

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; 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.

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.

Dates

Mon 12 – Thu 15 November 2018

Eligibility

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

SSPH+PhD Program:

Program Coordination Ann Walser

Academic Lead Prof. Matthias Egger
Prof. Thomas Abel

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PhD Program in Public Health

Course Structure	4-days hands on experience with ArcGIS 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..								
Assessment	Final group presentation								
Credits	<p>1.5 ECTS</p> <p>Preparation Work: 6 h, Contact: 36 h</p> <p>1 ECTS corresponds to appr. 30 hr workload</p>								
Facilitators	<p>Dr. Danielle Vienneau and Dr. Kees de Hoogh</p> <p>Department of Epidemiology and Public Health, SwissTPH, University of Basel</p>								
Teaching Team	Additionally includes Dr. Marloes Eeftens, Dr. Stefan Dongus and Benjamin Flückiger								
Location	Biozentrum Room 105, University of Basel								
Course Fees	<table border="0"> <tr> <td>SSPH+ PhD Students</td> <td style="text-align: right;">0.—</td> </tr> <tr> <td>External MD/PhD Students</td> <td style="text-align: right;">450.—</td> </tr> <tr> <td>External Academics</td> <td style="text-align: right;">1275.—</td> </tr> <tr> <td>Others</td> <td style="text-align: right;">1875.—</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	1875.—
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External MD/PhD Students	450.—								
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Others	1875.—								
Registration	Please register online on our website								
Deadline	12 October 2018								
Max. Attendance	<p>22</p> <p>(preference is given to SSPH+ PhD Students)</p>								

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