

## 68707 - Advanced Epidemiology

### Información del Plan Docente

Academic Year	2016/17
Academic center	104 - Facultad de Medicina
Degree	459 - Master's in Public Health
ECTS	2.0
Course	1
Period	Second semester
Subject Type	Optional
Module	---

### 1. Basic info

#### 1.1. Recommendations to take this course

#### 1.2. Activities and key dates for the course

### 2. Initiation

#### 2.1. Learning outcomes that define the subject

#### 2.2. Introduction

### 3. Context and competences

#### 3.1. Goals

#### 3.2. Context and meaning of the subject in the degree

#### 3.3. Competences

#### 3.4. Importance of learning outcomes

### 4. Evaluation

### 5. Activities and resources

#### 5.1. General methodological presentation

The learning process that was designed for this subject is based on the following:

Students, having completed the compulsory subjects OB2 and OB3, have enough baggage to deal with more complex research problems. From there, the learning and achievement of results should be the consequence of attending and participating in the scheduled sessions and the completion of work of individual character.

## **5.2.Learning activities**

The program that the student is offered to help them achieve the expected results includes the following activities ...

1. Lectures.
2. Case studies and problem-solving activities.
3. Individual work.

## **5.3.Program**

1. Study of the causal association:

causal models

Experimental designs.

2. Observational designs: cohorts studies.
3. Observational designs: case-control studies.

New paradigms in epidemiological research.

Observational hybrid designs:

Nested case-control studies

Case cohort studies

## **5.4.Planning and scheduling**

**PLANNED LEARNING ACTIVITIES**

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### ADVANCED EPIDEMIOLOGY

Day	Time	Topic	Professors	Activity	Location	Materials	Participation
Mon	16:30-				Seminario de Medicina Preventiva y Salud Pública		
	18:30	Experimental designs	G. Marcos	Lecture		ADD	Articles evaluation
	19:00-20:30						
Tue	16:30-				Seminario de Medicina Preventiva y Salud Pública		
	18:30	Cohorts Studies	M. Laclaustra	Lecture		ADD	Articles evaluation
	19:00-20:30						
Wed	16:30-				Seminario de Medicina Preventiva y Salud Pública		
	18:30	Case control	G. Marcos	Lecture		ADD	Articles evaluation
	19:00-20:30	Studies	A. Lobo				

Presencial and non presencial sessions are shown in the calendar available in the ADD, together with all the works deadlines

### 5.5. Bibliography and recommended resources

- Bibliography, complementary references and support websites

#### Books

1. Fletcher RH, Fletcher SW,. Epidemiología Clínica 4ª ed. Barcelona: Wolters Kluwer, 2008. *Libro avanzado de epidemiología orientada a la práctica clínica.*
2. Gordis L. Epidemiología. Tercera edición. Madrid: Elsevier, 2005. *Libro de referencia con un nivel intermedio.*
3. Rothman KJ, Greenland S, Lash TL. Modern Epidemiology 3d edition. Lippincott, William & Wilkins, 2008. *Completo y extenso manual de epidemiología avanzada .*
4. Szklo M, Nieto J. Epidemiología intermedia. Conceptos y aplicaciones. Madrid, Díaz de Santos 2003.
5. De Irala Estévez J, Martínez-González MA, Seguí Gómez M. Epidemiología aplicada. Barcelona: Ed. Ariel. 2008.
6. Piédrola Gil. Medicina preventiva y Salud Pública (capítulos 7 a 19). Barcelona, Ed. Elsevier 2008.
7. Pardo Merino A. y Ruiz Díaz M.A.-SPSS 11. Guía para el análisis de datos Ed. Mc Graw Hill. 2002.
8. Martínez Navarro F et al. Vigilancia Epidemiológica. Madrid, McGraw-Hill/Interamericana 2004.

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9. Julian DG, Pocock SJ. Interpreting a trial report. In: Pitt B, Julian D, Pocock S, editors. Clinical trials in cardiology. London: Saunders; 1997
10. Delgado M, Llorca J, Doménech, JM. Estudios experimentales, 3ª ed. Barcelona: Signo; 2008
11. MacMahon B. Pugh TF. Principios y métodos de Epidemiología 2ª ed. Mexico: Prensa Médica Mexicana; 1975
12. Sharon E. Straus, W. Scott Richardson, Paul Glasziou, R. Brian Haynes. Medicina Basada en la evidencia 3ª ed. Elsevier; 2006
13. Javier Sánchez-Caro, Fernando Abellan. Investigación Biomédica en España: Aspectos Bioéticos, Jurídicos y Científicos. Granada: Ed. Comares; 2007
14. William G. Cochran, Gertrude M. Cox. Diseños Experimentales. Mexico: Ed Trillas; 1987
15. Luis Carlos Silva Ayçaguer. Cultura estadística e investigación científica en el campo de la salud: una mirada crítica. Madrid: Diaz de Santos, 1997.

### Websites

### Organisms

- Instituto de Salud Carlos III: <http://www.isciii.es/publico/>
- Organización Mundial de la Salud: <http://www.who.int/en/>
- Ministerio de Sanidad y Política Social: [www.msps.es](http://www.msps.es)
- Instituto Nacional de Estadística: <http://www.ine.es/>

### Epidemiology and statistics resources

- Material from the Unit of Clinical Biostatistics of the University Hospital Ramón y Cajal of Madrid  
[http://www.hrc.es/bioest/M\\_docente.html](http://www.hrc.es/bioest/M_docente.html)
- Statistical data analysis software on the Internet: <http://www.fisterra.com/mbe>
- Self-learning webpage for fundamental contents of statistics: <http://e-estadistica.bio.ucm.es>
- Biostatistics of the University of Malaga. Present notes on theory and exercises: <http://www.bioestadistica.uma.es>
- Supercourse: <http://www.pitt.edu/~super1/>
- Catalog of resources in statistics and epidemiology: [http://www.rcm.upr.edu/PublicHealth/bio-epi/BE\\_internet.htm](http://www.rcm.upr.edu/PublicHealth/bio-epi/BE_internet.htm)
- Epi Info: <http://www.cdc.gov/epiinfo/>
- Epidat:  
[http://www.sergas.es/MostrarContidos\\_N3\\_T02.aspx?IdPaxina=60033&uri=http://dxsp.sergas.es/ApliEdatos/Epidat/gal/def](http://www.sergas.es/MostrarContidos_N3_T02.aspx?IdPaxina=60033&uri=http://dxsp.sergas.es/ApliEdatos/Epidat/gal/def)
- Critical reading references : [www.redcaspe.org/homecasp.asp](http://www.redcaspe.org/homecasp.asp)
- Visita Guiada Pubmed: <http://escuela.med.puc.cl/recursos/mbe2001/guiadamedline.html>
- Epidemiological and medical calculators:
  - o <http://www.fisterra.com/calculmed/index.asp>
  - o <http://www.fisterra.com/calculmed/otrascalculadoras.asp>
- Epidemiological calculators: <http://www.infodoctor.org/rafabravo/herramientas.htm>
- Statistical calculators <http://ktclearinghouse.ca/cebm/practise/ca/calculators/statscalc>
- NNT calculation: <http://www.seh-lelha.org/nnt.htm>

### Articles

- A. Lawrence Gould. Interim analyses for monitoring clinical trials that do not materially affect the type I error rate.

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- Statisticsi Medicine, vol.11, 55-66 (1992)
- Delgado-Rodríguez M, Sillero M. Revisión: diseños híbridos de estudios de cohortes y de estudios de casos y controles. Gac Sanit 1995; 9; 42-52
  - CARRACEDO-MARTINEZ, Eduardo et al . Fundamentos y aplicaciones del diseño de casos cruzados. Gac Sanit, Barcelona, v. 23, n. 2, abr. 2009

### References of the recommended bibliography

<http://biblioteca.unizar.es/>