

Introduction to Statistics

POL 501-30 LEC (1414)

Justin Dollman

E-mail: justin.dollman@stonybrook.edu

Office Hours: by appointment

Office: S749

Web: www.jpauldoll.com

Class Hours: asynchronous

Class Room: *youtube, zoom, blackboard, etc.*

Course Description

As per Solar, *This course acquaints student with statistics. It begins with the basics of applied statistical analysis, including probability and hypothesis testing, and builds to simple regression analysis. Requires use of computer packages.*

More concretely, you will be responsible for learning selected material from *OpenIntro Statistics* (see below). There will be multiple quizzes per week and two comprehensive exams. And this is all supposed to happen within three weeks! You can ignore the bit about ‘requires use of computer packages,’ though.

Course Objectives

Maximizing acquisition of statistical fluency while minimizing suffering. That’s the needle we’re threading, the tightrope we’re walking, the act we’re balancing.

Required Texts

Luckily for you, you’ll be using the best introduction to statistics textbook that exists. It can be found [here](#). You’ll notice that you can either get a hard copy from Amazon (\$20) or you can get the text as a .pdf. If you choose the latter option, it’s up to you to decide how much to pay! The authors of this book did an exceptional job—you should consider contributing at least \$5 dollars.¹

Lectures

At the same url as [above](#) you’ll notice a videos button. Click there to see the videos the OpenIntro authors made for their book. They cover the same material as the book, so you can choose to read either the book or watch the lecture. They’re more [substitutes than complements](#).²

I will also be uploading videos for each section where I expand on the themes from the book. The quizzes and tests will *not* cover material that is only present in those lectures.

¹As you leaf through it you’ll notice that it isn’t properly a statistics for political scientists book. Fret not! There’s no such thing as ‘*statistics for political scientists*’. If you ever see that, it’s just a marketing scam. There’s only statistics. Don’t let anyone tell you otherwise. Statistics are merely *applied* to political science. Sadly, because of the warp-speed break-neck pace of this course we won’t have time to see many applications. No time to smell the roses . . . *C’est la vie*.

²That said, you will *definitely* want to do the exercises in the book. The quiz questions will be suspiciously similar to those exercises.

Exams, Quizzes, Grades

Quizzes

There will be a quiz associated with every session (see course schedule). These quizzes will come straight from the material in the book. All quizzes will be released at the beginning of the week and you will have until the end of the week to turn them in.³ Be careful, though. At the end of weeks two and three there are also exams. Budget your time accordingly.

Exams

There are two exams, a midterm and a final. And there's about a week separating them. I wish it weren't that way, but it is.

You will have a 5-hour period to complete each.

Grades

- 60% of your grade will be determined by your performance on the quizzes.
- 40% of your grade will come from the midterm and final exams (20-% each).

There won't be opportunities for extra credit (when would you have time to do that?!), but both the quizzes and the exams will be very straightforward comprehension tests and applications of the material in the text. An A is yours if you just put in the effort, I promise.

Attendance Policy

None (Obviously)

E-mail Policy

It's my job to respond to you and I'm happy to do. Just don't overdo it, alright?

³In weeks one and two *the end of the week* refers to Sunday evening, but for week three—the week of the final exam—you'll have to turn in the quizzes on by midnight on Friday. The final is the following day! I'm going to do two things to make your lives a little easier. First, I'll release the material a day early that week and I'll grade the quizzes that same night they're due and have them back to you before you take the final.

Class Schedule

As I wrote above, this is a truly warp-speed schedule. We're going to be doing the [Kessel Run](#) in fewer than 12 parsecs. Hold on to your hats, people.

Week 01, 01/04 - 01/08

For all three sessions this week you'll be reading the chapters in their entirety. Because chapter 3 is much denser than chapters 1 and 2, I'd recommend flipping back and forth between chapter 3 and the first two so as to not overwhelm yourselves by trying to take in the equation-heavy third chapter in one go.

Session I: Introduction to Data

Session II: Summarizing Data

Session III: Probability Wrap-Up

Summary for Week 1:

- Readings: chapters 1 - 3 (all sections)
- Three quizzes due by 19:00 EST on 01/10

Week 02, 01/11 - 01/15

Session IV: Random Variables

Unless you really want to, you do **not** need to read all of chapter 4. Just read 4 . 1 and 4 . 3.

Session V: Foundations for Inference

Make sure to read all of 5. It fundamental. Some might even say foundational.

Midterm

The midterm will be posted to Blackboard.com at 13:00 on 01/14, and it's due at 18:00 on the same day. Note: It will *not* cover material from Session V.

Summary for Week 2:

- Readings: Sections 4 . 1 and 4 . 3 and chapter 5 (all sections)
- Two quizzes due by 19:00 EST on 01/17
- One midterm exam

Week 03, 01/18 - 01/22

Session VI: Inference with Categorical Data

This week we'll really start seeing how to test hypotheses. Make sure to read sections 6.1 and 6.3.

Session VII: Inference with Numerical Data

It's the home stretch now. This stuff is kind of complicated, so let's just focus on 7.1 to 7.3. Feel free to read 7.4 and 7.5 in your free time, but you won't be tested on the material.

Session VIII: Intro to Linear Regression

Ok, this is it! My present to you? You can skip 8.3. But if you're the good type of outlier, you'll read it anyway.

Final Exam

The final will be released at 13:00 on 01/23, due at 18:00 on the same day.

Summary for Week 3:

- Readings: Sections 6.1, 6.3, 7.1, 7.3, 8.1, and 8.2.
- Three quizzes due by 19:00 EST on 01/22 (!!)
- One final exam

POL 501 Schedule January

						1	2
3	4	5	6	7	8	9	
10	11	12	13	14	15	16	
17	18	19	20	21	22	23	
24	25	26	27	28	29	30	
31							
Sun	Mon	Tue	Wed	Thu	Fri	Sat	

Exam
 Quizzes Due

University Policies

Student Accessibility Support Center Statement

If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact the Student Accessibility Support Center, 128 ECC Building, (631) 632-6748, or at sasc@stonybrook.edu. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.

Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and the Student Accessibility Support Center. For procedures and information go to [this website](#) and search “Fire Safety and Evacuation and Disabilities”.

Academic Integrity Statement

Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person’s work as your own is always wrong. Faculty is required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Technology & Management, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty please refer to [the academic judiciary website](#).

Important Note: Any form of academic dishonesty, including cheating and plagiarism, will be reported to the Academic Judiciary.

Critical Incident Management

Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of University Community Standards any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students’ ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures. Further information about most academic matters can be found in the Undergraduate Bulletin, the Undergraduate Class Schedule, and the Faculty-Employee Handbook.

Course Policies

Understand When You May Drop This Course: It is the student’s responsibility to understand when they need to consider withdrawing from a course. Refer to the [Stony Brook Academic Schedule](#) for dates and deadlines for registration.

- Undergraduate Course Load and Course Withdrawal Policy
- Graduate Course Changes Policy

Incomplete Policy: Under emergency/special circumstances, students may petition for an incomplete grade. Circumstances must be documented and significant enough to merit an incomplete. If you need to request an incomplete for this course, contact me for approval as far in advance as possible.

Course Materials and Copyright Statement: Course material accessed from Blackboard, SB Connect, SB Capture or a Stony Brook Course website is for the exclusive use of students who are

currently enrolled in the course. Content from these systems cannot be reused or distributed without written permission of the instructor and/or the copyright holder. Duplication of materials protected by copyright, without permission of the copyright holder is a violation of the Federal copyright law, as well as a violation of Stony Brook's Academic Integrity.

Online Communication Guidelines and Learning Resources: Maintain professional conduct both in the classroom and online. The classroom is a professional environment where academic debate and learning take place. I will make every effort to make this environment safe for you to share your opinions, ideas, and beliefs. In return, you are expected to respect the opinions, ideas, and beliefs of other students—both in the face-to-face classroom and online communication. Students have the right and privilege to learn in the class, free from harassment and disruption. The course follows the standards set in the Student Code of Conduct, and students are subject to disciplinary action for violation of that code. If your behavior does not follow the course etiquette standards stated below, the grade you receive for a posting may suffer. I reserve the right to remove any discussion messages that display inappropriate language or content.

Online Etiquette:

- Offensive language or rudeness will not be tolerated. Discuss ideas, not the person.
- Avoid cluttering your messages with excessive emphasis (stars, arrows, exclamations).
- If you are responding to a message, include the relevant part of the original message in your reply, or refer to the original post to avoid confusion;
- Be specific and clear, especially when asking questions.
- Use standard punctuation and capitalization. Using all UPPERCASE characters gives the appearance of shouting and makes the message less legible;
- Remember that not all readers have English as their native language, so make allowances for possible misunderstandings and unintended discourtesies. **Online Classes Require Better Communication:** It is important to remember that we will not have the non-verbal cues that occur in a face-to-face classroom. I cannot see the confused, frustrated, or unhappy expressions on your face if you encounter problems. You **MUST** communicate with me so that I can help. To make the experience go smoothly, remember that you're responsible for initiating more contact, and being direct, persistent, and vocal when you don't understand something.

My Role as the Instructor: As the instructor, I will serve as a "guide" in our online classroom. While I will not respond to every post, I will read what is posted, and reply when necessary. Expect instructor posts in the following situations:

- To assist each of you when it comes to making connections between discussion, lectures, and textbook material.
- To fill in important things that may have been missed.
- To re-direct discussion when it gets "out of hand."
- To point out key points or to identify valuable posts.

Student Resources

Academic and Major Advising (undergraduate only): Have questions about choosing the right course? Contact an advisor today. Phone and emails vary—please see [website](#) for additional contact information.

Academic Success and Tutoring Center (undergraduate only): <https://www.stonybrook.edu/>

[tutoring/](#)

Amazon @ Stony Brook: Order your books before classes begin.

- Phone: 631-632-9828
- email: Bookstore_Liaison@stonybrook.edu
- website: <http://www.stonybrook.edu/bookstore/>

Bursar: For help with billing and payment.

- Phone: 631-632-9316
- email: bursar@stonybrook.edu
- website: <http://www.stonybrook.edu/bursar/>

Career Center: The Career Center's mission is to support the academic mission of Stony Brook University by educating students about the career decision-making process, helping them plan and attain their career goals, and assisting with their smooth transition to the workplace or further education.

- Phone: 631-632-6810
- email: sbucareercenter@stonybrook.edu
- website: <http://www.stonybrook.edu/career-center/>

Counseling and Psychological Services: CAPS staff are available by phone, day or night. <http://studentaffairs.stonybrook.edu/caps/>

Ombuds Office: The Stony Brook University Ombuds Office provides an alternative channel for confidential, impartial, independent and informal dispute resolution services for the entire University community. We provide a safe place to voice your concerns and explore options for productive conflict management and resolution. The Ombuds Office is a source of confidential advice and information about University policies and procedures and helps individuals and groups address university-related conflicts and concerns. <http://www.stonybrook.edu/ombuds/>

Registrar: Having a registration issue? Let them know.

- Phone: 631-632-6175
- email: registrar_office@stonybrook.edu
- <http://www.stonybrook.edu/registrar/>

SBU Libraries: access to and help in using databases, ebooks, and other sources for your research.

- Research Guides and Tutorials: <http://guides.library.stonybrook.edu/>
- Getting Help: <https://library.stonybrook.edu/research/ask-a-librarian/>

Student Accessibility Support Center: Students in need of special accommodations should contact SASC.

- Phone: 631-632-6748
- email: sasc@stonybrook.edu
- <https://www.stonybrook.edu/sasc/>

Support for Online Learning: <https://www.stonybrook.edu/online/>

Writing Center: Students are able to schedule face-to-face and online appointments. <https://www.stonybrook.edu/writingcenter/>