UCL Université catholique de Louvain

WFSP2201

2015-2016

Advanced methods in public health : seminar

3.0 credits	15.0 h	2q

Teacher(s) :	Speybroeck Niko (coordinator) ; Lorant Vincent ;
Language :	Anglais
Place of the course	Bruxelles Woluwe
Prerequisites :	A course on linear and logistic regression models is a need to follow this course. R (free downloadable software) will be used in some of the analyses and it is an advantage to master the basics of this software. *The prerequisite(s) for this Teaching Unit (Unité d'enseignement – UE) for the programmes/courses that offer this Teaching Unit are specified at the end of this sheet.*
Main themes :	social epidemiology; network analysis; inequalities of health; burden of disease; the analysis of complexity.
Aims :	Learning outcomes will vary, depending on the focus which will be adapted according to current important public health problems asking advanced methods, and according to the expertise and research projects of the lecturer (Vincent Lorant & mp; Niko Speybroeck). Learning outcomes may include: -- Understanding and using main concepts in social epidemiology and network analysis in a public health context -- Understanding and being able to conduct the analysis of health inequalities -- Understanding burden of disease calculations and their use -- Understanding the analysis of complexities in public health through simulation models and classification and regression trees *The contribution of this Teaching Unit to the development and command of the skills and learning outcomes of the programme(s) can be accessed at the end of this sheet, in the section entitled "Programmes/courses offering this Teaching Unit".*
Evaluation methods :	Paper presentation and essay.
Content :	The content will include parts of the following: Social epidemiology -- Social network data -- Graphs and matrices -- Centrality, power and social capital -- Exploring networks -- Statistical analysis of network data The analysis of health inequalities -- Measures of health inequalities -- Decomposing health inequalities -- The difference between an analysis of health inequalities and an analysis of average health levels Analysis of complexities in public health -- Classification and Regression Trees -- Simulation Models -- Mathematical Models -- Agent-Based Models Analysis of burden of disease -- The Global burden of disease context -- Computing the burden of disease

	-- Trends analysis of burden of disease
Bibliography :	Social epidemiology:1-4 -- Dimaggio P, Garip F. Network effects and social inequality. Annual review of sociology. 2012;38:93-118. -- Oakes JM, Kaufman JS. Methods in social epidemiology. Vol 1st ed. San Francisco, CA: Jossey-Bass; 2006. -- Provan KG, Veazie MA, Staten LK, Teufel-Shone NI. The use of network analysis to strengthen community partnerships. Public Administration Review. 2005;65(5):603-612. -- Valente TW. Social networks and health models, methods, and applications. Oxford: Oxford University Press; 2010. The analysis of health inequalities -- Konings P., Harper S., Lynch J., Hosseinpoor A.R., Berkvens D., Lorant V., Geckova A., Speybroeck N. (2010). Analysis of socioeconomic health inequalities using the Concentration Index. International Journal of Public Health, 55, 71-74. [Editor's Choice]. -- Speybroeck N., Harper S., De Savigny D., Victora C. (2012). Inequalities of health indicators for policy makers: six hints. International Journal of Public Health, 57, 855-858. -- Speybroeck N., Konings P., Lynch J., Harper S., Berkvens D., Lorant V., Geckova A. Hosseinpoor A.R. (2010). Decomposing socioeconomic health inequalities. International Journal of Public Health, 55, 347-351. -- Van Malderen C., Van Oyen H., Speybroeck N. (2013). Contributing determinants of overall and wealth-related inequality in under-5 mortality in 13 African countries. Journal of Epidemiology & amp; Community Health, 67, 667-676. Analysis of complexities in public health -- Kanobana K., Devleesschauwer B., Polman K., Speybroeck N. (2013). An agent-based model of exposure to human toxocariasis: a multi-country validation. Parasitology, 140, 986-998. -- Speybroeck N. (2012). Classification and regression trees. International Journal of Public Health, 57, 243-246. -- Speybroeck N., Van Malderen C., Harper S., Müller B., Devleesschauwer B. (2013). Simulation Models for Socioeconomic Inequalities in Health: A Systematic Review. International Journal of Environmental Research and Public Health, 10, 5750-5780 The analysis of disease burden -- Devleesschauwer B., Havelaar A., Maertens de Noordhout C., Haagsma J., Praet N., Dorny P., Duchateau L., Torgerson P., Van Oyen H., Speybroeck N. (2014). Calculating Disability-Adjusted Life Years to quantify burden of disease. International Journal of Public Health, 59, 565-569. -- Devleesschauwer B., Havelaar A., Maertens de Noordhout C., Haagsma J., Praet N., Dorny P., Duchateau L., Torgerson P., Van Oyen H., Speybroeck N. (2014). DALY calculation in practice: a stepwise approach. International Journal of Public Health, 59, 571-574. -- Devleesschauwer B., Maertens de Noordhout C, Smit GS, Duchateau L, Dorny P, Stein C, Van Oyen H., Speybroeck N. (2014). Quantifying burden of disease to support public health policy in Belgium: opportunities and constraints. BMC Public Health, 14: 1196. -- Maertens de Noordhout C., Devleesschauwer B., Angulo F., Verbeke G., Kirk M., Havelaar A., Haagsma J., Speybroeck N. (2014). The global burden of Listeriosis: a systematic review and meta-analysis. The Lancet Infectious Diseases, 14, 1073 ' 1082.
Other infos :	Goal : The course aims to teach the student on understanding and using advanced methods to analyze public health problems. The course is addressing topics such as social epidemiology, the analysis of health inequalities and the burden of disease.
Faculty or entity in charge:	FSP

Programmes / formations proposant cette unité d'enseignement (UE)				
Intitulé du programme	Sigle	Credits	Prerequis	Acquis d'apprentissage
Master [120] in Public Health	ESP2M	3	WFSP2100 **and** WFSP2104 **and** WFSP2105	🔍