

26932 - Astronomy and Astrophysics

Información del Plan Docente

Academic Year	2017/18
Faculty / School	100 - Facultad de Ciencias
Degree	447 - Degree in Physics
ECTS	5.0
Year	
Semester	First semester
Subject Type	Optional
Module	---

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 learning process designed for this subject is based on:

- Participatory master classes
- Learning based on cases

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- Learning based on problems
- Field work
- Preparation of reports

5.2.Learning tasks

TRAINING ACTIVITY 1: acquisition of the basics of the contents of the course

TRAINING ACTIVITY 2: solving problems related to the contents of the subject

TRAINING ACTIVITY 3: acquisition of skills for astronomical observation. The practical classes have a special character because they are field works.

- Familiarization with the celestial sphere and different coordinate systems: horizontal, equatorial and galactic systems. Constellations crossing the celestial equator, the ecliptic, and the galactic equator.
- Familiarization with the arms of The Galaxy
- Familiarization with open and globular clusters

5.3.Syllabus

- Positions, motions and distances of the stars
- Structure and kinematics of the stellar system
- Astronomic photometry
- Stellar structure and evolution
- The Sun and the solar system
- The interstellar medium
- The Milky Way constituents
- Normal galaxies and active galaxies

5.4.Course planning and calendar

Hours of master classes (h.m.c) and hours of solving problems and cases (h.p.c.) estimated for each chapter of the subject:

- Positions, motions and distances of the stars: 2 h.m.c.; 1 h.p.c.
- Structure and kinematics of the stellar system: 2 h.m.c.; 2 h.p.c.
- Astronomic photometry: 2 h.m.c.
- Stellar structure and evolution: 12 h.m.c.; 8 h.p.c.
- The Sun and the solar system: 2 h.m.c.
- The interstellar medium: 6 h.m.c.; 4 h.p.c.
- The Milky Way constituents: 2 h.m.c.
- Normal galaxies and active galaxies: 2 h.m.c.

5.5.Bibliography and recommended resources

- BB Binney, J. & Merrifield, M.. Galactic Astronomy. Princeton University Press. 1998
- BB Encrenaz, Th.; Bibring, J.-P. & Blanc, M.. The Solar System. 3rd. ed. Springer. 2013
- BB Kippenhahn, R.; Weigert, A.. Stellar Structure and Evolution. 2nd. ed. Springer. 2012
- BB Scheffler H. & Elsässer, H.. Physics of the Galaxy and Interstellar Matter. Springer. 1988