STATISTICS 201, TERM 4 Fall 2018

PROFESSOR:	J. Freeman
OFFICE:	Law 304
OFFICE HOURS:	Will usually be in office from 11:00 a.m. to 12:00 p.m. and 3:00 p.m. to 4:00 p.m. (whenever possible). If you need help, please tell me and a time will be arranged.
OFFICE Phone:	895-4393
CELL PHONE:	743-8487 (most reliable phone access)
E-MAIL:	jfreeman

Prerequisite: Two years of high school algebra and a writing course. If you do not have this prerequisite, please talk to me immediately.

Class Meetings: Class will meet 9:00 a.m. — 11:0 a.m. and 1:00p.m. — 3:00 p.m. Ending times for class are approximate. On the second Wednesday (December 5) and third Thursday (December 13), there will be an exam which often last later than 11:00. Tests are untimed. Students are expected to attend all class meetings, unless an agreement is reached with the instructor.

Exams: There will be three exams in this class, on December 5, December 13, and December 19. The first two exams will be worth 23% of the final grade. The final exam is worth 30% of the final grade. Exams will be ready to be distributed shortly after 8:00 a.m. and students must begin an exam by 9:00 a.m. The final may be started as early as 7:00 a.m. The final will not be given early.

Ungraded Quizzes: Each non-exam morning, there will be an ungraded quiz handed out at the end of morning class. These quizzes do not count toward the final grade. Students should try to hand in quizzes at the beginning of afternoon classes, but the instructor will accept quizzes up to 24 hours after the quiz was handed out. Extensions to the 24 hour rule will be granted for excused absences with prior approval of the instructor. Students are responsible for obtaining a quiz if they miss morning class. Students are encouraged to work together on these quizzes, but must cite every person and resource they use while working on the quiz. A single general citation at the beginning of the quiz will be sufficient to avoid a charge of cheating. Time permitting we may work on the quizzes as a group in class.

Homework: The instructor will assign homework on a daily basis. Homework is expected to be completed. Homework will be collected at the end of morning class. The instructor will look at a random sample of homework and assign a grade of 0 or 1. A grade of 0 means that the homework was not handed in or was unacceptable. A grade of 1 means that the homework was submitted on time. Students may send homework by messenger in cases that they must miss morning class. The instructor understands that there are some nights that getting homework done is harder than others. Students will be given two free grades of 0 over the course of a block. In their final average, students will receive 30 points - 10(number of grades of 0). Remember each student gets two grades of 0 that will not count against a student. In addition, the instructor will eliminate a grade of 0 in extenuating situations, so long as the student contacts the instructor in a reasonable timeframe and shows the instructor the homework the completed homework in a reasonable amount of time. A negative number of points is possible.

A student should consider scanning their homework so they maintain a copy of the homework for studying.

Attendance: Attendance will be taken for each class. Excused absences will be granted for college sanctioned activities and appropriate other situations beyond the student's control. Each student will get one free unexcused absence. Students will receive 30 points - 10 (number of unexcused absences). This number can be negative. If the instructor calls on a student who is not paying attention, the instructor reserves the right to count the student absent once an e-mail warning has been given to the student.

Papers: There will be a two graded papers assigned, due December 10 at 5 p.m. and December 19 at noon. The first paper will be worth 11% of the grade and the second paper will be worth 7% of the final grade.

1. Paper one will be a descriptive statistics paper.

- Students may find their own data set to analyze for the first paper. The data set should have at least 6 variables, preferably the data set should have at least one categorical and one numerical variable. Students who want to use their own dataset must have the dataset selected by Friday, November 30. The instructor will have 30 minute meetings on December 1 and December 2 to discuss datasets with those students who want to analyze their own data. The instructor will give the class a dataset on Friday, November 30.
- A rough draft of the paper, minimally a collection of graphs, must be ready for discussion with the instructor by Wednesday December 5, afternoon. There will not be any class on December 5 so that students can work on their paper. The instructor will have appointments to discuss the rough drafts during the evenings of December 5 and December 6.
- Students may submit a revised version of the paper within three days of receiving the graded paper from the instructor, hopefully by Thursday, December 13. The final grade on the paper will be a weighted average of the first grade and the revised grade. The revised grade will be weighted to be twice the weight of the original submission. Both the revised paper and the original graded paper must be submitted together for the revision to be graded. Simply implementing the instructors comments will not result in a significant increase in the grade.

2. Paper 2 will be a short paper emphasizing inferential statistics and will be assigned on December 13.

Question of the class: A student is responsible for asking and recording on the attendance sheet 10 questions during the block. These questions must be of a statistical nature and can be a transcription of a question asked in class or simply a question the student had during class, but did not want to share with the class. A question is deemed acceptable by the instructor if of the question shows involvement in the class. Questions do not need to be earth shattering. In addition, if insufficient number of questions are submitted, the student will get no consideration when the instructor decides on final grades. This may result in a student getting a lower grade than a student with a lower average.

Grading: A student's grade is essentially determined by percentage of their total points as determined by exams, papers and question of the class. The instructor may raise or lower a student's grade based on their class performance. With exception to exams, the instructor is interested in a student's curiosity and effort, not in how many correct answers the student gave during the term. The instructor will use the following grading scale:

- 90–100: A- or above
- 80–89: B- or above
- 70–79: C- or above
- 57–69: D- or above
- Below 57: F

The instructor reserves the right to lower this scale.

Calculators: Calculators are required for all quizzes and exams. The computer will be used during exams.

Drops: The instructor follows faculty legislation concerning 15th day drops. In particular, if a student has NOT

- attended class regularly;
- handed in most of the quizzes;
- received a reasonable grade on first paper;
- received at least 40% on the first two exams

the student has not shown sufficient effort to justify a 15th day drop. In this case, the instructor will not sign a 15th day drop. If students experience problems that interfere with a student's effort, the conditions above may be waived if the instructor and student have had timely discussions. If you meet any of the conditions listed above, do not expect to be able to drop if you have not discussed your problems at the time they occurred. The instructor will not sign a 15th day drop for a student accused of cheating.

Tutors: There will be tutors available in the Teaching and Learning Center of the library.

Course Objectives and Educational Priorities and Outcomes: The student is expected to learn the following skills in this class:

- ability to communicate statistical ideas clearly and accurately (*communication*).
- ability to display and interpret data (*reasoning*).
- understanding linear models(*knowledge,reasoning*).
- understanding the importance of and techniques for collecting data(*knowledge, inquiry, ethical behavior*).
- the importance of experimental design and the difference of an experiment and a study(*knowledge, inquiry, ethical behavior*).
- ability to do inference with means and proportions using one and two sample techniques (*knowledge, reasoning*).
- use of bootstrapping and randomization distributions(*knowledge, reasoning*).
- understanding of the normal and t-distributions(*knowledge, reasoning*).
- understand and communicate both the power and limitations of statistical reasoning (*knowledge, inquiry, communication*).
- understand the use of numerical information in every day life (*citizenship*)

As these course objectives indicate this course supports the Educational Priorities and Outcomes of Cornell College with emphasis on knowledge, inquiry, reasoning, communication, ethical behavior, citizenship, and vocation.

Expectations of Students: The amount of time required to successfully complete this course will vary by student. Students not used to logical and deductive thinking should expect to spend significant time on this course, very possibly more than they are used to spending on other courses (4-8 hours). For students whose background makes this course easier, they should seek out students who may find the course more challenging and offer to work with those students. A student who helps others will find that they will get more out of this class. Students are **strongly** encouraged to work together to complete homework. This course requires significant writing.

The pacing of material in this class will be determined by student needs. So long as you are working hard, the instructor will modify the course to attempt to the best of his ability to maximize your chances for success. Much of the material of the class will be presented in response to class questions, so the quality of your questions will be a major contributing factor to the quality of the course.

The instructor expects you to work hard in this course, but he also wants you to have some fun. Puns and other word play are always appropriate. The instructor has only two rules concerning behavior in this class. First, students must respect the learning efforts/environment of other students. Just because material may be easier for you does not give you the right to belittle the efforts of others. You may do just about anything in class so long as it does not take away from the learning experience for others in the course. Second, if you have a concern with any aspect of this course, you will immediately contact the instructor. While the instructor may or may not be able to address your concerns (the class will not move outdoors), they will be respected and an effort will be made to address them. Questions concerning grading should always be brought to the instructor's attention. Once exams are returned, the instructor will never lower a grade due to a discovered error in grading, but he will raise scores due to a grading error.

Please ask questions at any time in class. If I tell you that I will answer the question after class, that does not mean it is an inappropriate question. It simply means that I believe that I can do a better job answering the question one-on-one instead of in a class setting.

Dishonesty in Academic Work: Cornell College expects all members of the Cornell community to act with academic integrity. An important aspect of academic integrity is respecting the work of others. A student is expected to explicitly acknowledge ideas, claims, observations, or data of others, unless generally known. When a piece of work is submitted for credit, a student is asserting that the submission is her or his work unless there is a citation of a specific source. If there is no appropriate acknowledgement of sources, whether intended or not, this may constitute a violation of the Colleges requirement for honesty in academic work and may be treated as a case of academic dishonesty. The procedures regarding how the College deals with cases of academic dishonesty appear in The Compass, our student handbook, under the heading "Academic Policies

— Honesty in Academic Work." The instructor's usual penalty for any charge of dishonesty is the assignment of an F for the course.

Behavior during exams should be clear to a student. Reference to any material/person other than the printed exam and statistical software (StatKey and Minitab) during the exam is considered dishonesty unless explicitly permitted by the instructor.

Papers must be done in isolation. No consultation about the data can be made with any human being in person or remotely with the exception of the instructor, QRS and Writing Lab personnel. You may ask anyone specific software questions.

If a student feels that they got substantial help from another student or other source on a n ungraded quiz, then the student should cite that help.

The instructor expects that students will work extensively together during this class and strongly encourages this. Students working in isolation will most probably have significant difficulty with this course.

Students may not copy by any means the homework of another student. Doing so will result in a charge of academic dishonesty and a grade of F given for the course.

Accommodation: Cornell College is committed to providing equal educational opportunities to all students. Students who need accommodations for learning disabilities must provide documentation from a professional qualified to diagnose learning disabilities. For more information see http:\\cornellcollege.edu\disabilities\disabilities\docume

Students requesting services may schedule a meeting with the disabilities services coordinator as early as possible to discuss their needs and develop an individualized accommodation plan. Ideally, this meeting would take place well before the start of classes.

At the beginning of each course, the student must notify the instructor within the first three days of the term of any accommodations needed for the duration of the course.

Material: *Statistics: Unlocking the Power of Data, Second Edition*, by Lock, Lock, Lock, Lock, and Lock. We will cover most of chapters 1 through 6 and portions of chapters 9 and 7, in that order (time permitting.)