

Health Data Analysis Practicum (AS.280.347) – Spring 2022

Course Syllabus

Instructors:

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Meetings:

Mondays and Wednesdays, 3:00-4:15pm, in Gilman 75

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: If asking a question about code or other work for an assignment, or general course logistics, please post to the course Piazza message board. Your posts can be anonymous to your classmates if you prefer, but by posting on Piazza, everyone in the class can learn from your question. If you need to contact the course instructors about a private matter, please email us at phbiostats@jhu.edu. 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 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 Golemund. 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: Set up accounts before class on January 24** 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). 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, Equity and Inclusion (Araceli Frias, afrias3@jhu.edu), or the Office of Institutional Equity (oiie@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 want to remind you that 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 so please remember to always be constructive and courteous in your feedback to your classmates.

Students with Disabilities - Accommodations and Accessibility:

Johns Hopkins University values diversity and inclusion. We are committed to providing welcoming, equitable, and accessible educational experiences for all students. Students with disabilities (including those with psychological conditions, medical conditions and temporary disabilities) can request accommodations for this course by providing an Accommodation Letter issued by Student Disability Services (SDS). Please request accommodations for this course as early as possible to provide time for effective communication and arrangements. Please contact Student Disability Services, (410) 516-4720, studentdisabilityservices@jhu.edu. Or to learn more about how to request an accommodation: <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:

- **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.