



**MMPH6157 Intermediate Epidemiology**

**Coordinator: Dr M Schooling**

**Course Description:**

This course builds on the introductory course in epidemiology (CMED6200). Causal inference is undoubtedly one of the most important epidemiological concepts in current epidemiological and population health research. Epidemiological research which focuses on 'risk factor' analysis though important does not always lead public health practitioners and scientists to identify modifiable factors relevant for changing health outcomes. The application of causal inference thinking in epidemiological study design and the use of more advanced data analysis helps ameliorate this problem.

**Prerequisite:** MMPH6003 Introduction to epidemiology

**Winter Term (Concentrated:3 -10 Jan 2023)**

**TA(s)/ Tutor(s): Mr Shi Wenwing/ Ms Liang Ying**

Date	Time	Lecture Topic	Lecturer	Venue
03 Jan 2023 (Tue)	2:00 – 5:00 pm	1. Study designs in epidemiology and their purpose	Dr M Schooling	
	6:00 –8:00 pm	2. Review of measures of occurrence and associations used in epidemiology		
04 Jan 2023 (Wed)	2:00 – 5:00 pm	3. Confounding in epidemiologic studies	Dr M Schooling	
	6:00 –8:00 pm	4. Bias in epidemiologic studies		
05 Jan 2023 (Thur)	2:00 – 5:00 pm	5. The role of Bradford Hill viewpoints in causal inference	Dr M Schooling	
	6:00 –8:00 pm	6. Systematic reviews and meta analysis		
06 Jan 2023 (Fri)	2:00 – 5:00 pm	7. Natural experiments and Mendelian randomization analysis	Dr M Schooling	
	6:00 –8:00 pm	8. Effect modification and mediation analysis		
09 Jan 2023 (Mon)	2:00 – 5:00 pm	9. The role of observational studies in causal inference	Dr M Schooling	
	6:00 –8:00 pm	10. Methodological issues to consider when designing an epidemiologic study		
10 Jan 2023 (Tue)	2:00 – 5:00 pm	11. Ethical issues to consider when designing an epidemiologic study	Dr M Schooling	
	6:00 –8:00 pm	12. Presentation and interpretation of results from epidemiologic research		
04 Feb 2023 (Sat)	10:00am – 12:00noon	Examination	-	

**Course Assessment:**

1. Practical: 20%
2. Written assignment: 30%
3. Final test: 50%

**Recommended Textbooks:**

1. Szklo M, Nieto FJ. Epidemiology: Beyond the Basics. 2nd ed. Sudbury, MA: Jones and Bartlett Publishers, LLC; 2007.
2. Rothman KJ et al. Modern Epidemiology. 3rd Ed. Philadelphia: Lippincott Williams & Wilkins, 2008, ISBN 0781755646.
3. Pearl J, Glymour M, Jewell N, Causal Inference in Statistics – A Primer” Wiley, 2016

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