

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	23-27 September 2024										
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, Principles, 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 <small>(1 ECTS corresponds to appr. 25-30 hours workload)</small>										
Location	Swiss TPH, Kreuzstrasse 2, 4123 Allschwil, Switzerland, room tba										
Course Fees	<table border="1"> <thead> <tr> <th>IGC course fees</th> <th>2 ECTS</th> </tr> </thead> <tbody> <tr> <td>SSPH+ IGC Students</td> <td>30 CHF</td> </tr> <tr> <td>Postdocs from partner universities</td> <td>30 CHF</td> </tr> <tr> <td>External PhD students and MD students</td> <td>600 CHF</td> </tr> <tr> <td>Others</td> <td>1'600 CHF</td> </tr> </tbody> </table>	IGC course fees	2 ECTS	SSPH+ IGC Students	30 CHF	Postdocs from partner universities	30 CHF	External PhD students and MD students	600 CHF	Others	1'600 CHF
IGC course fees	2 ECTS										
SSPH+ IGC Students	30 CHF										
Postdocs from partner universities	30 CHF										
External PhD students and MD students	600 CHF										
Others	1'600 CHF										
Registration	https://www.conftool.com/ssph-phd-courses2024										
Deadline for registration	23 August 2024										