

26809 - Optical Physics

Syllabus Information

Academic Year: 2018/19

Subject: 26809 - Optical Physics

Faculty / School: 100 - Facultad de Ciencias

Degree: 297 - Degree in Optics and Optometry

ECTS: 6.0

Year: 2

Semester: First semester

Subject Type: Compulsory

Module: ---

1.General information

1.1.Aims of the course

1.2.Context and importance of this course in the degree

1.3.Recommendations to take this course

2.Learning goals

2.1.Competences

2.2.Learning goals

2.3.Importance of learning goals

3.Assessment (1st and 2nd call)

3.1.Assessment tasks (description of tasks, marking system and assessment criteria)

4.Methodology, learning tasks, syllabus and resources

4.1.Methodological overview

4.2.Learning tasks

4.3.Syllabus

- 1.- Introduction. Nature of light.
- 2.- Waves; basic concepts.
- 3.- Electromagnetic waves; fundamentals.
- 4.- Interferences.
- 5.- Diffraction.
- 6.- Polarization.
- 7.- Reflection and refraction of plane waves.
- 8.- Light-matter interaction. Dispersion.
- 9.- Modern Optics.

4.4.Course planning and calendar

4.5.Bibliography and recommended resources

- BB** Cabrera, José Manuel. Óptica electromagnética. Vol. I, Fundamentos / José Manuel Cabrera, Fernando Jesús López López . 2ª ed. Madrid [etc.] : Addison Wesley : Universidad Autónoma de Madrid, cop. 1998
- BB** Cabrera, José Manuel. Óptica electromagnética. Vol. II, Materiales y aplicaciones / José Manuel Cabrera, Fernando Fernando Jesús López . Madrid [etc.] : Addison Wesley : Universidad Autónoma de Madrid, D.L. 2000
- BB** Casas Pelaez, Justiniano. Optica / Justiniano Casas . - 7a. ed. Zaragoza : [El Autor], 1994
- BB** Hecht, Eugene. Optica / Eugene Hecht ; traducción Raffaello Dal Col, revisión técnica Rosa Weingard Talavera, Jos Pérez . - 3a ed. en español Madrid [etc] : Addison-Wesley, D.L. 1999
- BC** Pedrotti, Frank L.. Introduction to optics / Frank L. Pedrotti, Leno S. Pedrotti, Leno M. Pedrotti . - 3rd ed. Upper Saddle River : Pearson Prentice Hall, cop. 2007
- BC** Pedrotti, Leno S.. Optics and vision / Leno S. Pedrotti, Frank L. Pedrotti, S. J. Upper Saddle River : Prentice-Hall, cop.