239430 Programming, Data Management and Visualization

Course, 2.00 hours, 4.00 ECTS credits

Wednesday, 10.15-11.45
October 4th, 2023, to January 24th, 2024

Lecturer
Mag. Imola Csóka

Entry requirements
There are no formal requirements, and students from all fields are welcome. However, a basic understanding of econometrics and statistical programming at the level of KS Empirical Economics and/or KS Intermediate Econometrics is necessary. Students who did not take these classes are urged to learn the material prior to the start of the semester.

Objectives
Students learn advanced concepts in programming and data management using the statistical software package Stata. Upon successful completion, students are capable to handle Stata and understand data management at a level required for the subsequent classes in the JKU econometrics curriculum (e.g., KS/IK Treatment Evaluation, KS Microeconometrics, etc).

Content
We start by discussing how to set up empirical projects, arrange codes, use version control and collaborate on GitHub, and how to work with functions, macros, scalars, and matrices in Stata. Based on these preliminaries, we will cover topics in data management (specifically how to combine, reorganize, and clean data), programming (e.g., how to use loops), as well as data analysis and visualization. A specific emphasis is placed on econometrics and big data. Most examples and exercises will be based on exemplary real-world data from the Austrian Social Security Database. We will discuss several particularities in handling big data sets throughout the course of the lecture.

Grading
50% problem sets, 50% take-home exam at the end of the semester.