UNIVERSITÄT BAYREUTH

AI in Teaching, Learning and Examinations

Guidelines of the University of Bayreuth
Publication date: 18 March 2026

Preamble

In accordance with its University Development Plan 2030+, the University of Bayreuth is committed to innovative teaching and learning concepts for the future-oriented development of students. Studying at the University of Bayreuth should enable students to further develop their personalities and acquire a broad spectrum of subject-specific and interdisciplinary skills. This also includes the ability to use digital media – in particular artificial intelligence – productively, reflectively and responsibly within their subject areas and professional fields.

This document is intended to provide inspiration and guidance to staff and students at the University of Bayreuth on how to make thoughtful use of the potential of generative AI in teaching, learning and examinations. It should not be viewed as a static document, but rather as a means of stimulating discussion at the University of Bayreuth; it will be regularly updated by the Presidential Advisory Committee for Teaching & Learning on the basis of these discussions and future innovations.

This document forms part of the University of Bayreuth's broader strategies: it sets out the objectives of the 'University Development Plan 2030+' in concrete terms, forms part of the 'Digital Agenda' and expands the 'Teaching Mission Statement' to include specific aspects relating to generative AI.
It does not have the force of legal regulations for degree programmes as set out in the examination and study regulations. The faculties, departments and working groups at UBT may establish their own further guidelines on the use of AI in teaching, learning and examinations.

1 AI in Teaching

1.1 Potential of AI

- AI can be used as a source of ideas when designing courses. For example, AI can suggest ways to structure and present course content – including by taking into account specific, uploaded literature (Example 1). For a lecture script, AI can suggest assignments for students, as well as exercise and exam questions (Example 2), and provide suggestions on how the script could be further developed in terms of content and presentation.
- AI can be explicitly integrated into the delivery of courses. For example, AI-generated outputs on subject-specific topics can be created, discussed and assessed (Examples 3 and 4). This enables students to familiarise themselves with applications of AI within their subject areas, reflect on its potential, risks and ethical issues, and thereby acquire the skills for its critical and responsible use, including in related professional fields.
- AI-supported learning environments and AI-generated feedback to students can make learning programmes more personalised – particularly in large groups of learners – and better tailored to students' individual learning needs (Example 5). Lecturers can be relieved of some of the workload when chatbots answer students' questions about course content; however, this also requires quality control by the lecturers (Example 6).
- Overall, the availability of AI as a teaching tool provides impetus to reflect on the design of courses and, where necessary, to develop them further.

1.2 Limitations of AI

- University teaching is a social process. One of the strengths of UBT as a campus university is that teachers and learners meet in person to create something new through human interaction.
- Academic freedom, as enshrined in Article 5 of the Basic Law, includes the autonomy of each lecturer to decide whether and how AI is integrated into their teaching.
- Generative AI outputs have only limited reliability and may lack sufficient subject-specific depth, meaning that course content may be presented in an overly simplified manner and students' skills may not develop to the intended extent.
- A general risk associated with AI is that its use may perpetuate or reinforce existing stereotypes and discrimination against certain groups of people (due to unbalanced AI training data). This requires users to be appropriately sensitive to these issues.

1.3 Examples

(1) Planning courses

A lecturer wishes to redesign a seminar on a broad topic. She asks an AI to develop 15 suggestions for student seminar contributions on the topic. Each suggestion should be linked to a specific assignment for students, comprising both a theoretical and a practical component. In addition, the AI is tasked with generating a text to announce and promote the seminar. Even if the results generated by the AI are not expected to fully meet the lecturer's requirements, they nevertheless provide a useful basis for designing the seminar.

(2) Creating assignments with AI

A lecturer uploads the lecture notes for their course to an AI system and asks the AI to generate 10 tasks for students for each chapter. It is also specified that the tasks should vary in difficulty.
The assignments are intended, for example, for weekly homework for the lecture or for a written or oral exam.
Although it cannot be assumed that the AI-generated assignments are entirely suitable for the intended purposes, lecturers do gain new ideas for expanding their existing pool of assignments. By revising the AI's suggestions, new assignments relevant to the lecture can be produced in a time-saving manner.

(3) Reflecting on AI-generated explanations

In a course, students are given the task of using AI to work with course content. For example, they might be asked to explore a new topic through a dialogue with an AI, or to have the AI apply content discussed in the lecture to new contexts. Similarly, students could have the AI generate a summary of a text they have already read.
Subsequently, in a joint discussion during the course, the academic accuracy of the AI-generated outputs is assessed, the style of presentation is evaluated, and ethical aspects are discussed. In this way, students engage actively and collaboratively with the relevant subject matter as well as with the potential and limitations of AI.

(4) Discussing with AI

In a course, a generative AI system is assigned the role of a discussion partner with a specific viewpoint for technical or ethical discussions.
Students discuss a topic in dialogue with the AI, thereby engaging with arguments and counter-arguments from a variety of perspectives.
Subsequently, the course reflects on the course of the discussion at a meta-level. In doing so, criteria for evaluating AI-generated responses are identified. Overall, this not only deepens subject-specific knowledge but also promotes argumentation skills, critical thinking and academic reflection.

(5) Receiving feedback from AI

In a course, the lecturer sets the students a task. For example, they may be asked to write an essay on a given topic or develop a mathematical argument.
Students receive automated, individualised feedback on their work from an AI tool (e.g. LearnAssist). At the same time, the lecturer gains insights into the students' level of understanding.
In a further step, the AI feedback is critically reflected upon in the course. To this end, it is, for example, compared with human feedback provided by students or the lecturer.

(6) AI as a chatbot for the course

A lecturer offers her students a chatbot to accompany the lecture, using OneTutor (https://onetutor.ai). She creates a 'course' and uploads her lecture notes and other materials. She shares the relevant link with her students via the e-learning platform.
Students can communicate with the chatbot about the lecture content at any time. The answers are directly linked to the uploaded lecture notes, and references lead to the corresponding original pages of the notes.
The lecturer uses chat logs and learning analytics tools to identify typical questions and difficulties among students and to respond to them accordingly in the lecture.

2 AI in learning

2.1 The potential of AI

- AI can be a powerful tool for subject-specific learning in degree programmes. It is always available as a 'communication partner' for actively engaging with subject-specific content.
- AI can, for example, be used to explore new subject-specific content (examples 7 and 8), to generate ideas for assignments (example 9), to generate program code for verbally described problems, to further develop one's own academic writing skills (example 10) and to prepare for exams (examples 11 and 12). When interacting with AI, students can follow individual learning paths and receive feedback and adaptive support tailored to their personal learning needs.
- The use of AI in higher education is intended to help students further develop AI-related digital skills so that they can use such tools productively, reflectively and responsibly for subject-specific work in future professional fields. This range of skills also includes an understanding of the potential, limitations and risks of AI.

2.2 Limitations of AI

- The primary aim of university study is the acquisition of subject-specific competences within a degree programme. This requires independent thinking and a personal cognitive engagement with academic content. AI can support such processes, but cannot replace them.
- Students must take responsibility for themselves: AI can be used to great advantage as a 'thinking enhancer' for independent thinking and learning. However, students should not deprive themselves of the many opportunities to develop as individuals with their own potential during their studies.
- Independent writing is a central tool of thinking. Through writing, thoughts are developed, consolidated and structured. Academic writing enables students to gain their own insights into complex interrelationships. Such individual learning processes during one's studies cannot be delegated to an AI system. Furthermore, comprehensive personal skills in academic writing are necessary to be able to critically assess and adapt texts generated by AI tools.
- University study is a social process. Interaction between people is essential for both subject-specific skills development and personal development. AI is no substitute for personal interaction with lecturers and fellow students.
- AI-generated content may contain flaws. For example, AI-generated summaries of lecture notes or slides may be unsuitable for learning, as the content may be distorted or overly simplified. When students use AI for their studies, they should also reflect on and evaluate the quality of AI-generated content (e.g. by comparing it with other sources).
- In general, when working with AI, the protection of personal data and copyright must always be taken into account. Users must bear in mind that the AI may use uploaded data for further training. To provide a degree of assurance in this regard, the University of Bayreuth's IT centre provides access to AI systems where compliance with European data protection directives and copyright law is guaranteed, and where input data is not used to train the AI (https://www.its.uni-bayreuth.de/KI).

A comparison

A person goes to the gym because they can lift weights there. There is also a robot available in the gym that can take over the lifting of the weights. The person lets the robot lift weights for half an hour and then goes home again. They can say: the task has been completed, because the weights were lifted.

Studying is like lifting weights for personal development. Independent thinking is central to this.

2.3 Examples

(7) Having content explained

A freely available lecture script presents a set of facts. A student is having difficulty following the line of reasoning in the script. They upload the PDF to a generative AI system and have the specific facts explained to them step by step.
The student asks the AI further questions about aspects of the topic that remain unclear. In each case, the AI provides more detailed explanations with additional technical background. At the student's request, it illustrates the explanations using concrete examples.

(8) Processing texts

A student wants to read a longer text available as a PDF. First, she uploads the text to a generative AI system and asks the AI to summarise the ten most important points, provide an overview of the text's structure, and present this graphically in a mind map. This overview makes it easier for her to read and understand the original document herself.
After reading the text, the student asks the AI to pose comprehension questions about the text. In doing so, she engages in a dialogue with the AI. The AI offers suggestions for improvement regarding incomplete answers or errors. Finally, the AI is to suggest further reading on the topic for additional research.

(9) Finding ideas

A student wishes to gain an overview of a topic. She first reflects on the subject herself, formulates questions, develops ideas and conducts research on the internet and in specialist literature.
She then asks a generative AI to create an outline on the topic. This is followed by a dialogue with the AI, in which individual aspects are explored in greater depth and explained.
In the process, the AI is also asked to adopt specific viewpoints on the topic (e.g. supportive or opposing positions) and to develop arguments from the respective perspective. Overall, this results in a multifaceted view of the topic.

(10) Writing texts

A student wishes to produce a written piece of work (e.g. a term paper, a bachelor's thesis). Generative AI is used to find and structure ideas on the topic, summarise existing digital text sources, translate texts and generate text modules. To ensure academic breadth and depth, the student reviews original literature (in digital or printed form).
When writing the paper, the AI is asked, for example, for feedback on writing style and the coherence of the argument. It is used to correct linguistic errors in the text and to find alternative phrasing for greater clarity.
The manner in which AI is used must be precisely specified in the thesis (see Section 3).

(11) Using AI as a personal tutor

A student uploads the lecture notes for a lecture into a generative AI system and asks the AI to ask her questions about the lecture.
The AI asks questions, which the student answers. The AI provides feedback on these answers with direct reference to the lecture notes. It highlights gaps and errors and offers suggestions for improvement. Upon request, content is explained and illustrated with examples.
From the student's perspective, the AI acts like a personal tutor – in a communication space free from any pressure. This learning support is used for weekly revision of the lecture during the semester and to prepare for the exam.

(12) Simulating oral exams

A student wishes to practise the specific conversational situation of this type of examination in preparation for an oral exam – e.g. to reduce exam anxiety. To do this, they use the ExamSim exam simulator (https://www.zhl-ubt-avatar.de). The student begins the exam conversation with an avatar by stating the topic on which they wish to be examined. The avatar asks adaptive questions and provides feedback on the answers. In addition to subject-specific and communication skills, the ability to react and manage stress are also required. After the exam, the student receives written feedback on the exam, which highlights the strengths and weaknesses of the answers and provides recommendations for further exam preparation.

3 AI in examinations

3.1 The potential of AI

- AI is a tool for completing examination tasks, particularly written ones. If students acquire skills during their studies to use AI for subject-specific work, it stands to reason that they should also be allowed to demonstrate these skills in *certain* examinations and that these skills should be assessed by the University of Bayreuth (Example 14).
- The capabilities of AI provide impetus to rethink existing examination practices and, where appropriate, to develop them further with a view to teaching and learning objectives (Examples 13, 17 and 18). If examinations consist primarily of written examinations and written assignments, this reflects the range of skills intended to be acquired during the course of study only to a limited extent. Examinations that primarily require the reproduction or compilation of generally available knowledge should be supplemented or replaced by examinations that place greater emphasis on personal reflection, transfer – including into practical contexts – the presentation of one's own findings, and academic discourse (Examples 15 and 16).
- Possible examination formats for this, in accordance with the General Examination and Study Regulations for Bachelor's and Master's programmes at the University of Bayreuth, include, for example:
    - Presentations in which students present and discuss their own findings – as a supplement to or replacement for written assignments,
    - portfolio assessments comprising written, oral and practical components, through which the learning and working process is documented and reflected upon over an extended period,
    - assignments over the course of the semester, in which students complete a combination of written, oral and practical tasks over the course of a semester in order to gain a thorough understanding of a complex problem – including in practical contexts.

3.2 Limitations of AI

- From the examiners' perspective, the aim of examinations is to identify and assess students' competences. Accordingly, examinations serve to enable students to demonstrate and have their acquired competences certified. This requires performance by students, not by AI. Examinations without aids – such as supervised written examinations – can also be useful for this purpose.
- Academic freedom, as enshrined in Article 5 of the Basic Law, includes the freedom and responsibility of every lecturer to determine and announce for each examination whether and in what form (AI-supported) aids may be used. Where necessary, it must be communicated how the use of AI is to be documented. (Recommendations on this can be found in Section 3.4.)
- The inclusion of AI-generated content in examination papers carries the risk of plagiarism, as the AI has used the intellectual output of others for its training and may reproduce this output accordingly. In the interests of academic integrity, it is therefore necessary to indicate which content has been taken from the AI used (see 3.4). The responsibility for this lies with the user of the AI.

3.3 Principles regarding AI in examinations

In addition to the following principles, the faculties, departments, research groups and examiners may adopt further regulations regarding the use of AI in examinations.

- AI is generally permitted as an aid in examinations at the University of Bayreuth – unless the examiner states otherwise.
- In examination papers, all generative AI tools used must be cited in the same way as other aids and sources. The student is responsible for presenting, in a complete and comprehensible manner, the parts of the examination paper that were produced by generative AI.
- In examinations, subject-specific competences are assessed. If students demonstrate competences in the appropriate use of AI for academic work, this may be explicitly assessed positively.

- In examinations, only the work produced by the students themselves is assessed and rewarded, not the output of generative AI. Therefore, in order to pass examinations, students must produce a sufficient amount of independent work and clearly document which parts were produced by themselves and which by AI.
- Each examination is to be assessed by the examiner(s), and not by AI.

3.4 Indicating the use of AI

How can content taken from generative AI systems be identified in written examination papers? In this regard, the conventions for academic citation of the relevant department or the examiner must be observed. In this respect, only one possible approach is outlined below, which is based on the recommendations of the American Psychological Association (APA).

Situation 1: Incorporating AI-generated content

If AI-generated content is used in an examination paper, it must be treated and cited in the same way as other sources. The term 'use' is to be understood in the broadest sense here. It ranges from the adoption of ideas, through the paraphrasing of AI-generated texts, to direct quotations. An example:

> *Excerpt from a written assignment:* In response to the prompt "What is Bayreuth known for?", the text generated by ChatGPT included the following: "Bayreuth is also a modern university town. The university is particularly well known for economics & law, African studies and materials science." (OpenAI, 2026)
> In response to the follow-up question "What is Bayreuth particularly known for in materials science?", the text generated by ChatGPT highlighted polymer and colloid research, bio-inspired materials, ceramics and fibre composites. In doing so, it emphasised strong interdisciplinarity, good international networking and a high proportion of third-party funding in research (OpenAI, 2026; see Appendix A for the full text of the response).
>
> *Appendix:* The full chat history is documented in the appendix to this thesis so that readers can follow it.
>
> *Bibliography:* OpenAI. (2026). *ChatGPT* (version dated 10 February) [Large language model]. https://chatgpt.com

Situation 2: Editing self-generated content with AI

AI is suitable for editing content created by students themselves. For example, data from students' own surveys or measurements can be statistically analysed using AI. Texts written by the student can be linguistically optimised using AI. In each case, the student is responsible for creating the content; AI is used as a tool for processing it. In such cases, the text must describe how and where AI was used. This can be done, for example, in a section on research methodology or in the introduction to the paper.

Declaration of Originality

At the end of written examination papers, students must sign a declaration of originality. Where applicable, programme-specific templates must be used for this purpose. An example:

> I hereby declare that this paper has been written by me independently and that no aids other than those specified have been used. No other persons were involved in the production of this work. Any passages in the work that have been taken from other works, either verbatim or in essence, are identified as borrowings in each individual case, with the source cited. Any passages in the work that were created using generative artificial intelligence are documented in each individual case, with the technical tool used specified. Any subject-specific requirements (e.g. of the department or the research group) regarding the extent of such use and the nature of the documentation have been complied with. This declaration also extends to any drawings and illustrations contained in the thesis.

If an examiner has doubts as to whether the use of aids (e.g. AI) has been correctly declared, they may conduct a hearing with the student(s) to explain the doubts and request clarification. If plagiarism is found to have taken place, the examination will be graded with a mark of 5.0. Otherwise, any identified shortcomings in content and form must be taken into account accordingly in the assessment.

3.5 Examples

(13) Presenting and discussing work

In a seminar, a written assignment is a central component of the course. This is intended to develop skills in structuring complex information, formulating independent arguments and applying academic methods. The use of AI is explicitly permitted here.
A portfolio assessment is chosen as the examination format, combining the term paper and an accompanying presentation into a single assessment. The presentations take place during the seminar sessions. Here, students present the processes and results of their work to one another and discuss them. Grading is based on the term paper and the presentation performance.

(14) Analysing data

For a bachelor's thesis, data is collected from several groups of people. The raw data is fed into an AI via an Excel spreadsheet. The prompt describes the significance of the data. The instruction given is: "Evaluate the data."
The AI calculates statistical parameters, examines statistical correlations in the data, creates graphical visualisations, interprets their content and makes suggestions for further analysis. In the subsequent chat, the data is analysed in greater depth with regard to specific questions (e.g. comparisons between subgroups).
The student uses the chat as a source of ideas, then carries out analyses themselves using statistical software, thereby verifying the AI's statements.

(15) Reflecting on AI-generated products

For a written assignment, students are explicitly tasked with having a complex topic explained by AI and then engaging with this explanation in a reflective manner. This involves, for example, assessing the technical accuracy, establishing links to relevant specialist literature, evaluating the style of presentation and discussing ethical aspects.
When assessing the written assignment, the examiner takes particular account of the technical accuracy of the students' explanations, the depth and breadth of perspective in their personal engagement with the AI-generated products, the integration of specialist literature, and the rigour of their line of reasoning.

(16) Career-related project work

In a seminar, students are presented with authentic, complex challenges typical of the professional fields associated with their degree programmes. Due to the complexity involved, project work in teams is required.
AI is used extensively in the execution of the application-oriented activities. Students thereby acquire skills in the use of AI in their respective professional fields. They document their work process in a portfolio. In doing so, they also reflect on the potential and risks of AI. The results are presented in the seminar. A portfolio assessment evaluates the process and the product of the project work, including the presentation.

(17) Colloquium on the bachelor's/ master's thesis

Each department offers the compulsory modules 'Seminar on the Bachelor's Thesis' (3 credits) and 'Seminar on the Master's Thesis' (10 credits).
Students present the results of their work; the content of the presentations is discussed in the context of one or two thematically related courses. Where relevant, the use of AI during the work process is also addressed. The colloquium lasts a total of 30 minutes in the bachelor's programme and 45 to 60 minutes in the master's programme.
In particular, the assessment focuses on the ability to prepare and present one's own academic work, as well as to engage critically with existing academic theories.

(18) Further developing examination regulations

AI provides impetus for departments and faculties to fundamentally rethink examinations and examination formats. Starting points could include questions such as: Which competencies should students demonstrate in examinations? Which of these competencies are related to AI? How can these be assessed and evaluated?
On this basis, examination formats can be further developed and, where appropriate, module examinations modified. For example, presentations, oral examinations, portfolio assessments and assignments carried out throughout the semester could be given greater weight. The proportion of ungraded assessments could be increased.