

RESEARCH METHODOLOGY - INTRODUCTION TO CLINICAL RESEARCH

ON-LINE - 1 February - 30 April 2025

FACULTY

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RECONSTRUCTIVE MICROSURGERY
EUROPEAN SCHOOL

DESCRIPTION

Research is necessary to produce knowledge that allows us to reduce the impact of health problems, including better diagnosing and treating conditions.

Clinical research is the unavoidable filter where we test the hypotheses from basic research, technological innovation or health care practice itself. But for that applied-research activity to be sufficiently reliable and useful, we need to master essential concepts and methodologies. Making this possible is the goal of this course.

OBJECTIVES

This course explains the most important concepts related to design, electronic search, critical appraisal and statistical analysis, required to answer therapeutic, prognostic, aetiologic and diagnostic clinical questions.

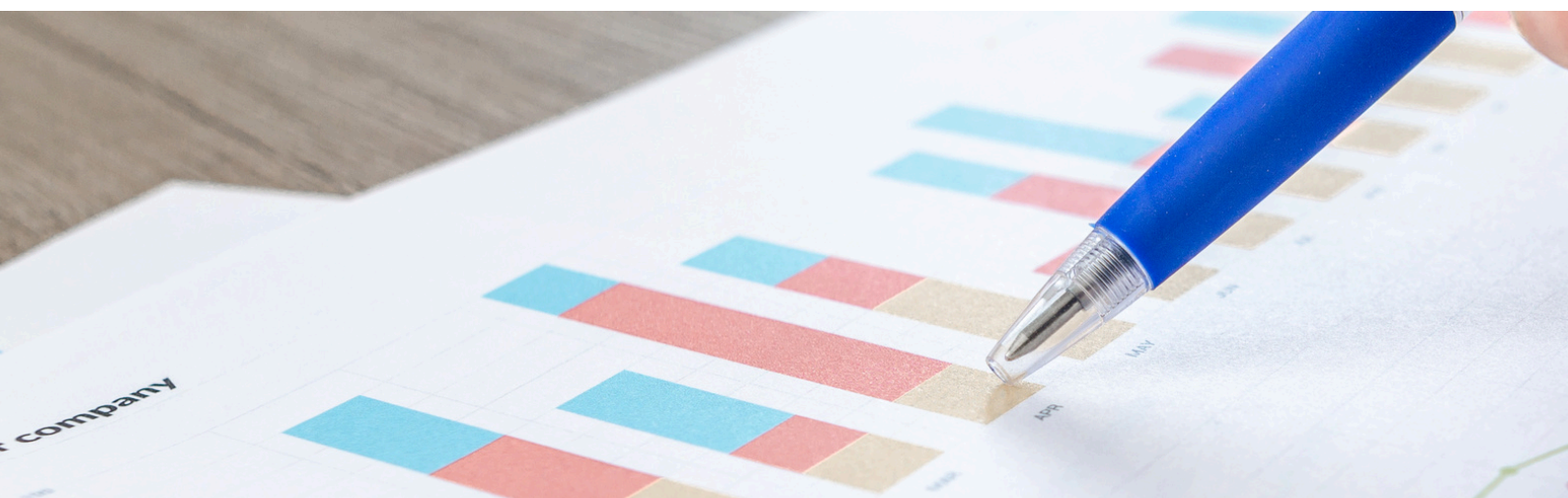
The course is structured in 21 topics grouped by modules according to their design or the type of clinical question they address. The table on the next page describes this in detail.

Students can approach the topics in a vertical or horizontal sequence or focus directly on a specific topic instead. The course is estimated to take around 35 hours to complete, including the recommended readings.

Each topic begins with a video of the module's lecturer and is followed by the slides explained in the video. Each topic has a brief self-assessment and, at the end of the course, there is a more comprehensive assessment of the acquired concepts.

Despite the course is fully accessible and easy to understand, if needed, additional support is guaranteed to solve the questions that may arise.

Planned period for conducting this course: from 1 February 2025 to 30 April 2025. Students will receive the access link in due course.



COMPETENCES

By the end of the course, the students will be able to:

- Understand and apply the most important concepts related to clinical research.
- Pose different types of clinical questions in a structured manner.
- Choose the most appropriate clinical study design to answer the questions of interest.
- Conduct targeted comprehensive and efficient searches of scientific literature.
- Conduct an appropriate critical appraisal to identify strengths and weaknesses in each study.
- Understand and apply the basic statistical concepts to calculate the different association measures and effect estimates.

ELECTRONIC COURSE: INTRODUCTION TO CLINICAL RESEARCH

<p>A1.- Introduction to the course. Why is clinical research important? General concepts for research study design. The research protocol. Descriptive observational studies</p> <p style="text-align: right;">Assessment</p>	<p>B1.- How to convert a clinical question into a bibliographic search</p> <p style="text-align: right;">Assessment</p>	<p>C1.- Why is critical appraisal important?</p> <p style="text-align: right;">Assessment</p>	<p>D1.- Why is statistics important?</p> <p style="text-align: right;">Assessment</p>
<p>A2.- How to answer prognostic questions. Analytical observational studies (1): cohort studies</p> <p style="text-align: right;">Assessment</p>	<p>B2.- How to identify cohort studies</p>	<p>C2.- Critical appraisal of a cohort study</p> <p style="text-align: right;">Assessment</p>	<p>D2.- Descriptive statistics</p> <p style="text-align: right;">Assessment</p>
<p>A3.- How to answer aetiological questions. Analytical observational studies (2): case-control studies</p> <p style="text-align: right;">Evaluation</p>	<p>B3.- How to identify case-control studies</p>	<p>C3.- Critical appraisal of a case-control study</p> <p style="text-align: right;">Assessment</p>	<p>D3.- Inferential statistics</p> <p style="text-align: right;">Assessment</p>
<p>A4.- How to answer therapeutic questions. Experimental studies</p> <p style="text-align: right;">Assessment</p>	<p>B4.- How to identify clinical trials</p>	<p>C4.- Critical appraisal of a clinical trial</p> <p style="text-align: right;">Assessment</p>	
<p>A5.- How to answer diagnostic questions. Diagnostic test studies</p> <p style="text-align: right;">Assessment</p>	<p>B5.- How to identify diagnostic test studies</p>	<p>C5.- Critical appraisal of a diagnostic test study</p> <p style="text-align: right;">Assessment</p>	
<p>A6.- How to integrate the available knowledge in clinical research. Systematic reviews</p> <p style="text-align: right;">Assessment</p>	<p>B6.- How to identify a systematic review</p>	<p>C6.- Critical appraisal of a literature review</p> <p style="text-align: right;">Assessment</p>	



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