FME3518 Advanced Quantitative Methods
7.5 credits, 2023

April 11, 2023

Course main content: This is a course in practical application of advanced quantitative methods for doctoral students. The course first introduces methods to collect and store data from existing databases, generate new data by survey approaches, and prepare data further analysis. Second, the course provides theoretical background to analyse data. Third, it focus established models to estimate data. Finally the students applies quantitative methods by replicating existing research from a large number of examples and prepare to presents their work as professional papers.

Course content:

* Data processing.
* Introduction to SQL.
* Linear estimation methods.
* Methods for panel data estimation.
* Instrumental variable regressions.
* Difference-in-difference, matching and event studies.
* Choice modelling using multinomial frameworks.
* Special topics (individual choices),
* Transformation of model, tables and figures into documents written in LaTeX markup language.

Intended learning outcomes:

Upon completion of the course participants will be equipped with a stronger set of skills and knowledge to:

* Find estimators that have desirable statistical properties including unbiasedness, efficiency, and consistency.
* Apply real-world data for assessing theories, analyse relationships and making inferences.
* Design and implement a specific empirical research project.
* Present empirical research project as a scientific paper.

* Critically evaluate research done by others.

Examinations: Assignments and term-paper.
Literature: The course administration will provide the students with background documents and up-to-data paper from the social science literature.
Lectures 2023: November 13-15, November 20-22, November 27-29, December 15.
Lecturers: Vardan Hovsepyan and Hans Lööf
Homepage: