SCHOOL PLAN

University Unit: Engineering school		
Graduate program: Geospatial Sciences and Applications		
Curse: ☒ Academic Master ☐ Professional Master's ☒ Doctorate degree		
Discipline : **Astroinformatics I**		
Teacher (s): **Luciano Silva**		
Note: The Geospatial Science and Applications Program is multidisciplinary, encompassing research in several lines. The disciplines of the Program reflect this multidisciplinarity and require, many times, several professors, specialists in different topics, studied in the disciplines.		
Workload: 48 h	**Credits** 4	☐ Required ☒ Optional ☐ Eleffective
Description: Basic programming in Python. Entry and models of astronomical data (generic files, FITS files, virtual observatories). Data visualization. Dimensional data analysis. Two-dimensional data analysis. Three-dimensional data analysis. Fundamentals of high performance processing for data analysis.		
Program content: List of themes, subjects and concepts that will be studied in the stage.		
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:

BOSCHETTI, A., MASSARON, L. **Python Data Science Fundamentals**. New York: Pact Publishing, 2015.
CARROLL, B.W., OSTLIE, D.A. **An Introduction to Modern Astrophysics.** New York: Pearson, 2006.
DOGLIO, F. **Mastering Python High Performance Programming**. New York: Pact Publishing, 2015.
IDRIS, I. **Python Data Analysis Cookbook**. New York: Pact Publishing, 2016.

_____. **Python Data Analysis**. New York: Pact Publishing, 2014.

IVEZIC, Z., CONNOLLY, A.J., VANDERPLAS, J.T., GRAY, A. **Statistics, Data Mining and Machine Learning in Astronomy: A Practical Python Guide for the Analysis of Survey Data**. Princeton: Princeton University Press, 2014.
LAYTHON, R. **Learning Data Mining with Python**. New York: CRC Press, 2011.
RAMAN, K. **Mastering Python Data Visualization**. New York: Pact Publishing, 2015.

Schedule

Date	Theme