



DEPARTMENT OF STATISTICS

Statistics 101

Spring 2014

Instructor: Andreas Buja (both Sections 001 and 002)

Office: JMHH 471

Contact:

- The main points of contact with the instructor are after class and during the highly recommended office hours.
- Your primary source for asking questions and finding answers will be the Canvas Discussions board (see below).
- Canvas has an e-mail feature which you reach by clicking "Inbox". Therefore, never use regular e-mail; always send messages from Canvas Inbox to Buja and Fogarty. However, use this only for emergencies or serious difficulties.

Classes meet: Section 001, Mon/Wed 1:30-3:00, in F85 JMHH
Section 002, Mon/Wed 3:00-4:30, in F85 JMHH

Instructor's Office hours: Mon 12:00-1:15 and 4:30-5:30, in 471/440 JMHH

TEACHING ASSISTANT:

Name: Colin Fogarty

E-mail: Canvas → Inbox → send message to Fogarty

Office Hrs: Tue 1:30-2:30, in 440 JMHH
Thu 4:30-5:30, in F96 JMHH

COURSE WEBSITE:

Statistics 101 uses the online system "**Canvas**". You can gain access by going to <https://wharton.instructure.com/courses/1229548>. All 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 part of Canvas is the "**Discussions**" feature where everybody can place questions and comments. We will be using Canvas Discussions extensively for answering your questions about homeworks, exams and scheduling. If you have questions, you **must** go there 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. We also encourage you to answer other students' questions if you know the answer. If you give a wrong answer, it will not be held against you; someone else will place the correct answer and you can delete your own post. Contributing to Canvas Discussions will be equivalent to class participation and office hour attendance in its impact on your grade.

The Canvas Discussions settings will allow you to add, edit and delete your own posts, create discussion topics, and also attach files to your posts. Please, read the initial post by the instructor regarding purpose and etiquette.

Note for non-Wharton students: If you do not have a Wharton computing account, you will need to establish one to access the website. The account also 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 <https://app.wharton.upenn.edu/accounts/>. After you have obtained your account, allow up to 12 hours for activation. Wharton students and students who have recently taken a Wharton course have existing accounts.

COURSE OVERVIEW:

This course develops ideas for making decisions based on data. Some of the following material will be covered: data displays and summary statistics for quantitative and qualitative variables; correlation and simple regression for pairs of variables; probability to deal with partial and uncertain knowledge; the law of large numbers; the normal distribution and the central limit theorem; statistical inference based on standard errors, confidence intervals and statistical hypothesis tests.

The course does not dwell on the details of computation—its main focus is on understanding a few deep concepts and interpreting data and the results of statistical analysis. The analysis of financial data will be a pervasive feature throughout the course. Datasets for in-class demonstrations and for homeworks will be posted under Canvas Files.

COURSE MATERIALS:

- Software: JMP from SAS; purchase online at <http://upenn.onthehub.com/>. This software is available on Wharton computers, so if you are willing to do all your homework computations on them, you do not need to purchase the software. If you decide to go this route, it might be helpful to check out the Wharton Virtual Lab feature which allows you to use the Wharton computing environment remotely from your laptop:
<http://supportcenteronline.com/link/portal/632/655/Article/5657/5a-Virtual-Lab-for-Laptops>
- Class notes will be posted on an ongoing basis under Canvas/Files/Notes in the form of simple txt files.

- Textbook: “Statistics for Business: Decision Making and Analysis” by Robert A. Stine and Dean P. Foster. You are not required to purchase the book, but you should have access to a copy for regular reading assignments. You may, for example, team up with friends to share a copy. To keep cost down you may purchase a used copy of an earlier version of the book. We will work around any discrepancies between versions. The relevant chapters will be:

1-4, 5-6, 12 (out of order), 19 (out of order), 7, 8.1-4, 9, 10

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. However, none of these books is required. There is also a growing number of online offerings on YouTube, some of them excellent.

HOMEWORK:

- There will be about 8 homework assignments.
- Homeworks will be assigned on Canvas/Files and will usually be due a week later.
- Homeworks should be written by editing a copy of the MS Word file that contains the problem statements. Each solution should be inserted after the respective problem statement following “*Your Solution:*”. Handwriting is not accepted. ***Do not remove existing text;*** only add text.
- ***Back up*** your work frequently on a data stick or in the cloud, so you can print and e-mail it from a Wharton computer if yours breaks down.
- Turn your MS Word file into a ***PDF file*** and hand in your homework solutions by uploading the PDF file on Canvas (no paper). The PDF file should have a filename of the following form, here shown for homework 1:

HW01-STAT101-2014A-LastName-FirstName.pdf

- Late homeworks will incur a deduction of 5 points per day. Late homeworks must be handed to the TA directly, not placed in the submission box. Submitting to Canvas is still necessary but not sufficient because it is only an insurance against misplacement on our part and will be consulted when needed only.
- If you have a valid reason for late homework submission (e.g., computer broken, health problems,...), send Canvas Inbox email to both the instructor ***and*** the TA. It is possible to receive extensions for valid reasons.
- Your solutions must show on the cover page your
 - name (as it appears on Canvas), and
 - section.
- Homework is designed to teach, and you are encouraged to seek help from the instructors and the TA if you have questions. You may also work with and help each other, in person and above all on Canvas Discussions.
- ***You must, however, submit your own solutions, with your own write-up and in your own words. Verbatim copying and working off someone else’s file is a violation of the honor code. Printed homework solutions and homework files must not be exchanged!***

- Graded homeworks will be returned in the same boxes in the Statistics Department.
- Homeworks are graded with variable maximal scores to reflect the variable amount of work and understanding necessary to complete them.
- Because more practice is needed in problem solving than we are able to grade, only a *random selection* of problems in each homework will be graded.
- However, the homeworks will be *checked for completeness* and proportionate deductions will be made for incompleteness.
- *Scores for homeworks are finalized one week after the graded copies are handed back. Thereafter there will be no changes and no re-grading.* Do not delay checking your graded homeworks to the end of the semester.
- *Missing* homeworks receive a score of zero.

EXAMINATIONS:

- There will be **one** midterm exam on Thu, March 20, 2014, 6:00-8:00pm.
- The final exam (tba).

Room assignments will be announced on Canvas closer to the exam dates.

During examinations strict rules will be in effect with regard to *honor code*.

There is a possibility of contesting the results of exams as follows:

- Send Canvas e-mail (“Inbox”) to the TA with subject line “Midterm/Final Exam Inquiry” and indicating the version of the exam, the questions you are contesting, and the reasoning as concisely as possible.
- **However**, it is recommended that you check your reasoning with the TA before sending your official inquiry because if your reasoning reveals a misunderstanding of concepts taught in class, you will incur a **deduction from your exam score**.
- On the other hand, if you find an unexpected but valid interpretation of a question that justifies your “wrong” answer, there is a chance of receiving a **bonus point**.

GRADING AND GRADING POLICY:

- Your course grade will be calculated as 30% homework, 30% midterm exam, and 40% final exam. (What this means will be discussed during the semester.) Participation in class and on Canvas Discussion as well as office hour attendance will also figure into the final grade as follows: students who contribute exceptionally in at least one of these three ways will experience a rise of their grade by one step (e.g., from B- to B).
- **All** homeworks will be included in the computation of the final grade. There is **no** “drop the lowest” policy. Missing homeworks will be counted as a zero score.

If more than two homeworks are missing or show insufficient effort, a failing grade will be the result irrespective of the performance on the exams. Homeworks that are late without an acceptable reason will incur a 5 point deduction per day of lateness. Fractions of a day count as a full day.

CLASSROOM EXPECTATIONS

- Class starts and ends on time.
- There will be a 5 min break about halfway through each lecture.
- Late entry or reentry is a disruption that must be explained to the instructor during the break or after class.
- All phones, laptops and other electronic devices must be turned off. The instructor may allow temporary laptop use for specific software demonstrations.

The general principles of conduct in this class are:

Fairness, Respect and Consideration.

EMERGENCIES AND DIFFICULTIES

Please, do make an effort to communicate with the instructor and TA if you find yourself in serious difficulty, such as family emergencies, health problems, too many deadlines at the same time, demands from jobs you are holding to finance your studies, etc. It is possible to obtain extensions of deadlines, but your issues should rise to the level of serious difficulty, not just inconvenience. Issues arising from pledging a fraternity or sorority or from alcohol or drug consumption, however, will *not* be looked upon kindly.