# Syllabus

## *Kursbeschreibung*

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| **Titel der Lehrveranstaltung** | Scientific Thesis Writing |
| **Code der Lehrveranstaltung** | 27533 |
| **Zusätzlicher Titel der Lehrveranstaltung** | |
| **Wissenschaftlich-disziplinärer Bereich** | STAT-01/A |
| **Sprache** | Englisch |
| **Studiengang** | Master in Data Analytics for Economics and Management |
| **Andere Studiengänge (gem. Lehrveranstaltung)** | |
| **Dozenten/Dozentinnen** | Prof. Davide Ferrari,<br>Davide.Ferrari2@unibz.it<br>https://www.unibz.it/en/faculties/economics-management/academic-staff/person/39001 |
| **Wissensch. Mitarbeiter/Mitarbeiterin** | |
| **Semester** | Zweites Semester |
| **Studienjahr/e** | 1 |
| **KP** | 1 |
| **Vorlesungsstunden** | 6 |
| **Laboratoriumsstunden** | - |
| **Stunden für individuelles Studium** | - |
| **Vorgesehene Sprechzeiten** | 3 |
| **Inhaltsangabe** | This course introduces students to the principles and practice of scientific writing, with particular emphasis on the preparation of undergraduate and graduate theses. The first part of the course examines the structure, organization, and writing process of a scientific thesis. Students will learn how to formulate research questions, conduct literature reviews, present methods and results, and communicate scientific findings effectively. The second part of |

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| | the course provides an introduction to LATEX, the standard typesetting system used in many scientific disciplines.<br>Students will learn how to create professional-quality scientific documents, manage references, insert figures and tables, and prepare a complete thesis manuscript |
| **Themen der Lehrveranstaltung** | Part I: Scientific Writing and Thesis Structure<br>• Structure of a scientific thesis<br>• Writing the title, abstract, and introduction<br>• Literature review and citation practices<br>• Methods, results, discussion, and conclusions<br>• Scientific style: clarity, precision, and conciseness<br><br>Part II: Introduction to LATEX Typesetting<br>• Basic structure of a LATEX document<br>• Sections, figures, tables, and equations<br>• Bibliographies and citations in LATEX<br>• Preparing a simple thesis-style document |
| **Stichwörter** | Scientific writing, thesis preparation, literature Review<br>scientific communication, LaTeX |
| **Empfohlene Voraussetzungen** | |
| **Propädeutische Lehrveranstaltungen** | |
| **Unterrichtsform** | The course is delivered in a seminar-style lecture format that combines frontal instruction with active student participation. Lectures introduce the theoretical principles of scientific writing and thesis preparation, while interactive exercises provide opportunities to apply these concepts in practice. Students will engage in guided activities such as formulating research questions, analyzing examples of scientific texts, reviewing thesis components, and working with LaTeX. The seminar format encourages discussion, feedback, and collaborative learning, fostering the development of both writing and technical skills. |
| **Anwesenheitspflicht** | - |
| **Spezifische Bildungsziele und erwartete Lernergebnisse** | Intended Learning Outcomes (ILO)<br><br>ILO 1 Knowledge and understanding:<br>ILO 1.1 |

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| | The student acquires programming knowledge, particularly aimed at data analysis and statistical methodologies for implementing models as well as analysing large-scale datasets.<br>In particular, the computing skills are focused on machine learning methods, on understanding modern techniques for data management and storage, including data from heterogeneous sources in terms of type and structure, such as spatio-temporal data and high-dimensional data, also in cloud environments, and on implementing algorithms for massive data processing.<br><br>ILO 2 Applying knowledge and understanding:<br>ILO 2.1<br>Ability to apply and implement analysis techniques focusing on different types of datasets such as streaming data, tabular data, documents and images and analysis on joint datasets.<br><br>ILO 3 Making judgements:<br>ILO 3.1<br>The student acquires the ability to apply acquired knowledge to interpret data in order to make directional and operational decisions in a business context.<br><br>ILO4 Communication skills:<br>ILO 4.1<br>The student acquires the ability to communicate effectively in oral and written form the specialised content of the individual disciplines, using different registers, depending on the recipients and the communicative and didactic purposes, and to evaluate the formative effects of his/her communication.<br><br>ILO 5 Learning skills:<br>ILO 5.1<br>The student acquires knowledge of scientific research tools. He/she will also be able to make autonomous use of information technology to carry out bibliographic research and investigations both for his/her own training and for further education.<br>Furthermore, through the curricular teaching and the activities related to the preparation of the final thesis, she will be able to acquire the ability<br>- to identify thematic connections and to establish relationships |

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| | between methods of analysis and application contexts;<br>- to frame a new problem in a systematic manner and to implement appropriate analysis solutions;<br>- to formulate general statistical-econometric models from the phenomena studied. |
| **Spezifisches Bildungsziel und erwartete Lernergebnisse (zusätzliche Informationen)** | Upon successful completion of the course, students will be able to:<br>1. Understand the structure and purpose of a scientific thesis.<br>2. Write clear, concise, and well-organized scientific text.<br>3. Conduct and present a literature review.<br>4. Correctly cite sources and avoid plagiarism.<br>5. Prepare tables, figures, and references according to academic standards.<br>6. Use LATEX to create and format scientific documents.<br>7. Manage bibliographies using BibTeX or BibLaTeX.<br>8. Produce a professionally formatted thesis manuscript. |
| **Art der Prüfung** | Literature Review Assignment 50% (ILOs 1-5)<br>Writing Assignement 50% (ILOs 1-5) |
| **Bewertungskriterien** | Literature Review Assignment: Assessment will be based on the selection and use of relevant scientific sources, the ability to critically evaluate and synthesize the literature, the development of a coherent and well-structured argument, and adherence to academic citation and referencing standards.<br><br>Writing Assignment: Assessment will focus on clarity and precision of scientific writing, logical organization and structure, effective presentation of scientific information, appropriate use of scientific terminology, and adherence to formatting and academic writing conventions, including the use of LaTeX where applicable. |
| **Pflichtliteratur** | Class notes and lecture slides provided at the beginning of each lecture. |
| **Weiterführende Literatur** | • Alley, M. (2018). The Craft of Scientific Writing. 4th ed. Springer.<br>• Day, R. A., & Gastel, B. (2016). How to Write and Publish a Scientific Paper. 8th ed. Cambridge University Press.<br>• Glasman-Deal, H. (2020). Science Research Writing: For Native and Non-Native Speakers of English. 2nd ed. World Scientific.<br>• Mittelbach, F., Goossens, M., Braams, J., Carlisle, D., & Rowley, |

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| | C. (2004). The LATEX Companion. 2nd ed. Addison-Wesley |
| **Weitere Informationen** | |
| **Ziele für nachhaltige Entwicklung (SDGs)** | Keine Armut, Partnerschaften zur Erreichung der Ziele, Gesundheit und Wohlergehen, Hochwertige Bildung, Geschlechter-Gleichheit, Sauberes Wasser und Sanitär-Einrichtungen, Bezahlbare und saubere Energie, Menschenwürdige Arbeit und Wirtschaftswachstum, Industrie, Innovation und Infrastruktur, Weniger Ungleichheiten, Nachhaltige Städte und Gemeinden, Nachhaltiger Konsum und Produktion, Maßnahmen zum Klimaschutz, Leben unter Wasser, Leben an Land, Frieden, Gerechtigkeit und starke Institutionen, Kein Hunger |