

# GIS for Public Health

## Facilitator

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## Description

The physical and social environment that surrounds us plays an important part in our health and wellbeing. The geography concept of 'place' thus cannot be ignored in public health. Whether investigating the level of environmental pollution, access to recreation or health services, or the patterns or spread of disease, Geographic Information Systems (GIS) provide the standard platform for exploring spatial attributes and relationships between our environment and health.

This course offers an introduction to GIS and how it is used in public health and epidemiological research. It will introduce students to the basics including: working with and integrating spatial and non-spatial data; geographic scale and spatial precision; projections; geocoding; visualisation; thematic mapping; and understanding spatial relationships. Specific skills and tools will also be introduced in relation to methods for route analysis and for spatial linkage of exposure, contextual and confounder information for epidemiological or health risk assessment studies. Students will apply their new skills in a case study based either on their own data or on available datasets for defined topics.

This course will be a mix of lectures, demonstrations and practical time for hands-on data analysis in ArcGIS and QGIS (emphasis on ArcGIS).

No prior knowledge of GIS is required, though completion of pre-course work is essential preparation for this intensive course.

## Objectives

Students will gain knowledge in the fundamentals of GIS for spatial data handling and analysis. By the end of the course, students will

- Understand how GIS can be used to enhance public health and research;
- Be able to acquire, add, manipulate, visualise and map spatial data in a GIS; and
- Be able to perform basic spatial analyses in ArcGIS and QGIS.

<b>Dates</b>	<b>7 – 11 November 2022</b>								
<b>Eligibility</b>	Open to PhD students of SSPH+ public health program; other students and external participants are welcome to apply for limited spaces								
<b>Course Structure</b>	5-days hands on experience on GIS software, interspersed with lectures. The course includes pre-course and homework assignments, and will culminate in group presentations on practical case studies.								
<b>Assessment</b>	Final group presentation								
<b>Credits</b>	<b>2 ECTS</b> Preparation/homework 8 h, Contact 45 h (1 ECTS corresponds to appr. 25-30 hours workload)								
<b>Location</b>	University of Basel, room tba								
<b>Course Fees</b>	<table border="0"> <tr> <td>SSPH+ PhD Students</td> <td>30.- CHF (processing fee)</td> </tr> <tr> <td>External MD/PhD Students</td> <td>600.- CHF</td> </tr> <tr> <td>External Academics</td> <td>1700.- CHF</td> </tr> <tr> <td>Other Participants</td> <td>2500.- CHF</td> </tr> </table> <p>(The cost scheme depends on the Number of ECTS. Per ECTS participants are asked to pay 300,- CHF, 850,- CHF or 1250,-CHF, respectively)</p>	SSPH+ PhD Students	30.- CHF (processing fee)	External MD/PhD Students	600.- CHF	External Academics	1700.- CHF	Other Participants	2500.- CHF
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<b>Registration</b>	<a href="https://www.conftool.com/ssph-phd-courses2022">https://www.conftool.com/ssph-phd-courses2022</a>								
<b>Deadline for Registration</b>	<b>7 October 2022</b>								