

## **Social Statistics - SOC 355-F**

Fall 2019

TR 12:00-1:50, Jaeb CC 100

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 Office: PH 307  
 Office Hours: MWF 9:00 to 11:30 or by appointment  
 Exam Date: Thursday, December 12<sup>th</sup>, 11:00-1:00

### **Course materials:**

- Field, Andy, Jeremy Miles, and Zoe Field. 2012. *Discovering Statistics Using R*. Thousand Oaks, Calif: SAGE Publications Ltd. ISBN: 978-1-4462-0046-9
- A laptop computer with R ([Windows](#) or [Mac](#)) and [RStudio](#) installed (NOTE: Install R first, then RStudio.)
- A calculator (you can use the calculator on your computer or phone).

### **Course Description**

This course is, first and foremost, a chance for you to become a skilled, skeptical social scientist. Statistics and statistical thinking are a key part of that training. To get there, we will examine the theory and rationale behind statistical analysis in preparation for learning actual statistical analysis techniques. We will then cover basic statistical techniques, ranging from means comparisons (t-tests) to ordinary least squares regression and correlation. Additionally, the course will introduce students to one of the most widely used statistical software packages used in education, research, and business today – R.

### **Course Goals/Outcomes:**

To familiarize students with:

1. probability theory and the nature of statistics
2. why we use statistics
3. how to conduct basic statistical tests
4. how to use software for statistics and data management

At the end of this course, students will:

1. have an understanding of why the statistical imagination is a vital element of science and social scientific research
2. master basic statistical analysis techniques from descriptive to inferential approaches
3. become proficient in the use of R for statistical analysis and data set management

Additional CAPACS Course Outcomes:

- 1) Discuss the history, practice, and ethical use of sociological theory, methods, and interventions at micro, meso, and macro levels of society.
- 2) Understand and apply sociological theories to contemporary social issues, conflicts, and problems in local and global contexts.
- 3) Understand and apply sociological methods to investigate contemporary social issues, conflicts, and problems in local and global contexts.
- 4) Compare and contrast the application of different theories and methods to social issues, conflicts, and problems in society
- 5) Understand and apply sociological methods and theories to concrete situations, contexts, and decision-making processes through applied research and sociological practice activities.
- 6) Prepare and disseminate sociological knowledge in written, oral, and multi-media forms.
- 7) Students will experience professional socialization for majoring in Sociology at UT, for future careers in Sociology, and for preparing to apply to graduate school.

## Technology in the Classroom:

I try to do pretty much everything I can electronically and avoid using paper whenever possible. Homework is completed online and graded automatically. Tests will be done on your computers and will be submitted via email. Your research papers/projects will be turned in electronically via email (no hard papers and absolutely nothing hand-written). Acceptable electronic formats include: **LibreOffice** (preferred; [Office for free here](#)) or Microsoft Word.

I use Blackboard for posting the syllabus, my lecture notes before class, and anything else that I need to post. You need to make sure you are enrolled in Blackboard ASAP. It will probably be a good idea to check Blackboard before each class for my discussion notes and any other postings. If I do not post my notes before class, email me; I probably just forgot to post them.

## Grades:

<i>Assignment</i>	<i>Percentage</i>
Chapter Assignments	25%
Group Project Part 1	2.5%
Group Project Part 2	2.5%
Group Project Part 3	5%
Group Project Part 4	10%
Group Project Presentation	5%
Mid-Term Exam	25%
Final Exam	25%
Total	100%

**Grade Scale:**

Letter Grade	Percentage	GPA
A	$\geq 93\%$	4.00
AB	$\geq 87\%$	3.50
B	$\geq 83\%$	3.00
BC	$\geq 77\%$	2.50
C	$\geq 73\%$	2.00
CD	$\geq 67\%$	1.50
D	$\geq 60\%$	1.00
F	$\leq 60\%$	0.00

**Chapter Assignments**

I am a firm believer that the best way to learn statistics is to do statistics. So, you're going to get a lot of practice doing statistics. With each chapter we cover you will have homework you need to complete. The homework is all on Blackboard and will be graded automatically. The homework is due the class after we complete a chapter. I will not accept late homework. Keep in mind that it is in your best interest to understand what is covered in these assignments, as the exams will test you individually to ensure that you understand these concepts.

While this is an individual assignment, I have no problem with you working in groups after you have attempted to answer the questions on your own first. The first place you should turn for help is the other members of the class – helping others reinforces statistical concepts in your own mind.

**IMPORTANT NOTE:** The very first homework assignment is to install R and RStudio on your laptop. This is due Friday, August 30<sup>th</sup>. If you do not complete this assignment on time, you will **FAIL THE COURSE!**

Depending on how people are doing on the homework, I will also go over some of the homework problems in class to make sure everyone understands them.

## **Groups:**

You get to choose your groups. Groups can only be from 4 to 6 people in size. If you can't find a group, I'll put you in one. I will provide some time in class for group work. That won't be enough time for you to do what you need to do, so you you'll have to communicate outside of class – via email, phone, Blackboard, smoke signals, Facebook, postal mail, Twitter, Snapchat, telegraph, or whatever you young whipper snappers use these days to collaborate.

For the group project, group members must assign a grade to each member of their group indicating the quality of members' participation in the group. I use the peer grades in conjunction with the grade I assign to the finished paper or project as individual grades on group work (how I adjust group members' grades using these group grades is up to me). Generally how it works is: If everyone in your group says you didn't contribute, you get 0 points on the assignment. If they say you didn't do much, I dock your grade. If they say a couple people did a lot, I'll give them a few extra points.

The group grades are due the same day as the group project – no exceptions! It is in your best interest to help in your group project.

NOTE: You can choose to do the group projects alone. You'll be required to do the same amount of work, but by yourself.

## **Group Project**

I like to use my classes to help me conduct research projects. We're going to undertake a research project in this class. This project is broken up into four parts that will be spread throughout the entire semester.

I've been doing some research in a somewhat new area for me – science and technology. I'm particularly interested in Americans' attitudes toward advanced and future technologies. I am working with a Sociology student to conduct a nationally representative survey this semester and will include questions on these technologies. Specifically, I am interested in the following technologies:

- Life extension technology, particularly genetic modification in order to extend life indefinitely
- Body freezing technology; freezing people (or just their heads) to have them re-animated in the future when we have the technology to do so
- Human settlements on Mars
- Genetically modifying embryos to create “designer babies”

Your group is going to take one of these topics, explore relevant peer-reviewed literature related to it, write a literature review, and then analyze the data when we get it and write that up. Basically, you'll be writing the equivalent of a peer-reviewed article as a group

(just one paper for the entire group). The papers will be developed in four parts, which are detailed below. The parts largely correspond to the components of a research paper: Literature Review (parts 1 and 2), Methods (part 3), Results and Discussion (part 4).

### **Part 1:**

The first part of the project will teach you how to use the electronic databases UT has through the library. These databases are largely where academic, scientific, and scholarly research is indexed and made accessible. Before undertaking a research project, you should always see what prior research has already been undertaken on that topic. That will be the first step. Your group will use one of the electronic databases (e.g., JSTOR, Academic Search Complete, or SocIndex) to find peer-reviewed, scientific articles that relate to your topic.

You'll need to find at least 15 peer-reviewed articles published since 1990 that relate to these topics. The first part of the project is simply to find these articles and send them to me so I can provide feedback on them. I want to make sure that the articles you have found are: (1) relevant, (2) peer-reviewed, and (3) will be useful for the project. You'll turn in a properly formatted list of 15 peer-reviewed articles.

To help you properly format your articles, I will teach you how to use the bibliography management software [Zotero](#). For this class, I'll accept your references in either [ASA](#) or [APA](#) format, like this:

Cragun, Ryan T., and Michael Nielsen. 2009. "Fighting Over "Mormon": Media Coverage of the FLDS and LDS." *Dialogue: A Journal of Mormon Thought*.

Also, included in Part 1, you will need to complete the [CITI training](#) that is required for anyone who wants to participate in human subjects research here at UT. This is a free, online course that will teach you about the ethics of doing research with human subjects. (When you register, indicate that you're from the University of Tampa and it will be free. The course you want is: Social-Behavioral-Educational Researchers.) Completing the CITI training is a requirement for this course. If you do not complete the CITI training, you will AUTOMATICALLY RECEIVE AN **F** FOR THIS COURSE. You will turn in your completion certificates individually via email.

### **Part 2:**

After you get feedback on your list of articles, your next step will be to write a literature review using those articles. There are basically two goals to a literature review. First, you need to illustrate to readers that you are familiar with the existing literature on this topic. You are basically illustrating mastery of a topic. Second, you use a literature review to set up your research project. You're basically telling the reader, "Hey. This is a really interesting topic. Other people think so too. That's why they did X, Y, and Z. But, guess what? They didn't do Q. Q is important. So, we decided to do Q and here is what we think we'll find."

Just to make this clear, a literature review is NOT a summary of each article. If you submit as your review 10 summaries of articles, you're going to get a really, really shitty grade on this part. A literature review is a SYNTHESIS of the articles, not a summary. Everyone of the articles you read will be an example of a synthesis. But, if you still need help figuring out how to do this, I'll go over it in class and am happy to meet your group individually as well.

In the paper, you should reference the articles you read when you draw upon them (called in-line citations; the links above to ASA and APA format tell you how to do this). You MUST discuss every article you include in your bibliography at the end of the paper. However, no direct quotes are allowed! If you end up thinking an article from your initial list is irrelevant, then find a new one. A great way to find new articles is to look through the citations in other relevant articles or to do a cited reference search (I can show you how to do this in class).

If you have additional questions about how to write a research paper, see this [guide](#).

### **Part 3:**

After you write up the literature review, the next component of the project will be to write up the methods section. Since we'll discuss the project in class, you'll be fairly knowledgeable about the methodology we'll be using. Research papers always include a methods section that details how the research was conducted so other people can replicate the study. As we discuss, design, and develop the project in class, you should take notes and turn those notes into a methods section detailing the questions we are asking and the participants we are recruiting for the study.

### **Part 4:**

Part 4 is worth the most because it involves writing up two more sections to your paper – the results and discussion sections – and includes bringing all the other sections together as well.

You will analyze the data, and then you'll have to write up the results. The results of the study go in a results section. The results section should detail what we found. Part of the assignment is figuring out what the appropriate statistical test is for our project. However, I am willing to discuss this with groups individually.

Following the results section in a research paper is a discussion section. The aim of the discussion section is to bring the results from your research project into “discussion” with prior research. Basically, in this section you would tell the reader, “We just told you what we found. But we didn't tell you that what we found relates to X, Y, and Z (with citations to those papers) in this way... Also, what we found is really important because it answers Q and Q is really important because...” You're interpreting your results in light of prior research. That is what I'm looking for in your discussion section of your paper.

What you'll turn into me for Part 4 is actually the whole paper: a title page (no need for an abstract, but you can include one if you want), the revised literature review based on my feedback, the revised methods section based on my feedback, and the results and discussion sections, along with your bibliography. This will all be submitted in one Word or LibreOffice (preferred) file via email. The length will vary, but will probably be somewhere between 20 and 30 pages long.

Hopefully, as a result of undertaking this project, you will learn how sociologists undertake research. You'll also learn the component parts of conducting of research, namely: how to find scientific research, how to write a research paper, how to write a literature review, how to design a research project, how to conduct ethical human subjects research, how to analyze data, and how to use citations and references. Plus, you'll be doing original research. Most of my class projects end up getting published. If you're interested in pursuing this as an actual publication, let me know at the end of the class and we can talk about the next steps for getting the actual project published.

There is one additional aspect of this project that I need you to do to align with UT's Quality Enhancement Plan. Every group will need to present their projects. You're going to give a short presentation (5 to 10 minutes) on the last day of class. Your presentation should briefly summarize the relevant literature, talk about the survey questions you analyzed, and discuss your results.

I will make available a grading rubric for this assignment on Blackboard. The rubric will detail what I am looking for in the paper. Check the course calendar for the due date on this assignment. This assignment will be turned in via email.

### ***Mid-Term Exam***

The mid-term exam will be on whatever we have covered up to the date of the mid-term. If it was covered in the book or in class, you will be expected to know it. Generally, the format of my tests in statistics is applied – I will give you problems you need to solve and you will have to use the information you have gained from the class to solve the problems. I generally make the tests open-note and open-book. The test will be on the computer and will probably include some analysis in R.

(Note: I am willing to have review sessions outside of class time before the tests, but it is up to the class if they want one. Also, the class has to bring pizza!)

### ***Final Exam***

The final exam is cumulative. Again, if it was covered in the book or in class, you will be expected to know it. The format is the same as above – take a data set, analyze it, and interpret it for me. I will post a sample exam on Blackboard early in the semester so you can see what it will be like.

## Course Policies

- In the event that a student violates any provision of [The University of Tampa's policy on academic integrity](#), I reserve the right to take whatever course of action I deem to be appropriate given the violation. Such action may include assigning a grade of F to the assignment or the course, without regard to the student's accumulated points. Violations of academic integrity will be handled in accordance with the University's policies. It is the student's responsibility to be familiar with the policies of the university regarding academic integrity and to avoid violating these policies.
- Excused and Unexcused Absences – I am now required to allow excused absences in my classes. The following can result in excused absences: court-imposed legal obligations, a medical procedure, required participation in University-sponsored events, observation of religious holy days, requirements of military service, illness, injury, hospitalization, deaths in the immediate family, consequences of severe weather, and other crises. I don't take attendance in my classes and attendance does not count as part of your grade. However, I will note that this isn't a class you can just casually attend. Every class builds on the previous one. If you don't show up, I promise you that you'll get lost. A fair number of students fail this course, mostly because they don't do the work and don't show up. You've been warned.
- Late papers – If you are unable to turn in a paper on time it will only be accepted if you provide compelling documentation for one of the excused absence justifications noted above. Otherwise, I will not accept it. As noted, I only accept electronic copies of papers. I am also very lenient with my deadlines to begin with, usually midnight of the due date. So, DO NOT print out a paper copy and slip it in my mailbox, under my door, etc. I don't accept paper copies, period! This will not work as a way of claiming that you turned it in on time. If I receive a hard copy of a paper, I will shred it.
- Make-up exams are only offered if you can provide compelling documentation for one of the excused absence justifications noted above. NO EXCEPTIONS!
- Extra Credit – I do not offer or allow extra credit in my classes as a general rule. I may occasionally offer extra credit opportunities (e.g., attend a presentation or participate in an activity), but it is my standing policy that you cannot make up points on a test or paper by doing extra credit. Do it right the first time!
- Cell phones – I get annoyed by cell phones going off in class, just like your other professors. But rather than get mad, I take a different approach. If your cell phone goes off in class, you will have to bring the entire class treats (e.g., candy, donuts, fruit, etc.) for the next class. I have a cell phone and recognize it can be hard to remember to put it on vibrate. So, if my phone goes off, I'll bring treats too. Deal?
- Text Messaging – Cell phones going off is one thing, but not paying attention in class as a result of text messaging is another. This is not allowed. If I see you fiddling with your cell phone I may simply ask you to leave. Text messaging in class is disrespectful. If you really think you have better things to do than



- participate in the class discussion, don't come to class.
- Laptops – You can bring laptops to class for taking notes. That said, please don't abuse this. Use it for taking notes or following my notes, but don't message, surf the web, or do anything else that will distract you from participating in the class. If I find you doing something other than taking notes or following my notes, I may ask you to leave. Again, if you really think you have better things to do than participate in the class discussion, don't come to class. (The one exception is posting about our class discussions on social media. If you do post, make sure you tag me: [@rcragun](#) on Twitter. I'm happy to take questions this way and discuss them in class.)
  - Cheating and plagiarism – As commonly defined, plagiarism consists of passing off as one's own the ideas, words, writing, etc. of another. In accordance with this definition, you are committing plagiarism if you copy the work of another person and turn it in as your own. If you want to quote someone else, then reference or cite them. If you plagiarize you will receive no credit and it will be reported.
  - Student with Disabilities: If there is a student who has special needs because of any disability, please go to the Academic Success Center in North Walker Hall for information regarding registering as a student with a disability. You may also call (813) 257-5757 or email [disability.services@ut.edu](mailto:disability.services@ut.edu). Please feel free to discuss this issue with me, in private, if you need more information.
  - Sexual violence includes nonconsensual sexual contact and nonconsensual sexual intercourse (which is any type of sexual contact without your explicit consent, including rape), dating violence, sexual harassment, sexual exploitation, domestic violence, and stalking. You may reach out for confidential help (see contact info below) or report an incident for investigation. If you choose to write or speak about an incident of sexual violence and disclose that this violence occurred while you were a UT student, the instructor is obligated to report the incident to the Title IX Deputy Coordinator for Students. The purpose of this report is to provide a safe and nondiscriminatory environment for all students. The Deputy Coordinator or his or her designee will contact you to let you know about the resources, accommodations, and support services at UT and possibilities for holding the perpetrator accountable. If you do not want the Title IX Coordinator notified, instead of disclosing this information to your instructor, you can speak confidentially with the individuals listed below. They can connect you with support services and discuss options for holding the perpetrator accountable. There is an exception to this required reporting for preventative education programs and public awareness events or forums. While the instructor is not required to report disclosures during these instances, unless you make or initiate a complaint, during these programs or events, the instructor or another University official will ensure that the students are aware of the available resources at UT, such as counseling, health, and mental health services, and it will provide information about Title IX, how to file a Title IX complaint, how to make a confidential report, and the procedure for reporting sexual violence. For more information, see The University of Tampa's Title IX [resources](#).
  - In case of any adverse condition or situation which could interrupt the schedule of

classes, each student is asked to access [www.ut.edu](http://www.ut.edu) for information about the status of the campus and class meetings. In addition, please refer to [ut.blackboard.com](http://ut.blackboard.com) for announcements and other important information. You are responsible for accessing this information.

## Course Schedule:

(A digital version of the course calendar is available [here](#).)

August 27	go over syllabus; install R/R Studio; introductions; pre-test
August 29	Chapter 1
September 3	Chapter 1
September 5	Chapter 2
September 10	Chapter 2
September 12	Chapter 3
September 17	Chapter 4
	<b>Group Project Part 1 DUE</b>
September 19	Chapter 5
September 24	Chapter 5
September 26	<b>Mid-Term Exam</b>
October 1	Chapter 9 - t-tests
October 3	Chapter 9 - t-tests
	<b>Group Project Part 2 DUE</b>
October 8	Chapter 9 - t-tests
October 10	Chapter 9 - t-tests
October 15	Chapter 10 - ANOVA
October 17	<b>NO CLASS!</b> (work on group project)
October 22	Chapter 10 - ANOVA
October 24	<b>NO CLASS!</b> (work on group project)
October 28	<b>Group Project Part 3 DUE</b>
October 29	Chapter 15 - Non-Parametric Tests
October 31	Chapter 15 - Non-Parametric Tests
November 5	Chapter 15 - Non-Parametric Tests
November 7	<b>NO CLASS!</b> (work on group project)
November 12	Chapter 18 - Chi-Square
November 14	Chapter 18 - Chi-Square
November 19	Chapter 6 - Correlation
November 21	<b>NO CLASS!</b> (Work on group project)
November 26	Chapter 6 - Correlation
November 28	<b>NO CLASS!</b>
December 3	Chapter 7 - Regression
December 5	Chapter 7 - Regression; Group Presentations
December 10	<b>Group Project Part 4 DUE</b>
December 12	<b>Final Exam</b>