



Studying with AI

AI tools, when used correctly, can be helpful when studying for exams. This handout provides you with some tips on how to use AI tools to prepare for exams at university.

When does it make sense/is it useful to use AI?

You can use AI tools to:

- reflect on your time management;
- organise your learning process;
- hold yourself accountable by setting priorities;
- motivate yourself to study in a playful way;
- create study plans;
- revise in a sensible way, e.g. by using AI tools to create a revision timetable including topics you need to revise;
- obtain an initial overview of topics, terms or concepts;
- ask you questions on a specific topic;
- check your answers to a question or topic;
- generate sample questions on a topic and continuously increase the complexity of the questions.

How can I use AI tools for studying?

The following points give you an overview of how you can use AI tools for studying in a meaningful way.

- **Personalised learning platforms:** Platforms such as Duolingo for language learning or Khan Academy for mathematics use AI to support individual learning processes and adapt the tasks to the respective learning progress. You can create flashcards on learning apps such as Anki and revise the most useful cards based on your individual learning progress.
- **Active feedback:** You can use AI tools such as ChatGPT as an active feedback partner when studying. The AI tool can suggest learning strategies, assess learning outcomes, check formulated answers, simulate a Socratic opponent, make suggestions for improvement or ask comprehension questions.
- **Intelligent AI assistance:** Apps like Socratic can help you solve different tasks by explaining steps and providing additional resources. You can use AI tools such as GEMINI to carry out initial research on a topic. Apps such as ChatGPT can condense complex contents and output them in plain language. For this purpose, you have to create your own prompts. The more precise these prompts are, the more meaningful the answers will be.
- **Please note: You have to practise prompting (giving commands to an AI tool)!**
The skill to write effective prompts is crucial for interacting with AI. You have to practice and understand how to write clear and precise prompts to receive relevant and helpful responses.
Two **examples** of an initial prompt are:
 1. “Hey, I am studying at university and need help learning [topic]. I am looking for clear explanations of the concepts and for examples. Can you help me broaden my understanding of [topic]?”
 2. “Ask me some questions about [topic] to test my understanding and to improve my long-term memory.”
- **Combine digital with analogue methods:** In addition to digital learning platforms, you should also use other media such as textbooks, videos or worksheets to obtain a comprehensive understanding of the material.

For example, if you ask ChatGTP what “robustness of systems” means, you can compare the generated answer to what is written in your textbooks.

What should I consider and which decisions do I have to take?

- **Functional principles:** Generative AI tools are language models with no consciousness. They are based on linguistic data and thus simulate human language. This is why AI may generate biased, unclear and incorrect information that seems plausible. As part of your learning process, you should always cross-check the generated contents by using multiple sources and comparing the results. If an automated translation does not make sense, for example, try to understand the context and to critically assess the translation.
- **Technical terms:** Terms have different meanings in different disciplines (e.g. 'truth', 'discourse', 'system', etc.). If you ask an AI tool for a definition, it will generate the one that occurs most frequently in its training data set. This definition may differ from the one in your (sub-)discipline or may simply be wrong. Do not copy definitions or terms without comparing them to multiple sources.
- **Limited control over the learning process:** AI-based learning platforms can structure and control the learning process in detail, which can lead to less flexibility and freedom. Remember that not every person learns the same way and that AI recommendations are very generic at first. You have to continuously train the AI tool so that it (ideally) adapts to your needs.
- **Dependence on technology:** Relying too heavily on AI-assisted learning methods may inhibit your ability to think independently and to solve problems without technological assistance. At the beginning of your studies, you should not use AI too often.
- **Acquire a new competence:** The ability to understand and to use AI is a competence that you can learn. Therefore, a continuous learning process is necessary to ensure the best possible use of this technology.
- **You are responsible for your decisions:** You have to decide whether you want to use generative tools or not.
Ultimately, you are responsible for your learning process.