

## Intermediate Observational Epidemiology

July 8-12, 2018 | Course No. 0158.1020

<b>Instructor:</b>	Dr. Moyses Szklo, Johns Hopkins Bloomberg School of Public Health
<b>Date &amp; Time:</b>	July 8-12, 2018: S, M, Th 08:30-13:00   T, W 08:30-13:30
<b>Location:</b>	TBA, Sackler Faculty of Medicine
<b>Final Exam:</b>	July 13, 2018   9:00-11:00
<b>Pre-requisites:</b>	Basic courses in Epidemiology & Biostatistics
<b>Teaching Assistant:</b>	TBA
<b>Course Documents:</b>	TBA

### Course Description

The course is aimed at students who already have an understanding of epidemiology's basic principles and methods. The course will consist of theoretical presentations and small group discussions of exercises. Topics will include study designs in observational epidemiology, measures of disease frequency (cumulative incidence and rate based, respectively, on survival analysis and person-time), measures of association in case-based case-control, cohort studies, and in case-control studies within a cohort. Other topics will be bias and confounding, and evaluation of interaction in case-control and cohort studies. Topics in the interface of epidemiology and public health policy will be also discussed.

### Academic Credit & Course Requirements

2 Academic Credits. Participants must pass the final exam with a grade of at least 60 (D) to receive academic credit. Non-credit participants are not required to take the final exam.

### Textbook

Szklo M. and Nieto FJ. Epidemiology: Beyond the Basics. Burlington, MA: Jones & Bartlett Learning, 2014.

### **Moyses Szklo, MD, DrPH**

Dr. Szklo is the Director of the Graduate Summer Institute of Epidemiology and Biostatistics at Johns Hopkins University and University Distinguished professor at Johns Hopkins Bloomberg School of Public Health. Prof. Szklo is also the Editor-in-Chief of the American Journal of Epidemiology. He has been interested in both the natural history and the etiology of cardiovascular diseases. Dr. Szklo was involved in a total metropolitan Baltimore study of the prognosis of patients with acute myocardial infarction, and was one of the first investigators to clearly demonstrate on a population-wide basis the prognostic importance of non-Q infarction, particularly relevant to the assessment of subclinical cardiovascular disease. Dr. Szklo was principal investigator for the Hopkins field center (based in Washington County, Maryland) and chairman of the Steering Committee of the Atherosclerosis Risk in Communities (ARIC) study from 1986 through 2000, in addition to acting as its editor for internal review of manuscripts. He is currently chairman of the Publications and Presentations Committee of the Multi-Ethnic Study of Atherosclerosis.

**Course Schedule**

**Sunday, July 8**

8:30-10:00	Study designs: birth cohort and ecologic studies
10:00-10:30	Break
10:30-12:00	Study designs: cohort and case-control studies, case-cohort, and nested case-control studies
12:00-12:15	Break
12:15-13:00	Exercise on study designs

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**Monday, July 9**

8:30-10:00	Measures of disease frequency: cumulative incidence (survival analysis) and rates/densities (person-year analysis)
10:00-10:30	Break
10:30-12:00	Measures of association in cohort and case-control studies; The parameter estimated by the odds ratio as a function of the control group's sampling frame
12:00-12:15	Break
12:15-13:00	Exercise on odds ratios and relative risks

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**Tuesday, July 10**

8:30-10:00	Selection and information bias; Sensitivity and specificity as a framework to understand misclassification
10:00-10:30	Break
10:30-12:00	Interaction: definitions and evaluation strategies
12:00-12:15	Break
12:15-13:00	Exercise on misclassification
13:00-13:30	Questions & Discussion

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**Wednesday, July 11**

8:30-10:00	Additive and multiplicative models; Quantitative and qualitative interaction; Public health interaction
10:00-10:30	Break
10:30-12:00	Confounding; Positive and negative confounding; Kaplan-Meier adjustment technique
12:00-12:15	Break
12:15-13:00	Exercise on interaction
13:00-13:30	Questions & Discussion

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**Thursday, July 12**

8:30-10:00	Epidemiologic issues in the interface with public health (Part I)
10:00-10:30	Break
10:30-12:00	Epidemiologic issues in the interface with public health (Part II)
12:00-12:15	Break
12:15-13:00	Questions and Wrap Up

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**Friday, July 13**

9:00-11:00	Final Exam
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