

Academic Writing and Scientific Data Representation (WRT)			
Code number:	7xxxx	Number of ECTS:	6 ECTS
Semester:	Autumn	Language:	English
Lecturer(s) and contact: Dr. Tomasz Pieciak (tpieciak@tel.uva.es)			
Learning goals: At the end of the course, the student will be able to: - Understand the role of technical excellence in scientific writing and data representation. - Prepare a document in the LaTeX system, including equations, tables, figures, and references. - Generate customised plots that present the data in Python. - Prepare a high-quality scientific document in LaTeX typesetting system.			
Contents: - Introduction to the topic. What is the quality of scientific data representation? Why LaTeX? - Introduction to LaTeX typesetting system: document organization, basic syntax, special characters, document templates, compilation. - LaTeX: lists, mathematical equations, custom operators, tables, figures. - LaTeX: bibliography, indexing, citations, cross-referencing. - LaTeX: advanced topics, algorithm presentation, TikZ, Beamer. - Python+matplotlib: basic visualization, plotting different types of data, exporting high-quality figures. - Python+matplotlib: advanced plot management and customization. - Inkscape: motivation, basics of vector-like figures, importing figures from Python. - Inkscape: working with guides, aligning the objects and equations, and exporting the figures. - High-quality scientific document preparation in accordance with journal standards.			
Prerequisites: None			
Assessment: Three projects prepared on time: 1) a LaTeX document with the pre-defined content type (25%), 2) high-quality figures generated in Python+matplotlib and Inkscape (25%), 3) a high-quality final report presenting a scientific paper including the elements learned through the course (50%).			