

Health Data Analysis Practicum (AS.280.347) – Spring 2021 Course Syllabus

Instructors:

Leah Jager, Assistant Scientist, Department of Biostatistics

she/her/hers

ljager@jhu.edu

Margaret Taub, Associate Scientist, Department of Biostatistics

she/her/hers

mtaub@jhsph.edu

Teaching Assistant:

Grant Schumock, PhD Student, Department of Biostatistics

he/him/his

gschumo1@jhu.edu

Bloomberg School of Public Health

615 N. Wolfe Street

Baltimore, Maryland 21205

Meetings:

Mondays, 3:00-4:30pm, at this [Zoom link](#)

Students are also strongly encouraged to find a regular time each week to attend at least one office hour session, times TBD.

Learning objective: The course objective is to *enable each student to enhance his or her quantitative, scientific reasoning and to achieve a functional standard in statistical data analysis using the R statistical language*. Statistics is about quantitative approaches - ideas and skills - to address scientific questions. This course is intended to develop practical skills in using data to seek answers to research questions. Each week we will introduce new statistical and analysis and programming concepts that students will be expected to master through independent work.

Prerequisites:

Public Health Biostatistics (AS.280.345) or equivalent

Some knowledge of R

Format: The course is organized in a small group, participatory format to promote communication and mastery of new ideas and skills using the R statistical language. Bring your laptop to each course meeting. You are strongly encouraged to work together in informal groups prior to meetings to develop your teamwork skills, in particular listening and teaching.

The course is organized into three “modules”. Each module is built around a public health question. The question and data will be provided for Modules 1 and 2; you will

identify a dataset and question for Module 3. During Module 3, students will present the analysis of their own data to receive critiques from their colleagues.

Communicating with instructors and the TA: Please email the course instructors at the email address phbiostats@jhu.edu. If asking a question about code or other work for an assignment, please also copy the TA (gschumo1@jhu.edu) on your email as well. If you email the instructors at their individual accounts about a course-related matter, you will not receive a reply.

Student evaluation: The goal of the grading method is to reward students who themselves master statistical ideas and methods as demonstrated through their class presentations and final project and who help others do the same as measured by faculty and student assessment of collaborative and communication skills. The grades assigned in the course and their qualitative meanings are: A – excellent; B – good; C- fair; D-poor; F-failing. The distribution of grades is not pre-specified.

Student work will be evaluated with the following weighting

- Class participation that demonstrates growth toward mastery of the statistical ideas and methods, and their implementation using R:
 - Weekly small assignments – **15%**
 - Class attendance and participation in synchronous discussion – **10%**
 - Contribution to class discussions on Piazza (at least 10 contributions over the semester, but we hope you will make many more!) – **10%**
- Project reports/presentations – **20%** each for Modules 1-2, **25%** for Module 3

R-learning modules: To help you gain facility is using R, we suggest you explore the resources available on RStudio Cloud, which has various tutorials available on different topics. You can access these by clicking on the “Primers” link in the “Learn” section of the left-hand menu of RStudio. Although not required, we strongly recommend using these excellent interactive resources to help you learn R.

R for Data Science: Another great resource for learning R is the online book "R for Data Science" by Hadley Wickham and Garrett Grolemund. You can access this book for free at: <https://r4ds.had.co.nz/>

Getting ready: The course Blackboard site is now open; please go to **Public Health Modules -> Week 0: Before January 25** and follow all the instructions there to get yourself ready to start class on Monday. These instructions will help you set up your computing environment for the semester (with RStudio Cloud and GitHub) and have you complete a short introductory assignment that you will submit through Github. You will also create an account on Piazza and introduce yourself to the class. We are happy to help with any issues you have; just post on Piazza (you can post anonymously if you prefer) and let us know where you are getting stuck.

We look forward to a fun and engaging semester with all of you!

Additional course policies and resources:

Attendance:

Attendance at all course meetings is required and will contribute to assessment of class participation and collaboration. However, students who heed the advice of health professionals to stay home due to illness and thus miss class will be accommodated. Students who must miss a class because of a religious holiday must inform the instructor as early in the semester as possible in order to make up any work that is missed.

Student athletes are responsible for submitting their semester schedule in writing during the first week of class. The only excused absences for athletic related purposes will be for competition related events.

Late work:

Assignments are due on the dates indicated in class and on Blackboard. Late assignments will only be accepted when prior approval for late submission was given in advance of the due date.

Classroom Climate:

We are committed to creating a classroom environment that values the diversity of experiences and perspectives that all students bring. In particular, students will be expected to follow the **Department of Biostatistics Code of Conduct** as outlined [here](#). As instructors, we are committed to providing a welcoming, intellectually stimulating, and inclusive experience for everyone in our class, regardless of their origins, personal characteristics, or beliefs. We will not tolerate discrimination or harassment with respect to sex, race, ethnicity, sexual orientation, religious beliefs, or other characteristics comprising people's status and identities in our class. Everyone here has the right to be treated with dignity and respect. We thank you for your commitment to making our class a supportive place to learn.

We believe fostering an inclusive climate is important because research and our experience show that students who interact with peers who are different from themselves learn new things and experience tangible educational outcomes. Please join us in creating a welcoming and vibrant classroom climate. Note that you should expect to be challenged intellectually by us, the TAs, and your peers, and at times this may feel uncomfortable. Indeed, it can be helpful to be pushed sometimes in order to learn and grow. But at no time in this learning process should someone be singled out or treated unequally on the basis of any seen or unseen part of their identity.

If you ever have concerns in this course about harassment, discrimination, or any unequal treatment, or if you seek accommodations or resources, we invite you to share directly with us or the TAs. We promise that we will take your communication seriously and to seek mutually acceptable resolutions and accommodations. Reporting will never impact your course grade. You may also share concerns with the Director of

Undergraduate Studies in Public Health (Maria Bulzacchelli, mbulzac1@jhu.edu), the Assistant Dean for Diversity and Inclusion (Darlene Saporu, dsaporu@jhu.edu), or the Office of Institutional Equity (oie@jhu.edu). In handling reports, people will protect your privacy as much as possible, but faculty and staff are required to officially report information for some cases (e.g. sexual harassment).

Piazza guidelines:

While we are excited to incorporate Piazza into our course to aid in your learning and in building connections among us in this online format, we are requiring all users to follow these specific guidelines:

1. All posts must adhere to course conduct policies; you are allowed to post so that you are anonymous to your fellow students, but instructors will always be able to see the author of every post.
2. No posts will be allowed during the time windows where quizzes and exams are ongoing, nor should any posts about quizzes or exams be made prior to release of grades for these assessments on Blackboard.
3. **Specific solutions to project assignments are not to be discussed on Piazza.**
The projects are intended to showcase your individual understanding of the course materials, and while you can initially work with a small group of other students, the final write-up must be done independently and reflect your individual effort and understanding of the material. This means that specific project solutions should not be discussed on Piazza and any such posts will be removed by the instructors.
4. However, we encourage posts with slides from lectures asking for clarification, and requests for clarification on practice problems from past quizzes, logistics, “check your understanding” questions, self-evaluation problem questions, and concepts related to the project content.

Disability:

If you are a student with a disability or believe you might have a disability that requires accommodations, please contact Student Disability Services, (410) 516-4720, studentdisabilityservices@jhu.edu. To learn more about how to request an accommodation, see <http://web.jhu.edu/disabilities/students/admitted/registering.html>.

The Office of Academic Support at JHU

<https://academicsupport.jhu.edu>

All programs are free to students, please see below for specifics:

- **PILOT Learning** – Peer-Led Team Learning

- Students are organized into small study teams who meet weekly to collaborate on faculty-developed problems-sets. Students work together as a team to solve problems.
- A trained student leader acts as captain and facilitates the weekly meetings using various strategies to foster a collaborative learning environment.
- Registration opens on August 31st at 9pm EST; registration will remain open throughout the semester if space allows.
- Contact: Ariane Kelly - ariane.kelly@jhu.edu
- Instagram: @jhupilot
- **Learning Den Tutoring Program** - Small Group Tutoring
 - Small group, tailored tutoring of 4 students or less which is headed by one tutor. Visit the website (above) to access zoom links for drop-in sessions
 - Tutors can assist with but are not limited to:
 - Review and strengthening of subject-specific material knowledge
 - Assist with homework-like problems
 - Course-specific study skills and exam preparation
 - Contact: Kaitlin Quigley – quigley@jhu.edu
 - Instagram: @jhulearningden
- **The Study Consulting Program**
 - Students work one-on-one with a study consultant to set academic goals and develop customized strategies for success. Areas addressed include but are not limited to:
 - Time management
 - Note taking and test preparation
 - Mastering large amounts of information
 - Contact: Dr. Sharleen Argamaso – sharleen.argamaso@jhu.edu
 - Instagram: @jhustudyconsulting
- **The Writing Center**
 - Undergraduate and graduate students in KSAS/Whiting School of Engineering can schedule 50-min sessions with a Writing Center tutor to look over a draft of written work (up to 10 pages) or a personal statement for graduate study
 - Contact: Robert Tinkle – rtinkle1@jhu.edu
 - Web Address: <https://krieger.jhu.edu/writingcenter/>

Mental health resources (note that some of this may have changed due to COVID-19):

Overall wellness information: wellness.jhu.edu

If you are struggling with anxiety, stress, depression or other mental health related concerns, please consider using the JHU mental and emotional health resources. The resources are described and can be accessed at <https://wellness.jhu.edu/resources/mental/>.

Counseling Center (studentaffairs.jhu.edu/counselingcenter), 3003 N Charles Street, Homewood Apartments, Suite S-200. 410-516-8278

Individual, couples, and group therapy; psychiatric consultation; workshops; LGBTQ resources; international student support; crisis response

Office of the Dean of Student Life (studentaffairs.jhu.edu/hopreach), Mattin Center, Suite 210. 410-516-8208

Case managers respond within 24 hours to reports of student distress, reaching out to students to problem-solve and refer. Faculty, staff, students, and families may report concerns via the Public Reporting Form: tinyurl.com/hopreach-report.

CHEW (Center for Health Education and Wellness) (studentaffairs.jhu.edu/chew), AMR II. 410-516-8396

In one-on-one confidential educational sessions (20–60 minutes) with a Certified Health Education Specialist, students develop personalized wellness goals.

A Place to Talk (APTT) (pages.jh.edu/aptt). A Zoom room is open Tuesdays & Thursdays 9 - 11 pm EST and Wednesdays 11 am - 1 pm EST.

Peer Listeners are undergraduates with 50 hours of training in listening skills and crisis intervention in partnership with the JHU Counseling Center. Private, open late.

Family accommodation policy:

You are welcome to bring a family member to class on occasional days when your responsibilities require it (for example, if emergency child care is unavailable, or for health needs of a relative). In fact, you may see our children in class on days when their school is closed. Please be sensitive to the classroom environment, and if your family member becomes uncomfortably disruptive, you may leave the classroom and return as needed.