

Course overview: Introduction to quantitative research methodology 2023	
Venue:	To be announced
Teacher:	Robert (Bobby) Zachariae, professor, Dr.Med.Sci.
Dates:	November 14-15 and 20-21, 2023 (note different starting times on Day 1 and 3).
ECTS	5
Date	Areas/themes covered:
Assignment prior to the course	1) Brief description of my research project and its main challenges
Day 1 Nov 14, 2023 10.00 – 17.00 Venue: to be announced	Introduction to the course. The scientific attitude. From idea to research design. The research process. My research question. Requirements for scientific hypotheses. Types of research designs: Strengths and limitations. Group exercises: Discussing and evaluating the participants' research ideas, research questions, and hypotheses. Background: The state of the art as starting point for my research project: what is known, what is not known, and what will my study add?
Home-assignment	2) My chosen research design – strengths and limitations
Day 2 Nov 15, 2023 09.00 – 16.00 Venue: to be announced	My chosen design: sensitivity, precision, and possible sources of error. Statistical and practical significance. Reviewing the literature and combining existing results. My research project: Effect sizes, sample size, and statistical power.
Home-assignment	3) Recruitment and attrition – choices and challenges
Day 3 Nov 20, 2023 10.00 – 17.00 Venue: to be announced	Recruitment, response rates, and drop-outs. Exercises. The quality of my assessment methods and instruments (focus: questionnaire/survey methods) Developing items, validating questionnaires, factor structure, internal consistency, differential item function, adapting questionnaires into another language. Research ethics and scientific misconduct. Ethical challenges in my research project.
Home-assignment	4) 4.1. My analytical strategy; 4.2. My strengths and challenges as researcher
Day 4 Nov 21, 2023 09.00 – 16.00 Venue: to be announced	Analyzing my data: Analytical strategy, data-management, "Cleaning up my act", data reduction, choice of statistical tests, assumptions. Special issues: missing data, mediation and moderation. Feedback on my choice of analytical strategy. A personal perspective: My strengths and challenges as a researcher? Group exercise. Bringing it all together: Overall quality assessment of my research project and design: Strengths, limitations, and what can be done to remedy the limitations? Course evaluation.