesday	Association between Quantitative Variables	6	
7	June 1 st	Wednesday	Regression	6, 19	
8	June 2 nd	Thursday	Regression and Cautions	6, 19	
9	June 3 rd	Friday	Intro to Probability	7, 8	HW2 due; Quiz 2.
10	June 6 th	Monday	Probability	7, 8	
11	June 7 th	Tuesday	More Probability	8	
12	June 8 th	Wednesday	Random Variables	9, 10	
13	June 9 th	Thursday	Dependence between Random Variables	10	
14	June 10 th	Friday	Case: Managing Financial Risk	Case study in 12	HW3 due; Quiz 3.
15	June 13 th	Monday	Binomial Random Variables	11.1-11.3	
16	June 14 th	Tuesday	Normal Models	12	
17	June 15 th	Wednesday	More Normal, Sampling & Surveys	12-13	
18	June 16 th	Thursday	Central Limit Theorem	14-15	
19	June 17 th	Friday	Confidence Intervals	15	HW4 due; Quiz 4.
20	June 20 th	Monday	More Confidence Intervals	15	
21	June 21 st	Tuesday	More Confidence Intervals	15	
22	June 22 nd	Wednesday	Hypothesis Testing	16	
23	June 23 rd	Thursday	More Hypothesis Testing	16	
24	June 24 th	Friday	Power, Type I & Type II Error	16	HW5 due; Quiz 5.
25	June 27 th	Monday	Two-Sample Comparisons	17	
26	June 28 th	Tuesday	Final Review		
27	June 29 th	Wednesday	Final		Final (in class).