SCHOOL PLAN

University Unit:
Engineering school

Graduate program:
Geospatial Sciences and Applications

Curse:
☒ Academic Master ☐ Professional Master's ☒ Doctorate degree

Discipline :
Space Plasmas

Teacher (s):
Carlos Guillermo Giménez de Castro

Note:

The Geospatial Science and Applications course is a multidisciplinary course encompassing research in Solar Physics, Terrestrial Solar Relations, Astronomy, Particle Physics and others. The course subjects reflect this multidisciplinarity and often require more than one teacher, who specializes in topics of the same discipline.

Workload:	**Credits**	☐ Required ☒ Optional ☐ Eleffective
48 h	4	

Description:

Discussion about the solar wind and the waves in space plasma. Fluid description model of the solar wind. Kinetic models of the solar wind. Existing bodies in the wind: charged dust grains. Waves in space plasmas: electrostatic and electromagnetic waves in space. Kinetic theory of waves. Instabilities in space plasmas: macro-instability and micro-instabilities. Electrostatic Instabilities, Electromagnetic instabilities.

Program content:

Evaluation criteria

According to the General Regulation of Stricto Sensu Post-Graduation, Art. 98:

A - excellent: corresponds to grades in the interval between grades 9 and 10;

B - good: corresponds to grades in the interval between grades 8 and 8.9;

C - regular: corresponds to grades in the interval between grades 7 and 7.9;

R - disapproved: corresponds to grades in the interval between degrees 0 and 6.9 "

Bibliography:

-Bittencourt, J.A. Fundamemtals of Plasma Physics. Third Edition. Editora Springer, 2004.
-Treumann, R. A. Baumjohann, W., Advanced Space Plasma Physics. World Scientific Publishing Comp., 1997.
-Parks, G.K. Physics of space plasmas – An Introduction. Second Edition. Editora ABP,1995.
-Narayanan, A.S. An Introduction to Waves and Oscillations in the Sun.Editora Springer, 2013.
- Priest, E. Magnetohydrodynamics of the Sun. Cambridge University Press, 2014.
- Somov, B. V. Fundamentals of Cosmic Electrodynamics. Kluwer Academic Publishers, 1994.

Schedule

Date	Theme