

Draft programme: Weight of Evidence and Systematic Review Methodology in Health Risk Assessment of Chemicals

March 2-6, 2026

Lectures and group assignments are online using Zoom.

IMM Institute of Environmental Medicine, Karolinska Institutet.

Course leaders: Johanna Zilliacus, Annika Hanberg, Anna Beronius

Monday March 2	Tuesday March 3	Wednesday March 4	Thursday March 5	Friday March 6
9.00-9.30 Welcome and introduction to the course	9.00-9.15 Wrap-up from previous day	9.00-9.15 Wrap-up from previous day	9.00-9.15 Wrap-up from previous day	9.00-9.15 Wrap-up from previous day
9.30-10.30 Introduction of participants	9.15-10.00 Group assignment 1 continued	9.15-10.00 Group assignment 2 continued	9.15-10.00 Group assignment 3 continued	9.15-10.30 Group assignment 4 continued
10.30-10.45 Break	10.00-10.15 Break	10.00-10.15 Break	10.00-10.15 Break	10.30-10.45 Break
10.45-11.30 Introduction of participants, group discussions	10.15-11.15 Presentation and discussion of group assignment 1	10.15-11.15 Presentation and discussion of group assignment 2	10.15-11.15 Presentation and discussion of group assignment 3	10.45-11.45 Presentation and discussion of group assignment 4
11.30-12.30 Lunch	11.15-11.30 Break	11.15-11.30 Break	11.15-11.30 Break	11.45-12.00 End of course
12.30-13.15 Lecture 1: Introduction to weight of evidence and systematic review methodology in health risk assessment of chemicals	11.30-12.15 Lecture 3: Systematic literature search	11.30-12.15 Lecture 5: Assessing relevance and reliability	11.30-12.15 Lecture 7: TBD	12.00-13.00 Lunch 13.00-17.00 Take home exam handed in at 17.00
13.15-13.30 Break	12.15-13.15 Lunch	12.15-13.15 Lunch	12.15-13.15 Lunch	
13.30-14.15 Lecture 2: Identification of risk assessment questions	13.15-14.00 Lecture 4: Grouping evidence into lines of evidence and extraction of data	13.15-14.00 Lecture 6: Integrating evidence	13.15-13.45 Lecture 8: TBD	
14.15-14.30 Break	14.00-14.15 Break	14.00-14.15 Break	13.45-14.00 Break	
14.30-15.15 Introduction to group assignment 1: Defining the assessment question Individual learning	14.15-15.00 Introduction to group assignment 2: Literature search Individual learning	14.15-15.00 Introduction to group assignment 3: Assessment of relevance and reliability Individual learning	14.00-14.30 Lecture 9: Weight of evidence and systematic review methodology-example	

15.15-16.45 Group assignment 1	15.00-16.45 Group assignment 2	15.00-16.45 Group assignment 3	14.30-14.45 Break	
16.45-17.00 Reflection on today's learning	16.45-17.00 Reflection on today's learning	16.45-17.00 Reflection on today's learning	14.45-15.15 Lecture 10: Weight of evidence and systematic review methodology-example	
			15.15-15.30 Break	
			15.30-15.45 Introduction to group assignment 4: Use of weight of evidence and systematic review methodology in chemical risk assessments	
			15.45-16.45 Group assignment 4	
			16.45-17.00 Reflection on today's learning	

Course information

Purpose of the course:

The purpose of the course is to build knowledge and understanding in how to apply weight of evidence and systematic review methodology in assessing health risks of chemicals.

Learning outcomes:

At the end of the course the participant should be able to:

- define specific questions to be addressed in a health risk assessment of chemicals
- apply and discuss methods to assemble, weigh and integrate scientific evidence in health risk assessment of chemicals
- reflect on the need for and importance of systematic approaches in health risk assessment of chemicals

Content of the course:

Health risk assessment of chemicals is the scientific method to assess the risk to humans of exposure to different types of chemical substances, such as environmental pollutants, pharmaceuticals, chemicals in cosmetics or other everyday products, pesticides, food additives and other substances in food. The health risk assessment is based on a specified question that is answered by analysis of different type of data from in vivo, in vitro, in silico and epidemiological studies. The course will address methodology for weight of evidence assessment and systematic review and specifically how to, in a systematic manner, plan the assessment, identify data, assess the relevance and reliability of the data and integrate the data to be able to answer the assessment question. The course will cover

the following: identification of a risk assessment question, systematic literature searches, organizing the data into lines of evidence, assessment of the relevance of the data, assessment of reliability of the data and integration of the data in a weight of evidence approach.

Content of teaching and learning activities:

Welcome and introduction to the course

- Introducing course directors
- Presenting Karolinska Institutet and Institute of Environmental Medicine
- Presenting course (learning outcomes, programme and exam)
- Explaining practical aspects of on-line course, including Zoom and Canvas

Introduction of participants

- Participants introduce themselves using 1-2 PowerPoint slide provided in advance
- Participants get to know each other in group discussions

Lectures

- Lectures on the different topics by teachers from Karolinska Institutet and other organisations

Group assignments

- Work on group assignment in small groups

Reflection on today's learning

- Individual reflection on What was the most important I learnt today? Are there any open/unclear issues from today?

Wrap-up from previous day

- Discussion based on reflections of learning and open/unclear issues

Presentation and discussion of group assignments

- Each group presents their group assignments
- Other groups ask questions and discuss

Take home exam

- Short answer questions on factual knowledge
- Reflection question on the need for and importance of systematic approaches in health risk assessment of chemicals