

26949 - Biological Physics

Información del Plan Docente

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| Academic Year | 2016/17 |
| Academic center | 100 - Facultad de Ciencias |
| Degree | 447 - Degree in Physics |
| ECTS | 5.0 |
| Course | 4 |
| 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

5.2. Learning activities

5.3. Program

0.- Physics and Biology. Historical introduction and motivation.

1.- Molecular and cellular biology review. Biological molecules: DNA, RNA and proteins. Membranes

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- 2.- Random walks and diffusion.
- 3.- Statistical physics in and out of equilibrium.
- 4.- Life at low Reynolds number.
- 5.- Properties of water.
- 6.- Physics of Biopolymers.
- 7.- Cooperative phenomena.
- 8.- Self-assembly and self-organization.
- 9.- Molecular motors.
- 10.- Physics of nervous system.
- 11.- Systems Biology.

5.4.Planning and scheduling

5.5.Bibliography and recommended resources