Epidemiological data analysis strategy

Facilitators

Dr. Fiona Vanobberghen, PhD
Swiss Tropical and Public Health Institute (Swiss TPH), University of Basel

PD Dr. Tracy Glass, PhD
Swiss Tropical and Public Health Institute (Swiss TPH), University of Basel

Description

This 5-day in-person course, comprising a mix of lectures and hands-on practicals, is designed for students who wish to learn about strategies for epidemiological data analyses. The course will briefly cover framing the research question and translating this into an appropriate study design, then focus on the principles of statistical modelling including the choice of model and interpreting the output, model building strategies, key concepts of confounding and effect modification, and complexities such as missing and correlated data. We will cover linear and logistic regression, and survival analyses. We will guide the learning through real-life examples. The focus will be on analysis strategies, not the execution of the analysis. However, the course will cover interpretation of results from statistical models in order to consolidate students' understanding of the models, inform their choices in analysis strategies, and gain experience in reporting model results. No particular statistical analysis software will be required, but practical examples will be demonstrated using software such as Stata or R. Students will be invited to optionally submit one of their PhD objectives, and will work in groups to develop a statistical analysis plan for one objective. If many submissions are received, a selection will be made to best align with the course learning outcomes.

Objectives

Students will learn to:

- Frame a research question and choose an appropriate study design.
- Develop an analysis plan, with appropriate choice of statistical model, a model building strategy, and consideration of key concepts such as confounding.
- Interpret results from statistical models in order to answer the research question.

Dates

15 – 19 September 2025

Ann Walser
Graduate Campus Manager
awalser@ssphplus.ch
https://ssphplus.ch/en/graduate-campus

Eligibility	Open to PhD students of the SSPH+ Inter-university Graduate Campus; other students and external participants are welcome to apply.
Prerequisites	Prerequisites for the course are knowledge and understanding of basic statistical concepts such as types of variables, population versus sample, descriptive statistics, estimation of population parameters (including confidence intervals), association measures (including odds ratios), and hypothesis testing (including p values). It is recommended but not essential that students are familiar with the topics covered in the SSPH+ course "Epidemiological Concepts, Principals, and Methods: A Practice-oriented Introduction".
Course Structure	5 full days with time split between lectures and practical sessions.
Assessment	Group presentation of an analysis plan, developed over the course of the week.
Credits	**2 ECTS** Preliminary Work: 10 h; Contact time: 35 h; In-course work: 10 h (1 ECTS corresponds to appr. 25-30 hours workload)
Location	Swiss TPH, Kreuzstrasse 2, 4123 Allschwil, Switzerland, room tba

Course Fees	IGC course fees	2 ECTS
	SSPH+ IGC PhD and MD Students	30 CHF
	Postdocs from SSPH+ partner institutes	30 CHF
	External PhD students, external MD Students and Swiss Public Health Doctors in training	600 CHF
	Others	1'600 CHF

Registration	https://www.conftool.com/ssph-phd-courses2025/
Deadline for registration	**15 August 2025**