# Causal inference for population health sciences

**Facilitator**

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

**Description**

This 4.5-day in-person course, comprising a mix of lectures and hands-on practical sessions, is aimed at students who want to gain a fundamental understanding of what causal inference is and how it might apply to their own research. The course will cover defining the research question in a causal framework, creating a direct acyclic graph, identifying valid covariate adjustment sets, and selecting a method for estimating the causal contrasts. We will guide the learning through lectures followed by practical sessions applying the knowledge gained.

**Objectives**

Students will:
- understand the setting for which causal inference is warranted and the framework for potential outcomes
- understand the difference between causal estimands, estimators, and estimates
- understand how to generate and interpret a directed acyclic graph
- understand hypotheses underlying the identification of causal effects,
- identify the most suitable methods to answer different research questions,
- run basic analyses with the methods presented

**Dates**

14-18 October 2024

**Eligibility**

Open to PhD students of the SSPH+ Inter-university Graduate Campus; other students and external participants are welcome to apply.

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

Prerequisites for the course are knowledge in statistics, especially statistical inference and regression modeling with some experience in implementing statistical analysis.

Course Structure

4.5 days with time split between lectures and practical sessions.

Assessment

Class participation and practicals with presentations.

Credits

2 ECTS

Preliminary Work: 10 h; Contact time: 36 h; In-course work: 5-10 h
(1 ECTS corresponds to appr. 25-30 hours workload)

Location

Swiss TPH, Kreuzstrasse 2, 4123 Allschwil, Switzerland, room tba

Course Fees

<table>
<thead>
<tr>
<th>IGC course fees</th>
<th>2 ECTS</th>
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<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>
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Registration

https://www.conftool.com/ssph-phd-courses2024

Deadline for registration

14 September 2024