

AI in Higher Education

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Roadmap

1. AI – What are we talking about?
2. UP's Position on AI in Teaching
3. Legal Regulations
4. Competency-based Learning
5. Discussion

Conversation Starter (1)

Please complete the following sentence:

“Artificial Intelligence is like ...”

<https://answergarden.ch/5053194>



Conversation Starter (2)

Please complete the following sentence:

„Artificial Intelligence is like a digital brain“ (Chat GPT-5)

„Artificial Intelligence is like a digital brain“ (GPT.UP)

What can you deduce from this statement about your attitude toward AI?

How does your attitude toward AI influence your teaching?

What's AI?

No single, universally accepted definition of AI, but UNESCO offers a good starting point:

Machines based on AI “are potentially capable of imitating or even exceeding human cognitive capacities, including sensing, language interaction, reasoning and analysis, problem solving, and even creativity.”

UNESCO (2023). ChatGPT and Artificial Intelligence in Higher Education.

Strong vs. Weak AI

Category	Description	Example
Narrow AI	Performs only narrowly defined tasks. Simulates intelligence through algorithms and data.	Voice assistants (Siri, Alexa), chatbots, spam filters, navigation systems
Strong AI / AGI	Aims to replicate or surpass human intelligence. Could think flexibly, plan, and pursue its own goals.	Not yet in existence/realized; theoretically possible, e.g., fully autonomous vehicles

What's Generative AI?



Image: AdobeStock

- Generative AI (GenAI) refers to systems that can independently create content such as text, images, code, or music that does not yet exist.
- The creation is not fact-based (hallucinating) and is not based on an understanding of the world.

Source: Bender, Emily M.; Gebru, Timnit; McMillan -Major, Angelina; Shmitchell, Shmargaret (2021 -03 -01). "On the Dangers of Stochastic Parrots: Can Language Models Be Too Big?". Proceedings of the 2021 ACM Conference on Fairness, Accountability, and Transparency. FAccT '21. New York, NY, USA: Association for Computing Machinery. pp. 610 –623.

Laying a Foundation

- Perceptions and use of AI can vary greatly between departments and even among faculty members of a specific field.
- Recommendation: At the beginning of a course, talk to students about your attitude toward AI and the use of AI in your class.
- Activity: create a word cloud with students, for example, to collect and compare different associations with the term AI and find some common ground

Discipline-specific Approaches to AI

Recommendation

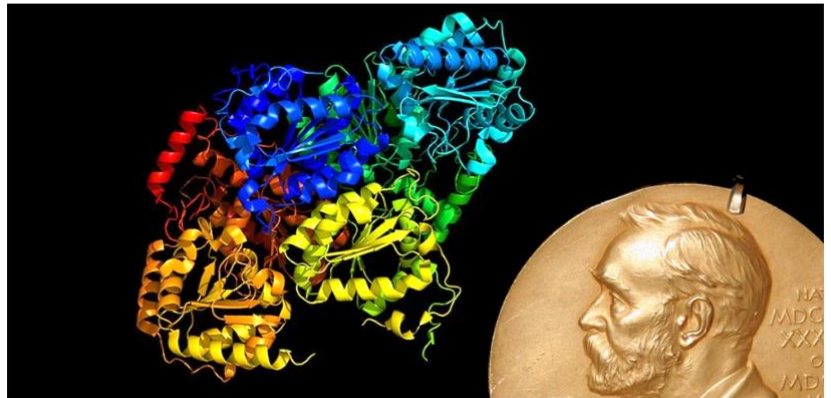
Use AI as an opportunity to address current debates in your field of study.

- Learning Objective: Students know if and how relevant AI is for their discipline (in different research and work contexts)

Chemie-Nobelpreis für KI-gestützte Proteinforschung

Entwickler der KI AlphaFold und Pionier künstlicher Proteine ausgezeichnet

9. Oktober 2024, Lesezeit: 4 Min.



Den Chemie-Nobelpreis 2024 erhalten drei Pioniere der computergestützten Proteinforschung. © gemeinfrei

Discipline-specific Approaches to AI (2)

To what extent do you incorporate AI-tools into your research?



UP's Position (1)

- UP fundamentally supports the use of **generative AI in teaching** to prepare students for future professional requirements and to promote a reflective approach to using AI.
- UP recommends **students, teachers, and researchers to try out and use AI tools** in order to develop future skills. In doing so, the **limitations of these technologies** can be better understood and discussed.

Künstliche Intelligenz



POSITIONSPAPIER
KI IN DER HOCHSCHULEHRE
an der Universität Potsdam

Stand: 08.November 2023

UP's Position (2)

- When dealing with AI in exam scenarios, the University of Potsdam **recommends applying existing regulations on cheating**, emphasizing the declaration of authorship, and expanding competency-based assessments with a focus on the learning process rather than just the product.
- UP sees developments in the field of generative AI **as an opportunity** rather than a risk and advocates **integrating these technologies into teaching in a meaningful way**.

Künstliche Intelligenz



POSITIONSPAPIER
KI IN DER HOCHSCHULEHRE
an der Universität Potsdam

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Academic Writing with AI: Spectrum of Use Cases

Based on Isabella Buck & Anika Limburg (2024)

Translation and design by Gesine Wegner, created with Canva (2025)

AI tools ease thinking and learning

Having automatic
corrections made.

AI tools support thinking and learning

Getting suggestions for alternative
phrases and formulations.

Unreflected

AI tools replace thinking and learning

Prompting GPT.UP to write
a term paper.



Reflected

AI tools enhance thinking and learning

Requesting feedback on
your own text.

GPT-UP



Willkommen zurück!

Anmelden

GPT.UP wird auf Basis des Best-Effort-Prinzips bereitgestellt, sodass keine Gewährleistung für die ständige Verfügbarkeit und Funktionsfähigkeit des Dienstes gegeben wird. Nutzende sollten beachten, dass es keine Garantie für eine störungsfreie Nutzung oder für die Erfüllung individueller Anforderungen gibt.

 Datenschutz Impressum

Login: <https://gptup.uni-potsdam.de/login>

GPT.UP-Support-Website: <https://www.uni-potsdam.de/de/gptup/index>



HAWKI Update #002

Wir haben HAWKI weiter für euch verbessert!

Funktionalität:

Multi-Language mit übersetzten Texten für Englisch, Italienisch, Französisch und Spanisch.

[KI Übersichtsseite](#)

Reasons for Using GPT-UP

Using GPT-UP ensures that . . .

- AI providers do not process students' personal data (login data, metadata)
- student data is only processed for the (teaching) purposes specified by the UP

Please make sure that . . .

- students are not instructed to work with commercial models
- students are not disadvantaged if only GPT-UP is used

GPT-UP: Don'ts

It is not permitted to enter personal data into GPT.UP or upload documents containing personal data.

- No use for illegal, harmful, or abusive activities
- No modification, copying, renting, selling, or distribution of our services
- No attempt to reverse engineer, decompile, or discover source code/automatic or program-controlled extraction of data or output
- No claim that the output was created by humans if this is not the case.
- No impairment or disruption of the services or circumvention of protective measures.
- No use of output for the development of competing models

AI & Assessment (1)

- GPT.UP must not be used to correct or evaluate student work. Any other use for assessing students' skills and knowledge is also prohibited.
- Use GPT.UP as a supplementary tool for preparing teaching materials, but ensure that all content is checked for accuracy and relevance.
- The use of AI to evaluate student performance is not permitted.

AI & Assessment (2)

- Copying AI is not plagiarism but **ghostwriting**.
 - Machines cannot be creators, only users.
- AI use (unless explicitly permitted) counts as deception and scientific misconduct.
- Burden of proof lies with the university – difficult to impossible.
- For more about the use of AI in examinations and its implications for exam regulations, see [online presentation by Dr. Andrea Radcke](#)

Allowed & Permitted Aids

Dr. Andrea Radcke:

“What is required [...] is a clear definition of the tools and conditions:
e.g., prohibition or permission of specific tools, naming of the specific
tools that were used, ban on collaborative work.” (Transl. G. Wegner)

Transparency

Recommendation

Use Prof. Dr. Christian Spannagel's
“Rules for Tools” as inspiration to
formulate rules for your own
teaching.

2 German Version

1. **Alle Medien und Werkzeuge sind erlaubt.** Sie dürfen sämtliche Medien (Texte, Videos, ...) und Werkzeuge (Apps, Taschenrechner, ...) in meiner Lehrveranstaltung verwenden, die Sie für sinnvoll halten. Dies gilt auch für KI-Werkzeuge wie ChatGPT, die zum Beispiel beim Generieren von Ideen und beim Verfassen von Texten sehr hilfreich sein können. Diese Hilfsmittel stehen Ihnen also in meiner Lehrveranstaltung genauso zur Verfügung wie jetzt im Alltag und später im Beruf. Die Nutzung von Hilfsmitteln wird übrigens auch Gegenstand in unserer Lehrveranstaltung sein. Lassen Sie uns gemeinsam herausfinden, wie man Werkzeuge sinnvoll für die Lösung von Aufgaben einsetzen kann!
2. **Sie verantworten Ihre Arbeitsergebnisse.** Alle Hilfsmittel haben ihre Grenzen. Informationen in Medien können falsch sein. Taschenrechner können nicht mit reellen Zahlen rechnen. Und KI-Sprachmodelle wie ChatGPT können zwar gut formulieren, sie machen aber inhaltliche Fehler und reproduzieren Vorurteile. Bevor Sie also mit Ergebnissen und Impulsen weiterarbeiten, müssen Sie diese überprüfen und gegebenenfalls überarbeiten. Das Werkzeug denkt nicht für Sie, sondern Sie denken mit Hilfe des Werkzeugs. Theoretischer Hintergrund ist der Ansatz der *verteilten Kognition*: „Cognitions become ‘distributed’ in the sense that the tool and its human partner think jointly. Whatever is produced is product of the joint system, resulting from the pooling together of the intelligences of both partners [...]” (Salomon, 1993, S. 182). Am Ende stehen Sie aber für Ihre Lösung ein. Sie müssen Ihre Lösung anderen erklären können. Und für Fehler in der Lösung sind Sie verantwortlich (nicht das Werkzeug).
3. **Geben Sie verwendete Hilfsmittel an.** Sie müssen alle Medien, die Sie bei einer Aufgabenlösung verwendet haben, als Quellen angeben. Ebenso müssen Sie alle verwendeten Werkzeuge auflisten, es sei denn es handelt sich um triviale Werkzeuge wie Kugelschreiber oder Textverarbeitung. Schreiben Sie gegebenenfalls auch dazu, wie die Werkzeuge verwendet wurden (zum Beispiel unter Angabe des Prompts bei KI-Tools).
4. **Für Social Media gelten spezielle Regeln.** Wenn Sie im Rahmen meiner Lehrveranstaltung Social Media (Instagram, TikTok, Mastodon, Twitter, ...) nutzen und zum Beispiel Ihre Arbeitsergebnisse darin teilen, dann müssen Sie dabei einige Regeln befolgen: Sie müssen natürlich die rechtlichen Rahmenbedingungen wie etwa das Urheberrecht beachten. Sie müssen respektvoll mit anderen umgehen und die Netiquette berücksichtigen. Andere Personen dürfen nur auf Ihren Posts zu sehen sein, wenn diese zugestimmt haben (Was meine Person angeht, erteile ich Ihnen die Erlaubnis, wenn Sie die oben genannten Regeln beachten). Für Verlinkungen finden Sie meine Social-Media-Accounts am Ende des Dokuments.
5. **Keine Regeln ohne Ausnahmen.** Wenn in Lern- oder Prüfungssituationen Hilfsmittel nicht erlaubt sind, dann teile ich Ihnen das mit. Ich liefere Ihnen auch eine Begründung dafür.

Burden of Proof

- Plagiarism/scientific misconduct or deception must be proven by the university -> evidence required.
- All known types of evidence may be considered: witnesses, visual inspection, etc. (software is not evidence in itself, but a means of detection).
- Proof that there is no other explanation than plagiarism or scientific misconduct
 - Unlikely when using AI, because the text will not be reproducible in this way
 - Very difficult to provide enough evidence

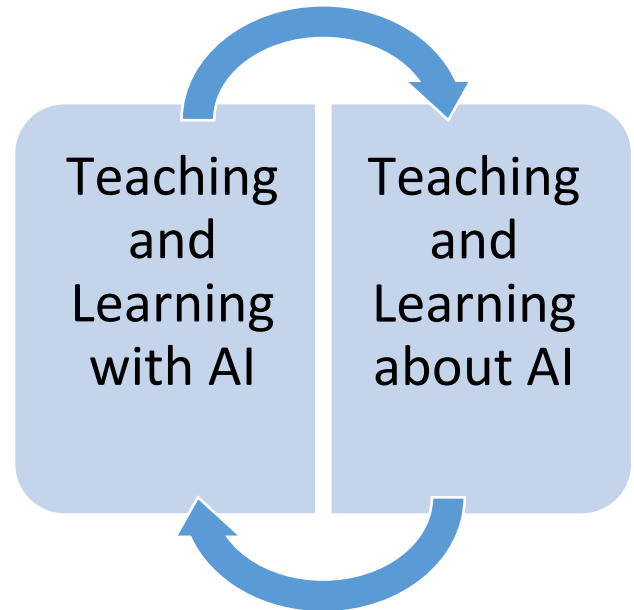
Levels of Using AI in Class

Learning WITH AI

- For example, use of tools for text generation, analysis, and feedback in class

Learning ABOUT AI

- For example, critical reflection on the functioning, opportunities, and risks of AI



Learning Outcomes (with AI)

What learning outcomes do you set for your course?

Learning outcome 1: . . .

Learning outcome 2: . . .

Learning outcome 3: . . .

How can AI be used to achieve these learning objectives and/or to test the competencies acquired? In what cases is a strict ban on AI truly necessary?

Learning Outcomes (about AI)

What learning outcomes related to AI do you set for your course?

Learning outcome 1: . . .

Learning outcome 2: . . .

Learning outcome 3: . . .

How can you support students to reach these learning objectives and/or to test the competencies acquired?

Group Discussion

Group 1: Teaching and Learning with AI

Group 2: Teaching and Learning about AI

Discuss your learning outcomes and teaching strategies with each other.

- What similarities can you make out?
- What differences do you notice?

Please find some learning outcomes and teaching strategies you have in come, revise them if necessary, and write them down.

Bloom's Taxonomy Revisited

Use this table as a reference for evaluating and considering changes to aligned course activities (or, where possible, learning outcomes) that emphasize distinctive human skills and/or integrate generative AI (GenAI) tools as a supplement to the learning process.

All course activities and assessments will benefit from ongoing review given the evolving capabilities of GenAI tools.

Version 2.0 (2024)



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Distinctive Human Skills

How GenAI Can Supplement Learning*

CREATE	Engage in both creative and cognitive processes that leverage human lived experiences, social-emotional interactions, intuition, reflection, and judgment to formulate original solutions	Support brainstorming processes; suggest a range of alternatives; enumerate potential drawbacks and advantages; describe successful real-world cases; create a tangible deliverable based on human inputs
EVALUATE	Engage in metacognitive reflection; holistically appraise ethical consequences of other courses of action; identify significance or situate within a full historical or disciplinary context	Identify pros and cons of various courses of action; develop and check against evaluation rubrics
ANALYZE	Critically think and reason within the cognitive and affective domains; justify analysis in depth and with clarity	Compare and contrast data, infer trends and themes in a narrowly-defined context; compute; predict; interpret and relate to real-world problems, decisions, and choices
APPLY	Operate, implement, conduct, execute, experiment, and test in the real world; apply human creativity and imagination to idea and solution development	Make use of a process, model, or method to solve a quantitative or qualitative inquiry; assist students in determining where they went wrong while solving a problem
UNDERSTAND	Contextualize answers within emotional, moral, or ethical considerations; select relevant information; explain significance	Accurately describe a concept in different words; recognize a related example; translate to another language
REMEMBER	Recall information in situations where technology is not readily accessible	Retrieve factual information; list possible answers; define a term; construct a basic chronology or timeline

*AI capabilities derived with reference to an analysis of the MAGE framework, based on ChatGPT 4 as of October 2023. See Zaphir, L., Lodge, J. M., Lisee, J., McGrath, D., & Khosravi, H. (2024). How critically can an AI think? A framework for evaluating the quality of thinking of generative artificial intelligence. arXiv preprint arXiv:2406.14769.

Teaching Design

- What measures do you take to enable students to use AI both critically and constructively?
- What challenges do you face in doing so?
- How can we best support you in the future?

Contact

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- E-Assessment project: Florian Fischer (florian.fischer.ii@uni-potsdam.de) and Benja Rathjens (benja.rathjens@uni-potsdam.de)
- Center for Teaching Quality Development: lehre.medien@uni-potsdam.de; gesine.wegner@uni-potsdam.de
- Dr. Andrea Radcke: andrea.radcke@uni-potsdam.de

German-Language Events

Wissenschaftliches Schreiben mit KI lehren und prüfen

Date: February 19, 2:00-3:30 p.m.

Contact: gesine.wegner@uni-potsdam.de

Netzwerktreffen KI in der offenen Lehre

Date: January 22, 2:00-3:30 p.m.

<https://www.twillo.de/veranstaltung/netzwerktreffen-ki-22-01-2026/>

English-Language Events

No Limits: Earth Sciences Education with AI Unleashed

Date: March 24, 2:00-3:30 p.m.

Contact: gesine.wegner@uni-potsdam.de

Teaching AI Competencies: Conceptual Foundations and Practical Guidance

Date: April 24, 9:00-12:30 noon

Contact: gesine.wegner@uni-potsdam.de