

**Información del Plan Docente**

<b>Academic Year</b>	2017/18
<b>Faculty / School</b>	100 - Facultad de Ciencias
<b>Degree</b>	447 - Degree in Physics
<b>ECTS</b>	8.0
<b>Year</b>	3
<b>Semester</b>	Second semester
<b>Subject Type</b>	Compulsory
<b>Module</b>	---

**1.General information****1.1.Introduction****1.2.Recommendations to take this course****1.3.Context and importance of this course in the degree****1.4.Activities and key dates****2.Learning goals****2.1.Learning goals****2.2.Importance of learning goals****3.Aims of the course and competences****3.1.Aims of the course****3.2.Competences****4.Assessment (1st and 2nd call)****4.1.Assessment tasks (description of tasks, marking system and assessment criteria)****5.Methodology, learning tasks, syllabus and resources****5.1.Methodological overview**

The activities to achieve the planned goals and skills are the following:

- Lectures
- Resolution of problems
- Laboratory
- Exam

## 5.2. Learning tasks

The ECTS assigned to the planned activities are the following:

Lectures: 5.5 ECTS

Resolution of problems: 1.5

Laboratory: 1 ECTS

## 5.3. Syllabus

- Harmonic oscillator: Creation and annihilation operators
- Identical particles
- Stationary and time dependent perturbations
- Variational method
- Helium atom. Multi-electron atoms. Periodic table
- Chemical bonding. Molecular physics

## 5.4. Course planning and calendar

The distribution of the planned activities depends on the general schedule of the scholastic year. The dates of the exams will be published by the professors according to the calendar approved by the Faculty.

## 5.5. Bibliography and recommended resources

- BB Cohen-Tannoudji, Claude. Mécanique cuantique / Claude Cohen-Tannoudji, Bernard Diu , Franck Laloë . - [1ere ed.] Paris : Hermann, cop.1973
- BB Cohen-Tannoudji, Claude. Quantum mechanics / Claude Cohen-Tannoudji, Bernard Diu, Franck Laloë ; translated from the French by Susan Reid Hemley, Nicolo Ostrowsky, Dan Ostrowsky New York [etc.] : John Wiley [etc.], cop. 1977
- BB Física cuántica / Carlos Sánchez del Río (Coodinador) Madrid : Pirámide, D.L. 2008