



Scuola di Specializzazione  
IGIENE & MEDICINA PREVENTIVA  
Direttore: Prof.ssa Anna Odone

UNIVERSITÀ DI PAVIA



**DIN**  
**One Health**



### COURSE

## ADVANCED COURSE ON SYSTEMATIC REVIEWS AND META-ANALYSIS: METHODS AND PRACTICE

#### COURSE OBJECTIVE & OVERVIEW:

Aim of the course is to provide the foundational theoretical knowledge and practical methodological skills for **planning and conducting systematic reviews and meta-analyses**. The course is designed to support students in applying the skills and knowledge they will acquire to their research projects and fields of interest.

It includes lectures and practical sessions on all phases of a systematic review and meta-analysis: defining the research question, drafting the protocol, systematic searching of sources, applying inclusion and exclusion criteria, extracting data, assessing the quality of primary studies, performing qualitative synthesis and meta-analysis, and reporting.

Throughout the course, students will have the chance to develop their own research project and will have access to the resources of the University of Pavia, statistical software for meta-analyses and bibliography management.

#### STUDENTS' TARGET:

The course is targeted to PhD students belonging to the Life Science research area.

#### DATES & FORMAT:

The 2026 course edition will be distance learning. The course will be structured in 5 sessions (one per week, see the programme below). Each session is scheduled in the morning (h 9.30-13.00).

#### LANGUAGE:

The course will be taught in Italian.

#### PROGRAMME & CONTENT:

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| <p>■ <b>Session 1</b><br/>TBD<br/>h 9.30-13.00</p> | <p>Lecture: <b>Introduction to systematic reviews and meta-analyses. The PRISMA guidelines</b></p> <p>Lecture: <b>Basics of epidemiology: study designs and measures</b></p>   |
| <p>■ <b>Session 2</b><br/>TBD<br/>h 9.30-13.00</p> | <p>Workshop: <b>Crafting a research question using the PICO(s) model. Initial steps in developing a systematic review protocol on Prospero</b></p> <p>Workshop: <b>Search strategy development for systematic retrieval of sources. Practical application of search strings and introduction to reference management tools</b></p>   |
| <p>■ <b>Session 3</b><br/>TBD<br/>h 9.30-13.00</p> | <p>Lecture: <b>Selecting studies and applying inclusion/exclusion criteria. Data extraction and data synthesis techniques: qualitative, meta-analysis and meta-regression</b></p> <p>Workshop: <b>Qualitative and quantitative synthesis: hands-on session with Rayyan, Prometa and RevMan for screening and data management</b></p> |
| <p>■ <b>Session 4</b><br/>TBD<br/>h 9.30-13.00</p> | <p>Lecture: <b>In-depth review of PRISMA steps. Quality assessment and tools for quality appraisal</b></p> <p>Workshop: <b>PRISMA checklist compliance and practical exercises on risk of bias assessment</b></p>  |
| <p>■ <b>Session 5</b><br/>TBD<br/>h 9.30-13.00</p> | <p>Lecture: <b>New frontiers in systematic reviews: umbrella reviews, multiple treatments meta-analysis, network meta-analysis; the role of AI in systematic reviews</b></p> <p>Workshop: <b>Practical session on developing a draft for a systematic review manuscript</b></p>  |

#### COURSE DIRECTOR & FACULTY:

Prof Anna Odone, School of Public Health, University of Pavia  
Prof Maddalena Gaeta, School of Public Health, University of Pavia  
Dr Paola Bertuccio, School of Public Health, University of Pavia  
Dr Giacomo Pietro Vigezzi, School of Public Health, University of Pavia  
Dr Giansanto Mosconi, School of Public Health, University of Pavia  
**Teaching assistants:** Dr Chiara Barbati, Dr Luca Viviani

#### REGISTRATION:

Registration will be possible on the form provided by the PhD Office.

#### INFORMATION:

For information, please contact [phd.onehealth@unipv.it](mailto:phd.onehealth@unipv.it).

#### 2027 EDITION:

The 2027 edition will be provided in person: details will follow.