

## GIS for Public Health

### 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; geocoding; visualisation; thematic mapping; and understanding spatial relationships. Specific skills and tools will also be introduced in relation to methods 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 ArcGIS10.x.

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 ArcGIS10; and
- Be able to perform basic spatial analyses in ArcGIS10.x.

### Dates

**Mon 7 – Thu 10 November 2016**

### Eligibility

Open to PhD students of SSPH+ public health program; other students and external participants are welcome to apply for limited spaces.

### PhD Program

Program Coordination Ann Walser

Academic Lead Prof. Matthias Egger  
Prof. Thomas Abel

### Contact:

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<b>Course Structure</b>	4-days hands on experience with ArcGIS10.x interspersed with lectures. Lectures will include structured discussions on pre-course online assignments, and the course will culminate in group presentations on practical case studies.								
<b>Assessment</b>	Final group presentation								
<b>Credits</b>	<b>1.5 ECTS</b> Preparation Work: 6 h, Contact: 36 h 1 ECTS corresponds to appr. 30 hr workload								
<b>Facilitators</b>	<b>Dr. Danielle Vienneau and Dr. Kees de Hoogh</b> Department of Epidemiology and Public Health, SwissTPH, University of Basel								
<b>Teaching Team</b>	Additionally includes Marloes Eeftens and Dr. Stefan Dongus								
<b>Location</b>	Biozentrum Room 105, University of Basel								
<b>Course Fees</b>	<table> <tr> <td>SSPH+ PhD Students</td> <td>0.—</td> </tr> <tr> <td>External MD/PhD Students</td> <td>450.—</td> </tr> <tr> <td>External Academics</td> <td>1275.—</td> </tr> <tr> <td>Others</td> <td>1825.—</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	0.—	External MD/PhD Students	450.—	External Academics	1275.—	Others	1825.—
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<b>Registration</b>	<a href="#">Please register online on our website</a>								
<b>Deadline</b>	<b>7 October 2016</b>								
<b>Max. Attendance</b>	<b>20</b> (preference is given to SSPH+ PhD Students)								

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