Basic Advanced Pharmacology

Code: 42359
ECTS Credits: 9

<table>
<thead>
<tr>
<th>Degree</th>
<th>Type</th>
<th>Year</th>
<th>Semester</th>
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<tr>
<td>4311309 Pharmacology</td>
<td>OB</td>
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**Contact**

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**Teachers**

Jordi Alberola Domingo
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Elisabet Vila Calsina
Ignacio José Gich Saladich
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Joan Seoane Suárez
Javier Cortés Castán
Marta Valle Cano

**External teachers**

A. Vivancos
D. Capellà
P. DOcon

**Prerequisites**

Basic knowledge of physiology, biochemistry and cell biology taught in degrees belonging to Health Sciences, Biosciences and Sciences.

**Objectives and Contextualisation**

Acquire the basic scientific knowledge of pharmacology and deepen into the knowledge of the physiological, biochemical and genetic concepts that support them. Introduction to the criteria for clinical use of drugs.

**Use of Languages**

Principal working language: spanish (spa)
Competences

- Capacitat d'anàlisi i síntesi.
- Definir les diferents etapes del recorregut dels fàrmacs pel organisme, descriure les seves característiques i interpretar la seva relació amb l'efecte farmacològic.
- Desenvolupar habilitats d'autoaprenentatge.
- Desenvolupar un pensament crític i autocrític.
- Recognise the criteria for the clinical use of drugs.
- Recognise the scientific bases of pharmacology and the physiological, biochemical and genetic concepts that underpin it.

Learning Outcomes

1. Analyse the drug-pharmacological effect relationship.
2. Analyse the origin of variation in response to drugs.
3. Capacitat d'anàlisi i síntesi.
4. Define the different stages of drugs' transit through the organism.
5. Describe the characteristics of drugs.
6. Desenvolupar habilitats d'autoaprenentatge.
7. Desenvolupar un pensament crític i autocrític.
8. Explain the mechanism of action of drugs as modifiers of biological activity.
9. Identify the principles of genetics, molecular biology and cell biology that underlie the structure, action and effects of drugs.
10. Interpret the clinical implications of the basic concepts in pharmacology: clinical response and adverse effects.

Content


c) Definitions and historical evolution. Basic elements of molecular biology, the human genome, protein biosynthesis. Pharmacogenetics: expression of polymorphisms with pharmacokinetic or pharmacodynamic implications. Impact of pharmacogenetics on therapeutic efficacy and adverse effects. Pharmacogenomics.

d) Clinical response to drugs and their measurement. Treatment of symptoms, modification of the evolution of the disease, healing and prevention. Clinical events versus subrogated variables. Adverse effects and their identification: toxic effects, classification of adverse effects according to different dimensions (mechanisms of production, frequency, severity, etc.), causality. The benefit / risk relationship in the administration of drugs. Overdose and poisoning: basic principles of intervention.

e) Patient's own factors (sex, age, race, etc.): examples. Factors characteristic of the patient's pathology (alterations of the organs and systems responsible for the absorption, distribution and elimination processes): examples. Pharmacological interactions with drugs and other substances: examples.

Methodology

The module's global mark is the arithmetic mean of all subjects’ marks within the module.

Activities

<table>
<thead>
<tr>
<th>Title</th>
<th>Hours</th>
<th>ECTS</th>
<th>Learning Outcomes</th>
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<td>Type: Directed</td>
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<tr>
<td>Clinical cases seminars</td>
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<td>2, 1, 3, 4, 5, 7, 8, 9, 10</td>
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<tr>
<td>Type: Supervised</td>
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<tr>
<td>Non-scheduled tutorials</td>
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<td>Study, papers...</td>
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<td>5.2</td>
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Assessment

Each subject that composes the module is evaluated independently, and the module's global mark is the arithmetic mean of all subjects' marks within the module. You must have attended at least 80 % of the sessions.

Assessment Activities

<table>
<thead>
<tr>
<th>Title</th>
<th>Weighting</th>
<th>Hours</th>
<th>ECTS</th>
<th>Learning Outcomes</th>
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<td>Attendance and active participation</td>
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<td>Exams</td>
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<td>0.06</td>
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Oral paper presentations 18 % 1 0.04 2, 1, 3, 4, 5, 7, 8, 9, 10

Paper writing 18 % 1 0.04 2, 1, 3, 4, 5, 7, 8, 9, 10

Bibliography

- José Domenech; José Martínez Lanao; Concepción Peraire. Tratado general de biofarmacia y farmacocinética. 2013.