JOHANNES GUTENBERG UNIVERSITÄT MAINZ

Institute of Geography

Dealing with AI-supported tools during studies

You are studying at our university in order to independently acquire differentiated critical thinking. For us, this means reflecting on yourself and the contents you have developed. In times of highly developed digital media technology, fake news and AI-supported tools, it is very important that we deal with the new possibilities of digital tools, their limits and risks as well as the correct handling of sources of our information. AI-supported tools include, for example, Large Language Models/chatbots (e.g. ChatGPT, jenni, Perplexity AI), tools for image and layout generation (e.g. Dall-E) and translation tools (e.g. DeepL, elicit, Grammarly).

This information sheet is intended to encourage you to take a differentiated approach to AI-supported tools in your studies. AI-supported tools should be used in particular to optimise your study, examination and active participation performance, to correct errors and to visualise contents. However, they do not replace important thinking and learning processes. The end product should mainly consist of your personal contribution and only to a small extent of AI. In Table 1, you can see for which work processes you may use AI-supported tools in the context of coursework and examinations. You will find further references at the end of the document.

In our courses, we expect you to take a critical look at any use of AI-supported tools and to indicate their use in accordance with the rules set out below. If you have any questions, please contact us at any time.

Whitelist for good scientific practice

- For your **research**, you can use any media and tools you consider useful and helpful. An intensive examination of scientific literature is assumed as standard (for online research, this starts at least with Google Scholar or online library catalogues). Especially when using grey literature and other online sources without clear authorship or when using digital tools, we assume that you will deal with these tools in a critical and reflective manner.
- For submissions in the context of **active participation** (e.g. presentations, excerpts, exercises), **coursework and examinations**, you must indicate all the resources (sources, media and tools) used. Always state what you have used them for – this also applies to the creation of illustrations, presentation layouts, translations, etc. Please, find out more about this in the next paragraph.
- Please, do not forget to attach a hand-signed **declaration** (see form on the last page) to written coursework and examinations. In this declaration, you indicate which AI-supported tools you have used for which larger work processes (see example in the appendix). In the declaration, you also confirm that you have written the paper independently and that you have critically reviewed and, if necessary, revised the contributions based on AI-supported tools.
- **Correct citation** of scientific sources and the **complete indication of literature references** (independent assessment aspect for the grading of the performance) are required. Literature references generated by AI-supported tools must be checked (Large Language Models often suggest non-existent literature references, so you must check them for authenticity!). There are different citation styles, please choose one and apply it consistently. You can find suggestions in our guidelines for scientific work (p. 6-9), available for download here: https://www.geo.uni-mainz.de/files/2023/04/Wissenschaftlich-arbeiten-2023.pdf
- You are solely **responsible for the results and accuracy of your work**, regardless of whether it is research, coursework or examinations. Please note that all aids have certain limits. This applies in particular to the use of AI-supported tools (see Table 1). Results that are generated in this way may initially sound good and sensible – but often contain errors. In addition, they (usually) do not meet general scientific standards. Please remember: "So before you proceed with results and impulses, you need to check them and revise them if necessary. The tool does not think *for you*, but *you think with the help of the tool*" (Spannagel 2025: 1).

Guidelines for the use of AI-supported tools in the context of coursework and examinations in Geoinformatics as well as Physical and Human Geography		
Work process	**Physical Geography and Geoinformatics**	**Human Geography**
Researching	Permitted	Permitted
Translating	Permitted	Permitted
Transcribing	/	Only permitted if: - the tool used only processes the data locally (e.g. NoScribe) - the transcripts are checked and revised by you
Coding	/	Only permitted if: - the tool used processes the data exclusively locally (not cloud-based) - the codes are critically checked and revised by you - the coding file is also submitted
Programming	Permitted as support	Permitted as support
Composing	Not permitted	Not permitted
Proofreading/editing	Permitted for linguistic revision	Permitted for linguistic revision
Designing learning tasks, teaching sequences and materials in specialised didactics	Permitted if critically examined and justified on the basis of theory	Permitted if critically examined and justified on the basis of theory

Further literature on the topic

Buck, I. (2025): genKI-Tools. Available online at: https://miro.com/app/board/uXjVKq2FO_E=/ (30.04.2025).

Spannagel, C. (2025): Rules for Tools. Version 2.3. Pädagogische Hochschule Heidelberg. Available online at: https://github.com/dunkelmunkel/scientific-work/blob/main/rulesfortools/rulesfortools.pdf (26.06.2025).

Universitätsbibliothek Mainz (2025): Wissenschaftliches Arbeiten und Schreiben: Nutzung von KI-Tools. Available online at: https://www.ub.uni-mainz.de/de/nutzung-von-ki-tools (30.04.2025).

VK:KIWA – Virtuelles Kompetenzzentrum: Künstliche Intelligenz und wissenschaftliches Arbeiten (2025): KI-Tools. Available online at: https://www.vkkiwa.de/ki-ressourcen/ki-tools/ (30.04.2025).

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Declaration

in accordance with Section 17 (3), (5) and (6) of the valid regulations for the examination in the Master's degree programme Human Geography: Globalisation, Media and Culture at Johannes Gutenberg University Mainz.

I _____ (student number _____)
hereby declare that I have written this paper independently and have not used any sources and tools other than those specified. I have listed the tools in the "Appendix to the declaration" attached. I have critically reviewed and modified the generated results of the AI-supported tools. All verbatim or analogous quotations and citations are marked and referenced. I confirm that I have not used any tools whose use has been explicitly excluded by the examiner. By submitting this paper, I accept responsibility for the overall product submitted. I have checked the accuracy of the statements and contents to the best of my knowledge and belief. I have not submitted the paper to obtain another certificate of achievement in the same or a similar form. I am aware that it is an attempt to deceive or a breach of regulations if this declaration proves to be untrue. Section 17 (3) and (5) apply accordingly in this case.

_____

Place, date and signature

Excerpt from Section 17 (3), (5) and (6): Failure to attend, withdrawal, deception, breach of regulations

(3) If the candidate tries to manipulate the result of his or her examination by cheating or using unauthorized resources or if his or her declaration according to para. 5 turns out to be false, the respective examination is considered "failed" (5.0). (...).

(5) In the case of written examinations according to Section 13 (with the exception of written sit-down examinations) and in the case of the Master's thesis according to Section 15, the student must submit a declaration stating that it is their own work and that no other sources or means except the ones listed have been employed and that the regulations for ensuring good scientific practice in research and teaching and procedures for dealing with research misconduct (*Ordnung zur Sicherung guter wissenschaftlicher Praxis in Forschung und Lehre und zum Verfahren zum Umgang mit wissenschaftlichem Fehlverhalten*) were read and understood.

(6) The provisions specified in (1) to (5) also apply to coursework.

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Appendix to the declaration

Example 1:
"In this paper, *Perplexity AI* was used to research literature, *DeepL* to translate English texts and *Perplexity AI* for programming suggestions."

Example 2:

Intended use in the research cycle	**Used AI tool**	**Relevant parts of the paper, pages**	**Description of the method of use in keywords**
Generation of ideas and conception of the paper			
Formulation of research questions and hypotheses			
Theoretical approach, selection of models			
Literature search, analysis and management as well as citation management			
Research design, method selection, data collection			
Data evaluation, calculations, programming, coding, etc.			
Data visualisation, creation of graphical representations and illustrations			
Interpretation and validation of data			
Plausibility check of my argument/discussion			
Structuring and/or formulation of the text of the paper			
Proofreading/editing of the text of the paper			
Layout of the paper			
Translations			
Miscellaneous			