

Math 114 – Fall 2023
General Information

Lectures: 39410, 10am – 11am MWF, WPH B28 39416, 1pm – 2pm MWF, GFS 101
Discussions: Register for ONE section below.
39411, 8am – 9am TTh, KAP 113 39417, 12pm – 1pm TTh, KAP 113
39412, 9am – 10am TTh, KAP 113 39418, 1pm – 2pm TTh, KAP 113

Professor: Cymra (pronounced ‘Kimra’) Haskell
chaskell@usc.edu
Office: KAP 438B, (213) 740-2460
Office hours (tentative): Mon 2:00 – 3:30pm (in-person and online), Thu 9:00 – 10:30 am (online only), drop-in (subject to my availability), and by appointment.

TAs: Dylan Park George Wang
dylanpar@usc.edu gwang@usc.edu
The TAs will be holding consulting hours in the Math Center (KAP 263) starting the second week of classes. You can go to the Math Center in-person (KAP 263) or access the Math Center zoom session by going to the Math Center website dornsife.usc.edu/mathcenter and clicking the link there. The TA hours will be posted starting the third week of classes but the Math Center will open the second week of classes on an ad-hoc basis.

Course Description: This course is an introduction to statistics. Statistics is the art and science of making decisions in the presence of variability and analyzing and making generalizations from data. We shall see that it is grounded in probability which is a branch of mathematics and very much scientifically based, but designing experiments and interpreting results is very much an art. We will be wrestling with both the science and art of statistics in this class.

We’ll attempt to cover all the sections of the text (except for Chapter 11) though we may have to forgo some of the latter chapters if time is tight. In certain sections (particularly chapters 1, 2 and 3) we will cover the material in a little more depth than in the text.

The text is *activity-based*. We will do activities together and in small groups and then summarize what we have learned. Don’t expect your learning in this class to be linear; often when ideas are first introduced you may be confused about them, but then we’ll see them again and again, and (hopefully!) clarity will come.

Learning Objectives: By the end of this class you should be able to do the following.

- Identify different types of data and variables (categorical, numerical, single variable, multi-variable, paired).
- Represent data in appropriate ways depending on the type of data, the statistical features to be highlighted, and patterns to be discerned.
- Use simulation effectively both as an exploratory tool and for making statistical inferences.
- Identify valid and invalid statistical inferences depending on the way the data were collected.

- Make statistical inferences using theory and simulation based on observations of a single categorical variable. (Chapters 1 – 3)
- Make statistical inferences using theory and simulation based on observations of a single quantitative variable. (Chapters 2 – 3)
- Compare two population proportions and treatment probabilities and make statistical inferences using simulation and theory. (Chapters 4 – 5)
- Compare two population means and treatment means and make statistical inferences using simulation and theory. (Chapters 4, 6, and 7)
- Explore relationships between several populations. (If and as time allows. Chapters 8 - 10)

More detailed Learning Objectives will be posted on blackboard for each chapter of the text we cover.

Required Text with WileyPLUS: *Introduction to Statistical Investigations, 2nd Edition* by Tintle, Chance, Cobb, Rossman, Roy, Swanson, and Vanderstoep published by Wiley. This is not just a text. It also includes applets, data sets, worksheets, videos, an online homework system called WileyPLUS and practice problems. The ISBN for the e-book along with access to the applets, data sets etc is 978-1-119-68356-8. You can buy access to the e-text and all the other materials through any of the Wiley-PLUS links on blackboard. If you are not sure you want to take this class, there should be a two-week grace period where you will be permitted to access the materials for free. If you buy the text in another way, make sure your purchase includes an access code for WileyPLUS.

Software, Computers, and Calculators: Statistics has undergone a revolution with the increasing computational power we all have at our fingertips. In this course we will make use of that power; we will use applets that come with the text and run on your computer to conduct statistical investigations and you should have the means for doing basic arithmetic calculations including finding square roots of numbers. For tests you will need a simple scientific calculator that can calculate square roots. You may not use a calculator on your phone during tests.

Technology Platforms we'll be using:

Blackboard: <https://blackboard.usc.edu>

This is your go-to place for all information about the class. You can access zoom links to the class meetings (should you need to attend class over zoom), recordings of classes, notes from lectures, class handouts, and information about tests. Through blackboard you will be able to access Gradescope and WileyPLUS.

Gradescope:

This is where you'll submit homework and discussion worksheets. Your enrollment in the course will enroll you in gradescope and you can access gradescope through a link on blackboard.

WileyPLUS:

This is where you'll access information pertaining to the textbook including electronic access to the textbook, applets, datasets, and other materials including practice problems and videos. You will need to purchase access to WileyPLUS (see required text above). You can do this through the link on blackboard (where you'll also be able to access the materials after purchase). You can also purchase access directly from <https://www.wileyplus.com>.

Assignments and Grades:

Weekly Homework: There will be weekly homework assignments which will be due on Friday (starting the second week of class) and submitted on gradescope. These will contribute **15%** toward your grade in the class. The TAs will be grading the homework, so please direct all inquiries about late homework to your TA. However, please note that we will be quite strict about not accepting late assignments.

Tests: There will be two midterm exams and a final exam. The first midterm will constitute **25%**, the second midterm **25%**, and the final exam **35%** of your grade in the class. The midterms will be held during class. You must bring your student id to all tests. The tests will be on the following days.

Test 1:	Wednesday, Sep 27 during class
Test 2:	Wednesday, Nov 1 during class
Final:	Monday, Dec 11, 8am – 10am (39410, MWF 10am class) Wednesday, Dec 13, 11am – 1pm (39416, MWF 11am class)

Your health is more important than anything, so don't risk your health for this class. However, it is serious to miss an exam. If something happens the day of a midterm (you are sick or have a car accident, for example) then you should contact me ASAP. If I can make arrangements to have you take the exam that day (perhaps over zoom) we'll do that. Otherwise, the default option will be to put extra weight on your final exam to account for the missing midterm exam.

You will have two different kinds of extra credit opportunities to reduce the percentage of your grade that is determined by your midterms and final. These are as follows.

Participation: You will be doing activities in small groups during the TTh discussions and there will be occasional activities also during the MWF lectures. Your participation in these activities will contribute up to **5%** of your grade in the class and correspondingly reduce the weight put on the exams as follows. Participation up to the first midterm can reduce the weight put on that midterm by up to **2%**, participation between the first and second midterm can reduce the weight put on the second midterm by up to **2%**, and participation after the second midterm can reduce the weight put on the final by up to **1%**. For example, if your participation score before the first midterm is 7 points out of 10 then you will get 1.4 points (which is 70% of 2 points) and your first midterm will be worth 23.6% instead of 25%.

WileyPLUS Online Homework: There will be WileyPLUS online assignments from each section of the text. These can contribute up to **10%** of your grade in the class and correspondingly reduce the weight put on the midterms. This will work as follows. Assignments from Chapters P and 1 and 2.1 and 2.3 can contribute up to **3%** of your grade in the class and correspondingly reduce the weight put on the first midterm. Assignments from 2.2 and 2.4, Chapter 3 and Chapter 4 can contribute up to **3%** of your grade in the class and correspondingly reduce the weight put on the second midterm. Assignments from Chapter 5 on can contribute up to 4% of your grade in the class and correspondingly reduce the weight put on the final exam.

Grading Scale: To determine grades in the class, your raw scores on the homework assignments, the exams, the in-class activities, and the WileyPLUS assignments will be combined to give a score

out of 100 for each student. The way these scores are converted to letter grades will depend in part on the distribution of scores in the whole class, but I expect the conversion to be approximately according to the following scale.

87 – 100	A-/A
75 – 87	B-/B/B+
60 – 75	C-/C/C+
45 – 60	D-/D/D+
0 – 45	F

In-person versus Remote Attendance and Class Recordings:

I am glad we are all in person but storms, fire, and infectious diseases are still an issue and we need to behave appropriately to keep each other safe. The TAs and I will run all classes in hybrid mode and will record the classes. You may access the zoom sessions and class recordings on blackboard under USC Zoom Pro Meeting (then click on Cloud Recordings for the class recordings).

You may attend remotely if you wish and you *should* attend remotely if you don't feel well. Remote participation will count as participation. However, I don't recommend remote attendance as a regular habit. It is much harder to stay connected with the class when you attend remotely and easier to fall behind. Furthermore, remote attendance is at your own risk; on the rare occasions when there are technological difficulties and you planned to attend remotely, you will be responsible for finding out what was covered that day and you may miss the opportunity to gain participation credit for that day.

Where to go for help:

If you are having difficulty with this class the sooner and more regularly you seek help the more effective that help will be. One of the best places to get help is from your fellow classmates. You are strongly encouraged to study and work on homework together (though simply copying someone else's assignment is not permitted and is a violation of academic integrity). The next best place is to come to my office hours or the TA's hours in the Math Center. The math department also provides the Math Center as an additional source of help. The Math Center is open M – Th, 8am – 7pm and F 8am – 5pm. You can go there to get help with a particular question or you can use it as a study room where you can get help as and when you need it. The plan is to have the Math Center open both physically and virtually, so you can either go in person or access the online zoom session. To access the Math Center zoom session and to find out the schedule of the graduate assistants go to the Math Center website at <http://dornsife.usc.edu/mathcenter>. The Math Center opens the second week of classes. The schedule indicating when the TAs are there will start the third week of classes.

Academic Conduct:

I take academic dishonesty seriously and will report offenses. I encourage you to work together on homework and you are *expected* to work together on discussion worksheets. However, simply copying someone else's work and, in particular, representing it as your own work, constitutes academic dishonesty. All work done during tests must be solely your own work.

Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Part B, Section 11, “Behavior Violating University Standards” policy.usc.edu/scampus-part-b. Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct, policy.usc.edu/scientific-misconduct.

Support Systems:

Counseling and Mental Health - (213) 740-9355 – 24/7 on call

studenthealth.usc.edu/counseling

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

National Suicide Prevention Lifeline - 1 (800) 273-8255 – 24/7 on call

suicidepreventionlifeline.org

Free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.

Relationship and Sexual Violence Prevention Services (RSVP) - (213) 740-9355(WELL), press “0” after hours – 24/7 on call

studenthealth.usc.edu/sexual-assault

Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

Office of Equity and Diversity (OED) - (213) 740-5086 | Title IX – (213) 821-8298

equity.usc.edu, titleix.usc.edu

Information about how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants.

Reporting Incidents of Bias or Harassment - (213) 740-5086 or (213) 821-8298

usc-advocate.symplicity.com/care_report

Avenue to report incidents of bias, hate crimes, and microaggressions to the Office of Equity and Diversity |Title IX for appropriate investigation, supportive measures, and response.

The Office of Student Accessibility Services - (213) 740-0776

osas.usc.edu

Support and accommodations for students with disabilities. Services include assistance in providing readers/notetakers/interpreters, special accommodations for test taking needs, assistance with architectural barriers, assistive technology, and support for individual needs.

USC Campus Support and Intervention - (213) 821-4710

campussupport.usc.edu

Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

Diversity at USC - (213) 740-2101

diversity.usc.edu

Information on events, programs and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

USC Emergency - UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call

dps.usc.edu, emergency.usc.edu

Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

USC Department of Public Safety - UPC: (213) 740-6000, HSC: (323) 442-120 – 24/7 on call

dps.usc.edu

Non-emergency assistance or information.