

# SHORT COURSE

## INFECTIOUS DISEASE EPIDEMIOLOGY

04. - 08.03.2024 (MONDAY 12PM TO FRIDAY 12PM)  
MÜNSTER

### COURSE SCOPE

Infectious diseases remain a leading cause of morbidity and mortality worldwide. New pathogens continue to emerge causing unforeseen outbreaks leading to events like the influenza pandemic in 2009, the Zika epidemic in 2016, and the SARS-CoV-2 pandemic. Epidemiology provides central tools for the assessment and response to these health threats in populations. This course introduces the aims and scope of infectious diseases epidemiology through lectures and interactive hands-on exercises.

We will discuss the key concepts of pathogen transmission dynamics, infectious disease surveillance, and prevention and control strategies. Additionally, students will be introduced to dynamic mathematical modelling of infectious diseases with an emphasis on practical applications.

The course will be taught by lecturers from the University of Münster, as well as by external experts. A certificate of attendance will be issued to all participants who attend the entire course and successfully complete the coursework (2 ECTS points).

### WHO SHOULD PARTICIPATE?

The course is designed for undergraduate students as well as postgraduate students with a background in medicine, biology, biostatistics, or epidemiology and an interest in infectious diseases.

**The course is free of charge (first come first served basis).**

### COURSE LANGUAGE

English or German depending on participants.

### COURSE OBJECTIVES

- To provide an understanding of infectious disease epidemiology concepts and methods
- To explain epidemiological characteristics of major infectious diseases
- To provide an understanding of disease surveillance, disease outbreak investigations, and the control of infectious diseases
- To give an insight into the mathematical modelling of infectious diseases

### MAIN TOPICS COVERED WILL INCLUDE

- Principles of infectious diseases and their epidemiology
- Dynamics and transmission of infectious diseases
- Infectious disease surveillance
- Infectious disease outbreaks including a simulated outbreak investigation
- Prevention and control of infectious diseases
- Introduction to mathematical modelling of infectious diseases including hands-on practicals

### SOFTWARE

We will use Berkeley Madonna, but no prior knowledge is needed. Please bring your laptop with an installed version of the software.

### WHERE WILL IT TAKE PLACE?

Institute of Epidemiology and Social Medicine  
University of Münster  
Domagkstr. 3  
48149 Münster  
The course will be held in presence.

WISH TO PARTICIPATE OR ANY QUESTIONS?  
Contact us at [clinepi@uni-muenster.de](mailto:clinepi@uni-muenster.de)