

# Introduction to Epidemiology and Environmental Health Lecture (E2040) and Practice (E2041)

Autumn 2023

Wednesdays 11:00 – 12:50 and 13:00 – 14:50

Room RCX1 (D29/252)

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## Course Focus

This comprehensive course covers fundamental concepts of epidemiology and environmental health. Students will explore the research methods employed to examine population health and gain insights into the various determinants of diseases within communities. By studying the dynamic relationship between human health and the environment, learners will develop the skills to analyze research findings and apply them effectively in real-world scenarios, contributing to the improvement of public health outcomes.

**The course is organized as a lecture (E2040) and practice (E2041) sessions. Students taking the course are required to register for both parts of the course.**

**Student Learning Outcomes** (after this course, the student will be able to):

- Demonstrate a comprehensive understanding of population health and epidemiology, including the ability to define and explain key concepts.
- Analyze the occurrence and spread of diseases within populations, identifying their underlying causes.
- Calculate and interpret various risk rates to assess the potential impact of diseases.
- Navigate diverse sources of data commonly used in epidemiological research.
- Describe different types of epidemiological studies, evaluating their respective strengths and weaknesses.
- Assess the quality and validity of research studies in epidemiology.
- Utilize research findings to propose evidence-based recommendations for practical applications and improvements in public health.

## Resources

- The primary electronic platform for class study materials and assignment submissions is is.muni: <https://is.muni.cz/auth/predmet/sci/podzim2023/E2040>. Please note that all course materials (lectures and practice) will be available in course E2040 study materials.

Grading	
<b>A</b>	100-92%
<b>B</b>	91-84%
<b>C</b>	83-76%
<b>D</b>	75-68%
<b>E</b>	67%-60%
<b>F</b>	<60%

Assignments	
Assignment	Total points
Exam I	40
Exam II	40
Attendance (5 pts. each, 12 total)	60
Assignments (30 pts. each, 2 total)	60
<b>Total</b>	<b>200</b>

### Exams (40 points each)

- There will be two non-cumulative exams per semester (midterm and final)
- 20 multiple-choice format questions per exam
- Based on lecture materials
- See the course calendar for exam dates

### Attendance (5 points each)

The attendance at the seminars (E2041) is mandatory. Students will be given 5 points for each attended practice up to the total of 60 points. Students can incur two unexcused absences without losing attendance points.

### Assignments (30 points each)

- There will be two practice sessions that will require in-home preparation (e.g., creating questions for class discussion based on assigned readings or comparing study designs)
- Detailed instructions will be given a week before the deadline (i.e., at the seminar in the Weeks 3 and 11).
- Submit the assignments to the is.muni Homework Vaults (“Odevzdávárna”) before the deadline (i.e., practice sessions in the Weeks 4 and 12).
- See the course calendar for the deadlines.

## Course Calendar

<b>Week</b>	<b>Date</b>	<b>Topic</b>	<b>Instructor</b>
1	20. 9.	Class overview Introduction to epidemiology and environmental health	A. Kšíňan
2	27. 9.	Disease occurrence and determinants in populations	A. Dalecká
3	4. 10.	Basics of quantitative methodology	H. Pikhart
4	11. 10.	Introduction to data analysis <b>Assignment I</b>	A. Kšíňan
5	18. 10.	No class - Matriculation Ceremony	
6	25. 10.	Measures of association and effect	K. Kordas
7	1. 11.	Study designs in epidemiology I	A. Bartošková (practice session D. Szabó)
8	8. 11.	Study designs in epidemiology II	K. Kordas
9	15. 11.	Study designs in epidemiology III	K. Kordas
10	22. 11.	<b>Exam I</b> Routine population and monitoring data	M. Bobák (practice session guest)
11	29. 11.	Bias Confounding and effect modification	K. Kordas
12	6. 12.	Critical evaluation of research studies <b>Assignment II</b>	K. Kordas
13	13. 12.	Ethical considerations in epidemiology research and practice Translating science into practice	K. Kordas (practice session guest)
14	20. 12.	Recapitulation	A. Kšíňan
	Exam. period	<b>Exam II</b>	