

**Epidemiology**

Code: 102949  
ECTS Credits: 3

Degree	Type	Year	Semester
2502442 Medicine	OB	3	0

**Contact**

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**Use of Languages**

Principal working language: catalan (cat)  
Some groups entirely in English: No  
Some groups entirely in Catalan: No  
Some groups entirely in Spanish: No

**Prerequisites**

Know the principles, methods and applications of biostatistics, and the basic notions of the mechanisms of disease production.

**Objectives and Contextualisation**

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**Competences**

- Accept one's role in actions to prevent or protect against diseases, injuries or accidents and to maintain and promote health, on both personal and community-wide levels.
- Be able to work in an international context.
- Demonstrate basic knowledge of the Spanish health system, legislation on health and economic issues.
- Demonstrate knowledge of the national and international health organisations and the factors and circumstances affecting other healthcare systems.
- Demonstrate understanding of the factors that determine equality in access to health, their safety and quality.
- Formulate hypotheses and compile and critically assess information for problem-solving, using the scientific method.
- Obtain and use epidemiological data and assess trends and risks for decision-making on health.
- Recognize the determinants of population health, both genetic and dependent on gender, lifestyle, and demographic, environmental, social, economic, psychological and cultural factors.
- Use information and communication technologies in professional practice.

## Learning Outcomes

1. Address health problems through collective interventions for the promotion, protection and prevention, and restoration of health and assess their impact.
2. Analyse the national and international systems of epidemiological surveillance.
3. Be able to work in an international context.
4. Critically interpret medical literature.
5. Differentiate between the factors associated with inequalities and, in particular, with gender issues in public health research and practice.
6. Evaluate the healthcare quality system and patient-safety strategies.
7. Formulate hypotheses and compile and critically assess information for problem-solving, using the scientific method.
8. Identify principles of environmental health, workplace health and food health.
9. Identify the international health organisations at Spanish, European and regional level.
10. Identify the main activities of health promotion and disease prevention.
11. Identify the principles of health demography.
12. Implement the procedures of clinical and epidemiological document search and management.
13. Interpret health indicators.
14. Interpret the processes of planning, scheduling and assessment in health programmes.
15. Manage the principles of medicine based on (the best) evidence.
16. Use information and communication technologies in professional practice.
17. Value the principles and apply the methods of preventive medicine and public health.

## Content

CLASS (TE)

TOPIC

C1 Introduction to epidemiology. Epidemiological surveillance. Clinical epidemiology

C2 Frequency measurements.

C3 Measures of effect.

C4 Impact measures.

C5 Measurement of survival.

C6 Epidemiological designs. The causality.

C7 Descriptive designs and observational designs.

C8 Intervention studies. Ethical principles of medical research.

C9 Gradation of the evidence. Reviews of the evidence and meta-analysis.

C10 Epidemiology of communicable diseases.

C11 Epidemiology of chronic diseases.

C12 Diagnostic tests.

SEMINAR (1 h) (PA)

TOPIC

S1 Big milestones in epidemiology: Snow, Bradford-Hill, Framingham study, Doll e Hill study, health surveys.

S2 Frequency measurements.

S3 Measures of effect.

S4 Impact measures. Dose-response relationships. Stratification.

S5 Approach of descriptive and observational studies (a descriptive study, a case-control study).

S6 Approach to intervention studies (a clinical trial to evaluate the efficacy of a medicine, a community trial to evaluate the efficacy of a vaccine).

S7 Validity. Random errors. Bias Analysis of data from a study.

S8 Critical reading of a scientific article.

SCC (1 h)

TOPIC

E1 Diagnostic tests. Case

E2 Measurement of survival. Case

E3 Estimation of the effect of a factor (descriptive and observational studies). Case

E4 Estimating the effectiveness of an intervention (intervention studies). Case

E5 Systematic reviews and meta-analyses. Case

E6 Study of an epidemic outbreak. Case

## Methodology

This guide describes the framework, contents, methodology and general rules of the subject, in accordance with the current curriculum. The final organization of the subject, with respect to the number and size of groups, distribution in the calendar and dates of exams, specific criteria for evaluation and review of exams, will be specified in each of the hospital teaching units, which will make it explicit through of the web pages and the first day of class of each subject, through the teacher responsible for the subject in the UDH.

For the present course, the professors appointed by the departments as responsible for the subject at the Faculty and the UDH level are:

Responsible department:

Maria-Guadalupe Esteve Pardo

Responsible UDH:

UD Vall d'Hebron: Magdal Campins

UD Germans Trias i Pujol: Irma Casas

UD Sant Pau: Xavier Bonfill

UD Parc Taulí: Gemma Navarro

## Activities

Title	Hours	ECTS	Learning Outcomes
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Type: Directed

CLASSROOM PRACTICES (PAUL)	8	0.32	6, 7, 10, 4, 13, 3, 15, 12, 16
SPECIALIZED SEMINARS (SCC)	6	0.24	2, 6, 7, 9, 8, 10, 4, 13, 3, 15, 12, 16
THEORY (TE)	12	0.48	2, 6, 5, 7, 9, 8, 10, 13, 15, 12
Type: Autonomous			
PERSONAL STUDY	36	1.44	2, 6, 5, 7, 9, 8, 10, 13, 12, 16
READING OF ARTICLES / INTEREST REPORT	9	0.36	6, 5, 4, 12, 17

## Assessment

Attendance and participation in classes and seminars 0-10%

Practice: Assessments written through objective tests. 45-50%

Theory: Assessments written through objective tests 45-50%

## Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Attendance and participation in classes and seminars	10%	1	0.04	2, 6, 5, 7, 9, 8, 10, 4, 13, 3, 15, 12, 16, 17
Practice: Assessments written through objective tests.	45%	1	0.04	1, 2, 11, 8, 10, 4, 13, 14, 17
Theory : Assessments written through objective tests.	45%	2	0.08	2, 5, 7, 9, 8, 10, 4, 13, 15, 12, 17

## Bibliography

Argimon JM, Jiménez J. Métodos de investigación clínica y epidemiológica. 4ª ed. Barcelona: Elsevier, 2012

Fletcher RH, Fletcher SW, Wagner EH. Epidemiología clínica. 5ª ed. Barcelona: Masson-Williams & Wilkins, ISBN 9788445811870.

Gordis L. Epidemiología, 5ª ed. Madrid: Harcourt, 2014.

Hernández-Aguado I., Lumbreras Lacarra B. Manual de Epidemiología y Salud Pública para Grados en Ciencias de la Salud. 3ª ed. Madrid: Editorial Médica Panamericana, 2018.

Porta M (ed.). A Dictionary of Epidemiology. Sixth ed. New York: Oxford University Press, 2014.

## BIBLIOGRAFIA DE CONSULTA

Straus SE, Richardson WS, Glasziou P, Haynes BR. Medicina basada en la evidencia. Cómo practicar y enseñar la MBE. 3ª ed. Madrid: Elsevier, 2006.

Greenberg RS, Daniels SR, Flanders WD, Eley JW, Boring JR. Medical Epidemiology. 4ª ed. New York: Lange Medical Books/McGraw-Hill, 2005.

Rothman KJ. Epidemiology: An introduction. 2nd ed. New York: Oxford University Press, 2012.

Rothman KJ, Greenland S, Lash TL. Modern Epidemiology. 3<sup>a</sup> ed. Philadelphia: Lipincott,2008.

## RECURSOS D'INTERNET

- [www.OpenEpi.com](http://www.OpenEpi.com)
- [www.cdc.gov/epiinfo/](http://www.cdc.gov/epiinfo/)