Introduction to Probability and Statistics for Business, W21

Four (4) semester credits

Course Information for Stat W21 and Instructor Information

Welcome to W21: the online version of Stat 21 (Introduction to Probability and Statistics for Business). Please **read this page carefully**, especially the instructions and troubleshooting advice. The first assignment checks to see if you have read these materials carefully.

To use the online materials, you may use Firefox, Chrome, or Safari. Internet Explorer is **not** recommended. If you ever have a problem with examples or assignments, please send me an email with the problem you encountered, the browser you were using at the time (along with the version). You must have Javascript enabled in your browser, and your browser should be updated whenever a new version is available. The browser should be configured to accept cookies from the originating server.

Also, make sure to read the [“Troubleshooting” section](#) of the assignment page before attempting the first assignment. This assignment tests if you have read the syllabus.

Note that you can log in from different computers and your questions on a particular assignment will not change. You must write your answers down, though, as cookies are not reliable storage. If you don't see the “submit” button, but the assignment is not due yet, please check that your computer is not set to the wrong date and time.

There are **FOUR** assignments **due the first week**, the first **two** are due on **June 23rd (Tuesday).** The first assignment (Set 0) checks to see if you have read the syllabus. Set 1, the second assignment, makes sure that you have the math prerequisites for this course. The third and fourth assignments are due on Wednesday and Thursday of the first week. The first week gives you a flavor of what to expect. This is a VERY fast-paced course.

There is no way for us to accept late assignments, since the answers come on automatically as soon as we go past the deadline. I will drop

the two lowest homework scores, and there are four extra credit assignments, so you have some wiggle room.

More information on the assignments follows below.

Course Instructor

Shobhana Murali Stoyanov
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Graduate Student Instructors (GSIs)

- Marla Johnson
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- Arie Wong
  aiwong@berkeley.edu

- Chi Zhang
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Office Hours

- The GSIs will be holding both in-person and online office hours for this course. There will be many office hours to choose from throughout the week, so please find a time that suits you and come in and ask about what you find puzzling or difficult. There is no need for you to struggle through this course alone.
- Adobe Connect will be used for the online office hours. You do not need an account, but can log in as a guest.
- More details about the in-person office hours will be listed on the Office Hours page.
- You will also need a webcam and working headset (or built in camera and microphone) in order to participate in office hours.
- You must enter the online office hour within the first 20 minutes. If you cannot attend within the first 20 minutes, but want to come later during the office hours, please send an email to the person holding the office hours and make an appointment to meet in the virtual room where the office hour will be held.

Student Learning Center

- The SLC will be offering drop-in STAT tutoring support Monday – Thursday 12 p.m. – 4 p.m.

Assal Sharifi – assalsharifi@berkeley.edu
Mathematics and Statistics Program Coordinator Assistant
Student Learning Center
103 Chavez Student Center, on Lower Sproul Plaza
Information is available at the Berkeley Student Learning Center

Discussion Forum (Piazza)

- We will be using Piazza as a discussion forum. There is a link on the left navigation menu, which will take you to our class page on Piazza. Please sign up there.
- If you have a general question about administrative matters, or about the material in the text, or a clarification regarding homework, please post it on Piazza. Do not send an email about your question, since others may have the same question. Also, you will most likely get a much faster response if you post your question on Piazza. Please search the forum to see if your question has already been asked, and if not, go ahead and post it. You may also attend office hours to clarify your question.
- I encourage you to try and answer each other's questions. The GSIs and I will monitor the discussion forum, and endorse correct answers. I use Piazza in all my classes, and the students and I find it very useful.

Required Text and Other Readings

- The text is **SticiGui.** It is written by Professor Philip Stark, and is freely available online. You must have Javascript enabled in the browser. The browser must accept cookies from the originating server. You should have the latest version that is available at the beginning of the summer.
- A recommended text is *Statistics*, by Freedman, Pisani, and Purves (4th Edition, W.W. Norton and Co.) This is an excellent book to further your understanding of the subject.
- A recent book that has received good reviews is Nate Silver's book ***The Signal and the Noise***, which is about predictions in the face of uncertainty. Silver was in the news for his 100%

success rate in his predictions for the 2012 US presidential elections. I have not read it yet, but will be reading it soon.
- Another fun book is ***How to lie with Statistics*** by Darren Huff. It is not a recent book, but still relevant.
- If you are a soccer fan, then ***The numbers game: Why everything you know about soccer is wrong*** is an interesting read.
- The author of ***Naked Economics***, Charles Wheelan, has also written a book on Statistics, called ***Naked Statistics***, also fun to read.

Lectures and Homework Assignments

Lectures

- There are recorded lectures of Professor Philip Stark that are embedded within the text. Please use the **SticiGui** page to view them. There is also a link from the drop down menu on that page to the lectures, if you wish to view them independently of the text.
- I have taught a different course (Stat 131A) using the same text, and that course was webcast. You may find the lectures helpful. They are not perfect for your purpose, since I also worked at the board, but they can supplement your study. You can access the lectures at http://webcast.berkeley.edu/playlist#c,d,Statistics,-XXv-cvA_iDmBzAfitIZXganWpqMiXkG
- Professor Ani Adhikari teaches a MOOC course using SticiGui. It is aimed at Stat 2 students, but if you are puzzled, it might help. You will need to register at https://www.edx.organd then look for Statistics 2.1x, 2.2x, and 2.3x. You should be able to find the slides once you locate the course (the link is usually below the video).
- Please keep in mind that neither of these courses is *your* course, so the most relevant lectures are Professor Stark's, which are embedded in your text.

Homework Assignments

- The **assignments** are available online at **http://www.stat.berkeley.edu/~stark/SticiGui/Problems/index.htm.** They are due **as posted.** (You use Internet

Explorer at your own risk. We do not provide any guarantee that it will work. All other browsers should work fine.)

- Please **check** the due dates, as you work the assignments. There are four extra credit assignments that are due on August 10th. Your maximum homework score will be 100%, but many of you may want to complete the extra assignments to replace scores that you are not happy with.
- Once you are on the **assignments page** on SticiGui, please select our course from the drop down menu. You will then be asked to input your name, email, and SID. **Please use the email and SID that is recognized by UC Berkeley Summer Sessions.** The SID should be numbers only. If you have any problem logging into the assignment page, please let me know. Note that I do **not** check email regularly on the weekend. If you send an email 10 minutes before the assignment is due, you run a strong risk of your email not being read until the next day.
- There are usually **3** problem sets due each week, on Mondays, Tuesdays and Wednesdays. Some weeks have four assignments due. You may turn them in early but **late assignments will not be accepted for any reason.** If you wait until the last minute to submit your assignment, you will risk not being able to submit it on time due to congestion. Please plan to submit your homework with time to spare.
- You are allowed to submit each assignment **up to five times** before the due date. The *last submission* (not necessarily the one with the highest score) counts. You can see your score after each of the first three submissions. After the fourth and fifth submissions, you can see your score and which problems you missed: The problems you missed are identified on the confirmation screen after you submit - not in the problem set itself. You only get that one chance to write them down, and there is no other way to see which problems you missed until after the due date. The problems are identified as (Qxx), which matches the Q-numbers in the assignment. **Q-numbers and Problem numbers are not the same**: Problems can have many parts, each of which has a Q-number.
- While inputting your answers, do NOT round off numerical answers, not in your final answer, nor in intermediate steps. This can result in your answer being marked incorrect. If you are inputting a number that is at least 1,000, you may input it with commas (but you don't have to). You may use scientific notation if you wish.

- After the due date of each assignment, you can see the correct answers by opening the assignment again. After the due date, when you answer each problem, you will see an X or a check mark, just like in the book chapters.
- This class uses **mastery based grading** for the homework. You get credit for a homework assignment only if you get a score of 80% or higher on that assignment. If you score below 80% on an assignment, you get no credit for that assignment - it counts as a zero in your homework average. You did not master the material adequately. If your score on an assignment 80% or higher, the credit you get is your score. For example, suppose there are 25 homework sets and your scores are five 70s, five 80s, five 90s and ten 100s. You get no credit for the five 70s: They count as zeros. Your homework score is: (5*0 + 5*80 + 5*90 + 10*100)/25 = 74%
- The assignments are significantly harder than the exams, and will require some thinking on your part. Some ask you to apply the material to more complex problems that—superficially—are not like any problem in the book. In contrast, the depth of exam questions is limited by the duration of the exam. Exam questions are more like the questions on the practice exams and in the book chapters. The exams are designed so that the faster students will finish in less than half the time available. Most students do not feel time pressure in the exams.

Learning Activities

VERY IMPORTANT

You won't be able to access your course material until you read and make your pledge to Academic Integrity. Click the link below to navigate to and complete the Academic Integrity pledge.

ACADEMIC INTEGRITY

You are expected to fully participate in all the course activities described here.

1. Read the assigned textbook pages
2. Watch and listen to the lecture presentations
3. Read web-based announcements and postings assign during the course
4. Complete homework assignments
5. Complete the final exam

Tips for Success in Stat W21

- Watch the lectures (these are embedded in each chapter of the online textbook).
- Read the book <u>carefully</u>. That means <u>reading</u> it, and *working* through the examples as you go.
- Don't just look for the formula. Study the real world scenarios to understand how it is related to the formula. It is not all about calculation!
- Make sure to read the chapter before trying the homework.
- Work through all the examples and exercises in the text. If you want additional exercises, reload the page and you will get new ones to work on.
- If you have a question, search on Piazza to see if your classmates have already discussed and resolved the issue. If not, you should post your question to Piazza. You may get a reply from a fellow student in minutes! Please do not send emails about the problem to the GSIs or to the instructor. Be careful, do not ask for the exact answer to your homework problem. That will be considered as cheating.
- **Don't game the system.** If, on your first submission, you get something wrong, try to understand why rather than just arbitrarily selecting a different answer. This will make a difference on your exam. Remember – the exam has only one submission!
- Don't google the problem to look for the answer online. Again, it might serve you momentarily, but you will not have understood the concept, and this will affect your exam performance.
- Please **write down the answers to your assignments**. This is for two reasons. If you save your answers, they are saved on your computer as a cookie, and you will not see them if you log in from a different machine. Furthermore, cookies are not reliable storage, and your answers can get lost. I have seen many crestfallen students who have lost answers after working on them a while. Don't let this happen to you!
- Please do come to office hours, both online as well as in person. All we expect is that you have worked on the problem somewhat, not that you open the book for the first time during office hours.

Final Exam, Grading and Academic Honesty

The final exam is on **Thursday, August 13, from 10 am-1 pm, in 155 Dwinelle on the UC Berkeley Campus.** Note that it is NOT on Friday. If you are an off-site student, please carefully review the **Proctored Final Exam Process** to arrange for your proctor exam.

- The final exam is cumulative. Practice exams are available online.
- You *must* bring a 100-question Scantron form (form 882), a number 2 pencil and your UC Berkeley student ID to the final. The machine does not take other forms, so we will not be able to grade your exam if you use a different form. If you taking the exam with an off-site proctor you will not need a scantron. Your proctor will provide an answer sheet at the time of the exam.
- Make sure that you bring an ID to the exam. If you don't, you may bring it to us the next day, and we will grade your exam after we check your ID. I do not have any Scantrons, so I cannot bring any to the final for students who may have forgotten.
- You are allowed two 8.5" by 11" pages of notes, front and back (4 sides, typed or handwritten), a calculator (details below), a sliderule, a pen, extra scantron forms to auction to people who forgot to bring their own, etc.
- You may use a scientific calculator for the exam. No graphing calculators, and no calculators with any kind of wireless or note-storing capability. You may use a scientific calculator for the exam. You may also use a basic six function calculator.
- You *may not* use any wireless device (including cell phones), PDA, computer, scratch paper, etc. You will do your scratch work on the exam (not the scantron).

Grading

- To pass the course (with a D), you must make **at least 66% on the homework and at least 60% on the final.** If you meet both criteria, your course grade is the **average** of your homework and final grades, with **equal** weight. If you get below 66% on the homework or below 60% on the final, **you fail the course.**
- Grades will not be "curved," so you are not in competition with anyone else. It is possible for everyone to make an A (or an F). Grades on assignments will be posted online on SticiGui. The course grade will be posted in BearFacts.
- **Incomplete Grades:** By University policy, for a student to get an Incomplete requires that the student was performing passing-

level work until the time that something happened that (through no fault of the student) prevented the student from completing the coursework. **If you take the final, you completed the course.** The time to talk to me about incomplete grades is *before you take the final*.

Academic Honesty

- Discussing homework is fine, but copying or getting someone else to do your homework is not. Do your own work, and submit your own homework. Anyone found cheating will receive an F in the course, and reported to the Student Conduct office. Cheating will not be tolerated.

Course Policies

Honor Code

The student community at UC Berkeley has adopted the following Honor Code: "As a member of the UC Berkeley community, I act with honesty, integrity, and respect for others." The expectation is that you will adhere to this code.

Collaboration and Independence

Reviewing lecture and reading materials and studying for exams can be enjoyable and enriching things to do with fellow students. This is recommended. However, unless otherwise instructed, homework assignments and the online exam are to be completed independently and materials submitted as homework should be the result of one's own independent work.

Cheating

A good lifetime strategy is always to act in such a way that no one would ever imagine that you would even consider cheating. Anyone caught cheating on a quiz or exam in this course will receive a failing grade in the course and will also be reported to the University Center for Student Conduct. Exams are to be completed without the assistance of other people, and without reference to texts, notes, and other materials. The expectation is that you will be honest in the taking of exams.

Plagiarism

To copy text or ideas from another source without appropriate reference is plagiarism and will result in a failing grade for your assignment and usually further disciplinary action. For additional information on plagiarism and how to avoid it, explore the resources linked below:

UC Berkeley Library Citation Page, Plagiarism Section

GSI Guide for Preventing Plagiarism

Incomplete Course Grade

Students who have substantially completed the course but for serious extenuating circumstances, are unable to complete the final exam, may request an Incomplete grade. This request must be submitted in writing or by email to the GSI and course instructor. You must provide verifiable documentation for the seriousness of the extenuating circumstances. Please contact the instructor about incomplete grades *before taking the final.* According to the policy of the college, Incomplete grades must be made up before the first day of the following Spring semester.

Students with Disabilities

Any students requiring course accommodations due to a physical, emotional, or learning disability must contact the Disabled Students' Program (DSP). They will review all requests on an individual basis.

- Request your Disabled Student Program Specialist to send the instructor a formal request before the official course start date by email
- In addition, notify the instructor and your Online Learning Support Specialist, which accommodations you would like to use.
  - Your Online Learning Support Specialist is Tracie Allen and her email is twgallen@berkeley.edu

End of Course Evaluation

Before your course end date, please take a few minutes to participate in our End of Course Evaluation to share your opinions about this course. The evaluation does not request any personal information, and

your responses will remain strictly confidential. To access the evaluation, please select the "Course End Evaluation" link in the left navigation menu. The evaluation will be available starting on July 30th, 2015. You may only take the evaluation once.