CSDE 502 Winter 2022
Syllabus

Instructor and Office Hours

Phil Hurvitz
Raitt Hall 218 F
phurvitz@uw.edu
Office hours by appointment

Time and Location

Friday 10:30 AM to 12:20 PM
Zoom: https://washington.zoom.us/j/976094407559

Course Description

This is a required course for students wishing to obtain a Demographic Methods Graduate Certificate from CSDE (https://csde.washington.edu/training/demographic-certificate/). However, it is open to all interested students.

Scope: This course is meant to fill a perceived curriculum gap between methods courses that emphasize study design and statistics courses that teach statistical analysis. It focuses on applied methods for data preparation and will introduce the following topics: data management and documentation, data cleaning and variable creation, summarizing variables, working with demographic data, and reproducibility. In short, this course teaches introductory "data wrangling" focused primarily on demographic analysis applications.

CSDE 502 is tightly paired with SOC/CSSS/CSDE 533 A (Research Methods in Demography) Techniques introduced in this course will be applied in CSDE 533. Some analytic topics introduced in CSDE 533 will be covered in more depth, with explanation of the data and processing in.

Objectives: Upon completion, you will be familiar with a range of data processing approaches for quantitative demographic analysis. These skills will support your understanding and use of concepts and tools of demography introduced in CSDE 533.

Class format

- Address outstanding issues from previous sessions or assignments (~10 minutes)
- A brief lecture to introduce the topics of the day (~5 minutes)
- A hands-on instructional session (~75 minutes)
- Overview/clarification of assignment (~10 minutes)

Pre-requisites

Introductory graduate level research methods and statistics, basic knowledge of R and RStudio. See https://csde.washington.edu/training/demographic-certificate/csde-502/#WinterQuarter for more details.

Requirements and Grading
This is a 2 credit, pass/fail course. In order to pass the course, students must attend class sessions and satisfactorily complete the homework assignments. There will be weekly lectures and assignments to be completed outside of scheduled class times.

Dates of instruction:

January 2022

Su	Mo	Tu	We	Th	Fr	Sa
						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					

February 2022

Su	Mo	Tu	We	Th	Fr	Sa
		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					

Su	Mo	Tu	We	Th	Fr	Sa
		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		

Course Outline

Class 1: Jan 10	• Course introduction • Getting started with CSDE terminal server 4 • Introduction to R/RStudio/RMarkdown • R data types • R data structures • Data manipulation in the tidyverse • Employee turnover data

Class 2: Jan 17	• Rmarkdown
	  ○ Code blocks in R Markdown
	  ○ Graphs in R Markdown
	  ○ Tables in R Markdown
	  ○ Equations in R Markdown
	  ○ HTML output from R Markdown
	• Keyring: securely store secrets
	• Data:
	  ○ Human Mortality Database
	  ○ Human Fertility Database

Class 3: Jan 24	• tidycensus: Load US Census Boundary and Attribute Data as 'tidyverse' and 'sf'-Ready Data Frames • idbr: R Interface to the US Census Bureau International Data Base API • sf: Simple Features for R: Simple Features (GIS) for R • leaflet: Create Interactive Web Maps with the JavaScript 'Leaflet' Library • mapview: Interactive Viewing of Spatial Data in R • demogR: Analysis of Age-Structured Demographic Models • demography: Forecasting Mortality, Fertility, Migration and Population Data; An R intro to the demography package) • Pretty printouts of life tables with flextable and DT • Data:

	○ Accessing Human Mortality Database life tables using HMDHFDplus
Class 4: Jan 31	• R environments • R functions ○ Revisiting Ben's code for reading HMD and HFD data • Sampling in R
Class 5: Feb 7	• Git: file versioning and code repository
Class 6: Feb 14	• Reading labelled data • Metadata on data sets • Ccmpp: Cohort Component Method of Population Projection • Data: ○ Add Health public-use data
Class 7: Feb 21	• Creating value labels • Tabulation (summarizing data)
Class 8: Feb 28	• Scale scoring variables • Reordering variable values
Class 9: Mar 6	• Miscellaneous data processing
Class 10: Mar 13	• Miscellaneous data processing, continued

Class email list: csde502a_wi22@uw.edu

Class materials can be found in the course's web page (https://csde-uw.github.io/csde502-winter-2022/) and Canvas site (https://canvas.uw.edu/courses/1515226).

Assignments
Each week there will be an assignment made available at 12:00 on the day of class meetings. The assignments are designed to allow students to practice the skills introduced in class sessions. **Assignments are due at 09:00 AM on Friday of the week following when the assignment was distributed**; answer keys will be posted at this time. Because the answer keys are posted at the due date/time, late work will not be reviewed without prior arrangement with the instructor. Assignments are to be submitted using the Canvas site; do not send any assignments to the instructor via e-mail.

Religious Accommodation
Washington state law requires that UW develop a policy for accommodation of student absences or significant hardship due to reasons of faith or conscience, or for organized religious activities. The UW's policy, including more information about how to request an accommodation, is available at Religious Accommodations Policy (https://registrar.washington.edu/staffandfaculty/religious-accommodations-policy/). Accommodations must be requested within the first two weeks of this course using the Religious Accommodations Request form (https://registrar.washington.edu/students/religious-accommodations-request/)

Conduct
The University of Washington Student Conduct Code (WAC 478-121) defines prohibited academic and behavioral conduct and describes how the University holds students accountable as they pursue their academic goals. Allegations of misconduct by students may be referred to the appropriate campus office for investigation and resolution. More information can be found online at https://www.washington.edu/studentconduct/.

Access and Accommodations
Your experience in this class is important to me. If you have already established accommodations with Disability Resources for Students (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 welcome to contact DRS at 206-543-8924 or uwdrs@uw.edu or disability.uw.edu. 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, your instructor(s) and DRS. It is the policy and practice of the University of Washington to create inclusive and accessible learning environments consistent with federal and state law.

Academic Integrity
The University takes academic integrity very seriously. Behaving with integrity is part of our responsibility to our shared learning community. If you are uncertain about if something is academic misconduct, ask me. I am willing to discuss questions you might have.

Acts of academic misconduct may include but are not limited to:

- Cheating (working collaboratively on quizzes/exams and discussion submissions, sharing answers and previewing quizzes/exams)
- Plagiarism (representing the work of others as your own without giving appropriate credit to the original author(s))
- Unauthorized collaboration (working with each other on assignments)

Concerns about these or other behaviors prohibited by the Student Conduct Code will be referred for investigation and adjudication by the office of the Dean of Arts and Sciences.

Safety
Call SafeCampus at 206-685-7233 anytime – no matter where you work or study – to anonymously discuss safety and well-being concerns for yourself or others. SafeCampus's team of caring professionals will provide individualized support, while discussing short- and long-term solutions and connecting you with additional resources when requested.