MÁSTER INTERUNIVERSITARIO EN
SALUD PÚBLICA

Guía docente de la asignatura:

Epidemiology II

Departamento de Ciencias Experimentales y de la Salud

UNIVERSITAT POMPEU FABRA - UNIVERSITAT AUTÒNOMA DE
BARCELONA
GENERAL INFORMATION

Academic course: 2015-2016
Subject name: Epidemiology II
Kind of subject: Compulsory
Number of credits: 3 ECTS (75 hours of dedication)
Coordination: Olatz Garin
Language of teaching: Spanish

TEACHERS

(JB) Juan Bellido: Doctor in Medicine, UAB, 1997; Master in Public Health, University of Valencia-EVES, 1988. Epidemiologist at Centre of Public Health of Castellón (Direcció General de Salut Publica)
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(MaF) Magi Farré: MD, PhD. Professor of Pharmacology. Clinical Pharmacologist. Researcher at Human Pharmacology and Neurosciences Unit, IMIM (Hospital del Mar Medical Research Institute). Teacher at School of Medicine, Universitat Autònoma de Barcelona.
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(MoF) Montse Ferrer: Doctor in Medicine and Master in Public Health, Senior researcher at the Health Services Research Group, IMIM (Hospital del Mar Medical Research Institute), and Associate Professor of the Universitat Autònoma de Barcelona.
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(OG) Olatz Garin: Master in Public Health, UPF, 2004, and Degree in Biology, University of Navarra, 2001. Researcher at the Institut Municipal d’Investigació Mèdica (IMIM), and Associate Professor of the CEXS-UPF.
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INTRODUCTION

The purpose of this course is to consolidate, explore in greater depth and complement the basics acquired in the course “Epidemiology 1”. It is also to enable the student to correctly interpret studies published in the literature and interpret basic epidemiological analysis. The syllabus will explore a selection of designs (based on elementary designs) and epidemiological analysis.
TEACHING AIMS

To be able to:
- study the frequency and distribution of diseases within human populations and environments
- determine if any factor is associated with the health effect
- compare groups of people who are alike except for the risk factor under evaluation

TEACHING SKILLS

GENERAL

• Instrumental skills:
  • Basic understanding of the design of epidemiological studies.
  • Basic understanding of the analysis and interpretation of epidemiological research in public health.
  • Ability to solve problems and compare and contrast epidemiological hypotheses.
• Personal skills:
  • Ability to work a team.
  • Ability to collate results, write their description and interpretation and orally defend.
  • Communication skills.
• Methodological skills:
  • Promote the ability to design studies following straightforward procedures.
  • Promote the ability to analyse data from the epidemiological perspective as well as using statistical criteria.
  • Encourage critical reading of epidemiological literature.
  • Encourage self motivation in work.

SPECIFIC

• Design of cross-sectional studies; assuring external validity.
• Design of longitudinal studies. Design of case-control studies; choosing the control group.
• Ability to analyse case-control and longitudinal studies.
• Working in teams to solve practical exercises.
The work schedule is as follows:

**Theory**: explanation by the professor, with the use of examples, of theoretical concepts.

**Seminars**: The work is to be done both individually and in groups of students (number to be fixed throughout the course).

**Group work outside class**: Completing exercises. Discussion among classmates in order to answer the exercises is the basis for learning.

**Readings**: of theoretical material to be able to follow the classes and fulfil the exercises.

## EVALUATION

Continuous evaluation will be performed along the seminars, corrections and final exam.

What is to be evaluated?

The understanding of the problem, the application of adequate methods, the correct interpretation of results, the writing up of the work and the level of communicative ability demonstrated therein. Also the active participation in group work discussion and class. These are the items that will be evaluated.

Each of the 6 seminars (individual exercises and discussions of papers by groups) will count 10% of the total grade, with a total of 60%. The final exam will count 40%. However, it is necessary to pass the exam (5 or above) in order to consider that 40% at the global evaluation.
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<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Session</th>
<th>Seminar</th>
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<tr>
<td>12/01/16</td>
<td>17:30 – 19:30</td>
<td>T. Session 1: <strong>Introduction and Cross-sectional studies</strong></td>
<td>Seminar 1: <strong>Exercise Basic Epidemiology</strong> (ind.)</td>
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<tr>
<td>14/01/16</td>
<td>15:00 – 17:00</td>
<td>T. Session 2: <strong>Confounding and Interaction.</strong></td>
<td>Seminar 2: <strong>Co&amp;Int.</strong> (ind.)</td>
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<tr>
<td>21/01/16</td>
<td>15:00 – 17:00</td>
<td>T. Session 3: <strong>Longitudinal Studies</strong></td>
<td>Seminar 3: a) <strong>Studies’ comparison</strong>, b) <strong>Critical Reading</strong> (group)</td>
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<td>28/01/16</td>
<td>15:00 – 17:00</td>
<td>T. Session 4: <strong>Case-control studies</strong></td>
<td>Seminar 4: <strong>Case-control</strong> (group)</td>
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<td>04/02/16</td>
<td>15:00 – 16:30</td>
<td>T. Session 5: <strong>Clinical Trials</strong></td>
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<td>17:00 – 19:30</td>
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<td>T. Session 6: <strong>Standardization.</strong></td>
<td>Seminar 5: <strong>Standardization</strong> (ind.)</td>
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<td>11/02/16</td>
<td>15:00 – 17:00</td>
<td>Seminar 6: <strong>Study designs and bias – review</strong> (groups)</td>
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<td>17:30 – 19:30</td>
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<td>T. Session 7: <strong>Measures to assess test results</strong></td>
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**March**

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Exam - Test
<table>
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<tr>
<th>Session and Teacher</th>
<th>Title</th>
<th>Readings and Tasks</th>
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| T. Session 1 (OG)   | **Introduction and Cross-sectional studies** | Reading:  
| Seminar 1 (OG)      | **Exercise on basic Epidemiology** | Exercise on basic concepts on study design and measures  
Do the exercise individually and hand it in the same day.  
(10% of the total grade) |
| T. Session 2 (OG)   | **Confounding: definition and control** | Reading (previous to session):  
- Szko & Nieto. Chapter 5: Identifying non-causal associations: confounding  
- Szko & Nieto. Chapter 7: Stratification and adjustment: multivariate analysis in epidemiology  
Other readings:  
- Rothman KJ, Greenland S. Accuracy considerations in study design. In: Rothman KJ  
- Datta M. You cannot exclude the explanation you have not considered. Lancet 1993; 342: 345-7  
| T. Session 3        | **Evaluation of interaction** | Reading (previous to session):  
Other readings:  
| Seminar 2 (OG)      | **Exercises on confounding and interaction** | Do the exercises individually. Hand them in the following session (15/01/13)  
(10% of the total grade)  
The exercises would be reviewed and discussed at the following session (15/01/13) |
| T. Session 3        | **Cohort studies** | Reading (previous to session): |
| (OG) | | - Rothman and Greenland: Chapter 6, pages 79-92.  
Other readings:  
| Seminar 3 | Discussion of papers* on longitudinal studies: a) Studies’ comparison b) Critical Reading | *Papers/Studies to be determined  
Group work.  
Time for conducting and handing in part a the same day.  
Part b should be handed in the next session (22/01/13) (10% of the total grade) |
| (OG) | | |
| T. Session 4 | Case-control studies | Reading (previous to session):  
- Szkló & Nieto. Chapter 1: pages 28-51  
- Rothman and Greenland: Chapter 7, pages 93-114.  
Other readings:  
- Slechelman JJ. Case-control studies. Design, conduct, analysis University Press 1982; 124-134; 227-280 |
| (JB) | | |
| Seminar 4 | Discussion of papers on case-control | Papers for discussion:  
  • Group work.  
  • -The deliverable should be handed in the next session (29/01/13) (10% of the total grade) |
<p>| (JB) | | |
| T. Session 5 | Clinical Trials | Reading (previous to session): |</p>
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<th>Session</th>
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Rotham & Greenland. Pages 260-264  
| Seminar 5 (OG) | Exercises on Standardization | After some examples discussed in the class, do the exercises individually and hand them in the next session (05/02/13)  
(10% of the total grade) |
| Seminar 6 (OG) | Study designs and bias – review | Group work based on the objectives or research epidemiological questions made by students at the course and on the design proposed by a mate.  
The deliverable should be handed in at the beginning of the session, before starting the oral presentation and review.  
(10% of the total grade) |
| T. Session 7 (MoF) | Measures to assess test results | Reading (previous to session): to be determined |