

Syllabus

Epi/Biostats Summer and Winter Institutes - Introduction to R for Public Health Researchers 140.886.13

Class Website: http://jhudatascience.org/intro_to_r/

CoursePlus: <https://courseplus.jhu.edu/core/index.cfm/go/syl:syl.public.view/coid/14746/>

Zoom link will be emailed to students.

Day/Time: June 14-18: 8:30AM-11:50AM on Zoom

Instructors: Carrie Wright (cwrigh60@jhu.edu), Ava Hoffman (ava.hoffman@jhu.edu), and Marta Karas (mkaras2@jhmi.edu)

TAs: Grant Schumock (gschumo1@jhmi.edu), Michael Breshock (mbresho1@jhu.edu)

Communication will mainly occur through Slack and we will email you about how to connect to slack.

Overview: This course will provide “hands-on” training for learning how to analyze data in the R statistical software package. We will cover data input/output, data management and manipulation, and how to make useful and informative graphics

Course Format: Each class will consist of 2 or 3 hour-long modules: each module features an “interactive” lecture (where students can work follow along on their laptops) and an R programming lab, where student apply the skills taught in the modules to real data.

By the end of the course, students should be comfortable:

- Reading data into R
- Recoding and manipulating data
- Using R add-on packages
- Making exploratory plots
- Performing basic statistical tests
- Understanding basic programming syntax
- Creating reproducible R documents

Tentative Schedule:

Day 1

- Introduction
- R Studio
- Basic R: Variables/Objects in R
- Data Input/Output

Day 2

- Subsetting
- Summarization

Day 3

- Data Classes
- Data Cleaning

Day 4

- Manipulation
- Visualization

Day 5

- Statistics
- Reproducible Research
- Functions

Grading

1. Attendance/Participation: 20%
2. Nightly Homework: 3 x 15%
3. Final “Project”: 35%