

Degree programme	Type	Course
Applied Clinical Research in Health Sciences	OP	0

Contact lecturer

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Group languages

You can consult this information at the [end](#) of the document.

Prerequisites

Basic understanding of Statistics and scientific English is recommended.

Completing the previous module of Basic methodology in clinical research is mandatory.

Objectives

Epidemiology has put the focus on the study of epidemics, but clinical epidemiology focuses on the application of epidemiological approaches to better study and to solve clinical problems of patients by analyzing determinants and the effects of clinical decisions.

Learning outcomes

1. Develop a critical reading of the scientific literature structured according to the different designs.
2. Operation procedures for clinical and epidemiological documentation.
3. Critically evaluate the technologies and scientific information sources to obtain, interpret and communicate clinical, scientific and health information.
4. Describe in depth training on the different research designs depending on the assumptions.
5. Establish and develop a protocol for clinical research in the field of epidemiology.
6. Identify the basic statistical techniques to analyze data from different studies and be able to apply descriptive.
7. Interpret the results of studies for application in both groups of patients and individual levels through the perspective of evidence-based medicine.
8. Working as part of a group along with other professionals, understand their views and cooperate constructively.
9. Develop self-learning skills and motivation to continue their education at the graduate level.
10. Act respecting the ethical and legal aspects of research and professional activities.
11. Develop scientific knowledge, critical thinking and creativity.

Contents

a) Therapeutic studies

Posing therapeutic questions. Comparing different designs to answer therapeutic questions: observational versus experimental studies. Quasi-experimental cross-over studies, before and after studies. Critical appraisal of therapeutic studies. Data analysis of experimental and quasi-experimental studies. Survival analysis.

b) Diagnostic studies

Posing diagnostic questions. Cross-sectional studies: characteristics. Technical attributes of a diagnostic test: sensitivity, specificity, predictive values, odds ratio, ROC curves. Differences with screening studies. Stages of diagnostic test assessment. Critical appraisal of diagnostic test studies. Data analysis of diagnostic test studies.

c) Prognostic and follow-up studies

Posing prognostic questions. Prognostic studies: characteristics. Follow-up studies: characteristics. Critical appraisal of prognostic and follow-up studies. Integrated use of different clinical databases. Data analysis of prognostic and follow-up studies: Poisson, Cox, among others.

d) Aetiological studies

Posing aetiological questions. Comparing the different designs to answer aetiological questions: retrospective versus prospective studies. Critical appraisal of aetiological studies. Data analysis of aetiological studies. Multivariate analysis.

e) Systematic reviews and clinical practice guides

General concepts for developing literature reviews. Systematic versus narrative reviews. Experimental versus observational study reviews. Evidence scales. Critical appraisal of systematic reviews. Clinical practice guidelines. Critical appraisal of clinical practice guides. Degrees of recommendation. Data synthesis. Meta-analysis.

f) Studies on quality of care and clinical safety

General concepts related to quality of care and specific methods to assess it. Effectiveness and outcome studies. Quality of life measurement. Cost and cost-effectiveness studies. Qualitative studies.

Find the programme for course 2025-26 online:

<https://cv.uab.cat/protected/index.jsp>

Learning activities and methodology

Title	Hours	ECTS	Learning outcomes
Developing essays and monographs	25	1	1, 2, 3, 4, 5, 6, 7, 11
Conceptual lessons supported by ICTs and group discussions	25	1	1, 2, 3, 4, 5, 6, 7, 11
Classroom practice: Planning and resolution of case studies	20	0.8	1, 2, 3, 4, 5, 6, 7, 8
SELF-STUDY	70	2.8	1, 2, 3, 4, 5, 6, 7, 9
Mentoring - Supervision and support in conducting essays	85	3.4	1, 2, 3, 4, 5, 6, 7, 11
Public presentation of works - Individual presentations and round of assessments	20	0.8	1, 2, 3, 4, 5, 6, 7, 8, 9, 11
Laboratory practices	5	0.2	1, 2, 3, 4, 5, 6, 7, 8, 9, 10

As described in the list

Annotation: within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Assessment

Continuous assessment activities

Title	Weight	Hours	ECTS	Learning outcomes
Comments about texts and studies	30%	0	0	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11
Submitting and assessing essays	30-40%	0	0	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11
Oral and written tests	30-40%	0	0	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11

The competencies for this module will be assessed through: mandatory participation in 80% of the lectures, individual assignments, and an exam.

Text and study commentaries: 30%

Submission and evaluation of assignments: 30-40%

Oral and written tests: 30-40%

The use of artificial intelligence (AI) is permitted provided it is applied critically and not literally.

This module does not include a single assessment system.

"The commission of any irregularity in an assessment (academic fraud, plagiarism, or misuse of AI, unless such use is expressly authorized in the course syllabus) that could lead to a significant change in the grade means that this assessment will be graded with a 0. If the course syllabus stipulates that passing the course requires several irregularities in the assessments of the same course, the final grade for this course will be 0. In addition, disciplinary proceedings may be initiated against any student who commits any of these irregularities."

Bibliography

- Basic Epidemiology, Bonita, Beaglehole, 2005, WHO
- Hernández-Aguado I, Gil A, Delgado M, Bolúmar F (eds.). Manual de Epidemiología y Salud Pública. Madrid. Panamericana, 2005.
- Piédrola Gil G et al. Medicina Preventiva y Salud Pública. 10ªed. Masson, 2001.
- Martínez Navarro F, Antó JM, Castellanos PL, Gili M, Marset P, Navarro V. (eds.). Salud Pública. Madrid: McGraw-Hill - Interamericana de España, 1998.
- Gordis L. Epidemiologia. 3ª ed. Madrid, Elsevier, 2005
- Nordness R. Epidemiología y Bioestadística. Madrid: Elsevier, 2006
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- Straus SE, Richardson WS, Glasziou P, Haynes BR. Medicina basada en la evidencia. Cómo practicar y enseñar la MBE. 3ª ed. Madrid: Elsevier, 2006.
- Testing Treatments interactive [Internet]. Disponible a: <http://www.testingtreatments.org/>

Software

Microsoft Teams

Course groups and languages

The information provided is provisional until November 30. After this date, you will be able to consult the language of each group through this [link](#). To access the information, you will need to enter the course CODE

Type of teaching	Group	Language	Semester	Shift
(TEm) Theory (master)	101	Spanish	second semester	afternoon
(SEMm) Seminars (master)	101	Spanish	second semester	afternoon