Welcome to Biost 561, Computational Skills for Biostatistics 1!

This course treats advanced programming and computing skills for biostatistics. It is intended as an add-on to Biost 514. In 514 students see basic R commands, and many examples using those commands. 561 introduces more sophisticated use of R, and other programming techniques and tools, including an introduction to using departmental computing resources.

Logistics

- Instructor: Amy Willis
- Lectures: Thursday 2:30pm - 3:20pm, HSRR RR134. This classroom is very difficult to find, so please plan to arrive early!
- Materials: I will distribute materials using github and github classroom. Specifically, all homeworks and course notes will be available from github, but homework will be submitted via github classroom.
- Assessment: Weekly homework, no exams. While attendance will not be formally recorded, credit will not be given if a student does not regularly attend lecture.
- Homework: There will be a short exercise following each class, due the next week in class. To obtain credit for the class, students must make a good faith effort to answer every part of each exercise. Solutions will be read and corrected but
not graded. Students who will miss the deadline for any exercise should contact me as early as possible so that we can come to a fair arrangement.

- Discussion with classmates: Highly encouraged! However, you must code and write up your homework on your own. As a general rule, conversations regarding homework should not involve taking notes, and never involve emailing or copying code.
- Office hours: Tuesdays 3-4 p.m. in Health Sciences F657. Please bring your laptop if you want to show problems "live".
- Accessibility: Please contact me as soon as possible to let me know what accommodations you need.

Please contact me via email: ad[my-last-name]@uw.edu. I try not to check my email more than twice per day, so please be patient with me if I don’t respond immediately!

Schedule (subject to change!)

- 9/28 Lecture 1: Intro to version control, types, methods
- 10/5 Lecture 2: Efficient loops, functions
- 10/12 Lecture 3: Pipes
- 10/19 Lecture 4: ggplot, shiny *
- 10/26 Lecture 5: Debugging, profiling
- 11/2 Lecture 6: LaTex, Markdown, knitr *
- 11/9 Lecture 7: More version control, writing packages, namespaces *
- 11/16 Lecture 8: unix, shell, UW cluster computing *
- 11/23 no class; Thanksgiving
- 11/30 Lecture 9: Calling C/C++ in R *
- 12/7 Lecture 10: Python *

* Indicates guest lecture by one of your classmates!

The homework based on the prior week’s lecture will be due at 2 p.m. sharp on Thursdays.

Inclusivity

Diverse backgrounds, embodiments, and experiences are essential to the critical thinking endeavor at the heart of university education. I expect you to follow the UW Student Conduct Code in your interactions with your colleagues and me in this course by respecting the many social and cultural differences among us. Please talk with me right away if you experience disrespect in this class, and I will work to address it as best I can. I hope you will feel comfortable speaking with me if you feel that I could make my classroom more inclusive. If you do not feel comfortable speaking with me, I encourage you to contact DCinfo@uw.edu, a resource for students with classroom climate concerns.

Access and Accommodations

Your experience in this class is important to me and I will do my best to create an environment where you can do your best work. If you have accessibility needs, please contact me as soon as possible to let me know how I can accommodate you.

I acknowledge that I sometimes speak very fast, especially when presenting in public on a topic that I am enthusiastic about. I recognise that this makes it very difficult for non-native English speakers. I will never be offended if you ask me to repeat an explanation, or if you ask me to speak more slowly. Please let me know if my accent or speaking pace is difficult for you and I will try to modify.
There is also formal infrastructure for arranging accessibility on campus, and I encourage you to contact them: Disability Resources for Students (DRS, uwdrs@uw.edu, 206-543-8924). If you have already established accommodations with DRS, please communicate your approved accommodations to me at your earliest convenience so we can discuss your needs in this course. If you have not yet established services through DRS, but have a temporary health condition or permanent disability that requires accommodations (conditions include but not limited to; mental health, attention-related, learning, vision, hearing, physical or health impacts), you are also welcome to contact DRS. DRS offers resources and coordinates reasonable accommodations for students with disabilities and/or temporary health conditions. Reasonable accommodations are established through an interactive process between you, me (as your instructor) and DRS. It is the policy and practice of the University of Washington to create inclusive and accessible learning environments, and I will do my best to uphold the standards in and outside of my classroom.

**Academic Integrity**

UW students are expected to maintain the highest standards of academic conduct, professional honesty, and personal integrity. The School of Public Health (SPH) is committed to upholding standards of academic integrity consistent with the academic and professional communities of which it is a part. Plagiarism, cheating, and other misconduct are serious violations of the University of Washington Student Conduct Code (WAC 478-120). We expect you to know and follow the university’s policies on cheating and plagiarism, and the SPH Academic Integrity Policy. Any suspected cases of academic misconduct will be handled according to University of Washington regulations. For more information, see the University of Washington Community Standards and Student Conduct website.

In this class, discussing homework and lectures is acceptable, but taking notes during discussions of homework with your classmates is not permitted. You are strongly encouraged to use online resources to supplement your understanding of the material, and for help with your homework.