Syllabus

Course Description

Course Title	AI-assisted practices in research
Course Code	71087
Course Title Additional	
Scientific-Disciplinary Sector	IINF-05/A
Language	English
Degree Course	PhD Programme in Computer Science
Other Degree Courses (Loaned)	
Lecturers	Prof. Ilenia Fronza, Ilenia.Fronza@unibz.it https://www.unibz.it/en/faculties/engineering/academic-staff/person/17458
Teaching Assistant	
Semester	First semester
Course Year/s	2026/27
CP	2
Teaching Hours	20
Lab Hours	0
Individual Study Hours	50
Planned Office Hours	
Contents Summary	AI has great potential to accelerate research, but it also carries significant risks, including the potential for misuse and challenges in ensuring that research methodologies remain rigorous, transparent, and scientifically sound. Throughout this course, students will first learn about existing guidelines for the responsible use of AI in research in order to critically evaluate AI-assisted practices, ensure methodological rigor and transparency, identify ethical and legal risks, and appropriately document the use of AI tools throughout the research process. As a practical application, the course will then

	focus on preparing and writing a literature review. Students will explore which stages of the literature review process can be responsibly supported or partially automated using AI tools, while maintaining research quality and scientific validity. Students will have the opportunity to engage in a hands-on assignment where they will apply their knowledge to develop the literature review required for their doctoral program. This assignment aims to deepen their understanding and enhance their research skills.
Course Topics	- Guidelines on the responsible use of generative AI in research - Literature Review: stages and guidelines - Automating literature reviews using AI
Keywords	GenAI; Responsible GenAI in Research; Literature review
Recommended Prerequisites	
Propaedeutic Courses	
Teaching Format	The course consists of 3 parts, combining frontal lectures, hands-on activity, and group discussions. The first introductive parf focuses on theoretical foundations. The second part is dedicated to hands-on activities to experiment with automating literature reviews using AI. In the final part, students will present their findings and participate in a discussion of their work and experiences. This presentation will be open to all students in the PhD programme.
Mandatory Attendance	Not compulsory but recommended. Non-attending students have to contact the lecturer at the start of the course to agree on the modalities of the independent study
Specific Educational Objectives and Learning Outcomes	Knowledge and understanding • Knowledge of the guidelines for conducting a literature review. • Knowledge of AI tools that can assist in conducting literature reviews. Applying knowledge and understanding • To be able to address and solve a problem using scientific methods. • To be able to choose methods appropriate to research aims and objectives. Making judgments • To be able to understand the limitations of specific research

	methods. Communication skills • To be able to prepare and deliver presentations with technical content in English. • To be able to synthesize knowledge from scientific and technical documentation, and to prepare reports and presentations. Learning skills • To be able to independently read and understand scientific and technical documentation in English.
Specific Educational Objectives and Learning Outcomes (additional info.)	
Assessment	The exam is assessed on a pass/fail basis and is based on the project work completed during the course.
Evaluation Criteria	The assessment considers the following criteria: - Clarity and effectiveness of communication. - Ability to summarize, critically evaluate, and establish connections between topics. - Ability to apply the tools, methods, and processes introduced during the course to specific cases. The same evaluation criteria apply to non-attending students.
Required Readings	European Commission, Directorate-General for Research and Innovation. (2026). Living guidelines on the responsible use of generative AI in research (3rd ed.). Publications Office of the European Union. https://research-and-innovation.ec.europa.eu The reading material is specified during the course.
Supplementary Readings	
Further Information	ASReview, Elicit, ChatPDF
Sustainable Development Goals (SDGs)	Quality education