

**ARENE'S RECOMMENDATIONS ON
THE USE OF ARTIFICIAL
INTELLIGENCE FOR UNIVERSITIES
OF APPLIED SCIENCES**



Arene's recommendations on the use of artificial intelligence for universities of applied sciences

Note! These recommendations have been prepared by the Arene working group, and they are not joint guidelines for universities of applied sciences. Universities of applied sciences prepare their own guidelines independently.

The recent rapid development of artificial intelligence has placed universities of applied sciences in a situation where they must consider the role of artificial intelligence extensively, as part of the learning process and as a working life skill. Arene recommends that universities of applied sciences operate at two different levels:

- a) at the organisational level, universities of applied sciences are encouraged to ensure the capability of the staff and students to use artificial intelligence responsibly
- b) at the level of teaching, teachers are encouraged to ensure that AI is used in accordance with its purpose and in an ethical manner

Arene also recommends that universities of applied sciences support, guide and advise students in the use of artificial intelligence.

Arene will monitor the development of generative artificial intelligence and AI-assisted technologies and update this guidance as necessary.

Recommendations for the organisational level of universities of applied sciences

At the organisation's management level, universities of applied sciences must enable the responsible use of AI tools for teachers, staff and students. Instructions must be prepared regarding the use of AI tools and their use must be encouraged primarily by the tools offered by the organisation.

Universities of applied sciences must take the following into account when using artificial intelligence:

- **Ethical principles:** In the use of artificial intelligence tools, fairness, equality and respect for others must be realised.
- **Responsibility:** Artificial intelligence tools must promote students' learning and the development of working life skills.
- **Data protection:** The use of AI tools must not endanger the data protection or privacy of staff or students.
- **Competence:** Ensure that staff and students have competence in the basic use of artificial intelligence tools by providing instructions and training.
- **Transparency:** Universities of applied sciences must ensure that the operating principles and decision-making processes of AI tools are openly visible and understandable to all users. This promotes trust and enables a critical assessment of the use of artificial intelligence.

In relation to artificial intelligence tools, universities of applied sciences must act as follows at the organisational level:

- **Enable:** Artificial intelligence tools must be available, and their use must be instructed to both staff and students.
- **Guide:** The use of AI tools must be in accordance with good scientific practice.

- **Promote equality:** The use of AI tools must not affect the equal treatment of students, staff or other stakeholders.
- **Share information:** Communicate AI tool capabilities, limitations and uses to stakeholders
- **Train / support competence development:** Universities of applied sciences must train students and staff in the responsible use of AI tools.
- **Ensure / Manage risks:** The use of AI systems involves risks of leaking sensitive information and copyright infringements. Universities of applied sciences must identify data protection risks and process sensitive data appropriately.
- **Follow developments in this field:** Monitoring the development of artificial intelligence technology as a university of applied sciences and awareness of new practices affect the use of artificial intelligence in universities of applied sciences. If necessary, the university of applied sciences assesses and updates its ethical and operating instructions to correspond to the latest trends and best practices. Whenever possible, when participating in a wider discussion on the ethical use of artificial intelligence and participating in initiatives by organisations in the field to promote the responsible use of artificial intelligence, the university of applied sciences influences the development of the matter at the national level.
- **Monitor use:** By collecting data and feedback on the use of artificial intelligence through an open channel and reporting on flaws, the university of applied sciences promotes openness and develops the use of artificial intelligence in its community.

Educational institutions should take into account the impact of artificial intelligence on learning processes and theses and initiate discussions from the perspective of specific industries and working life.

Recommendations for the teachers of universities of applied sciences

Teachers must understand the opportunities of artificial intelligence in teaching and learning and further develop their teaching to correspond to the age of artificial intelligence.

Teachers at universities of applied sciences play an important role in teaching working life skills. Artificial intelligence is one of the tools of working life. Teachers must ensure that students graduating from universities of applied sciences have the competence to use artificial intelligence tools.

In the teaching of universities of applied sciences, the following must be taken into account when using artificial intelligence:

- **Understanding:** Teachers must understand what to do with artificial intelligence applications in teaching and learning and how these can support learning and streamline day-to-day life.
- **Responsibility:** The teacher must use artificial intelligence responsibly and ensure that its use promotes students' learning and development. The teacher is always responsible for their output.
- **Ethical principles:** The teacher must observe general ethical principles, such as fairness, equal treatment and respect for other students and teachers.
- **Data protection:** The teacher must follow the data protection practices of the university of applied sciences also when using artificial intelligence tools.
- **Restrictions:** Artificial intelligence systems are only programs and have limitations. The teacher must be aware of these restrictions to assess the suitability of the use of artificial intelligence in different situations.

In the teaching activities of universities of applied sciences, the use of AI tools must strengthen students' working life skills, which is why teachers are encouraged to

- **Encourage:** Students are positively encouraged to use artificial intelligence as part of their studies.
- **Guide:** By guiding students, the appropriate and responsible use of artificial intelligence is ensured. Instruct students on how to use artificial intelligence in a manner suitable for each course.
- **Utilise:** By using artificial intelligence tools to support the planning, evaluation and guidance of teaching, the teacher increases their competence and understanding of the opportunities and limitations of artificial intelligence.
- **Participate:** The teacher should share their knowledge of the capabilities, limitations and uses of the tool in their university of applied sciences community. The teacher, when participating in the discussion on the ethical use of AI in their university of applied sciences community and participating in initiatives related to AI in school communities and organisations, promotes the responsible use of AI.
- **Pay attention to specific industries:** Teachers should familiarise themselves with the development in their industry and related examples and apply the information to their own teaching. Teachers should share their experiences of operating models and practices in their industry.
- **Apply:** Teachers should take into account the impact of artificial intelligence on study assignments, learning processes and theses from the perspective of individual industries and working life.

The recommendations in Appendix 1 contain optional examples of AI guidelines for teachers.

Students

Students should understand the possibilities of artificial intelligence in their studies and develop their competence.

Using AI tools can enhance learning and make the learning experience more multidimensional. However, it should be noted that students are always responsible for the content of their study assignments and the materials to be assessed. When using AI tools, the student must pay attention to the following:

- **Understanding:** Students must understand the opportunities of AI applications in the promotion of learning and how these can support learning and streamline day-to-day life.
- **Responsibility:** Students must develop their AI literacy and have a critical view of AI output as the author is always responsible for their own work.
- **Knowledge:** Artificial Intelligence Systems are only programs and have limitations, and artificial intelligence does not have competence or understanding in content. Be aware of these limitations so that you can assess the suitability of the use of artificial intelligence in different situations.
- **Ethical principles:** Observe general ethical principles, such as fairness, equal treatment and respect for other students and teachers.

Students at universities of applied sciences are encouraged to use artificial intelligence in order to develop their own working life skills.

- **Adopt:** Use artificial intelligence skilfully as an assistant and support in learning
- **Provide feedback:** Discuss and give feedback on the success of AI use to the teacher.
- **Participate in the discussion and share information:** You are part of the community of the university of applied sciences. Discuss the ethical use of artificial intelligence and participate in initiatives of school communities and organisations to promote responsible use of artificial intelligence.
- **Report:** Quickly report any errors and problems related to the use of artificial intelligence in teaching.

Students at universities of applied sciences are recommended to take the instructions related to artificial intelligence into account in their thesis.

- In order to supplement their competence, students can use different AI services to create ideas, build a knowledge base and search for information. However, students must take into account any instructions related to cheating in their higher education institution.
- Students should acknowledge that cheating includes dishonestly presenting any ideas, processes, results or words as their own that have been produced using services such as essay writing software and ghost writers, or technology such as AI writers and generators.

Introduction to recommendations

These recommendations concern the use of generative artificial intelligence, which has made considerable progress in recent years. Today, generative artificial intelligence can produce credible images, videos, sound and text that approaches human-made works. In the future, generative artificial intelligence will develop further, and its areas of use will expand significantly. This enables, for example, the development of individual learning environments and the production of accessible materials and services that adapt to individual needs, for example through multilingualism. In addition, generative artificial intelligence enables better personal assistance through dialogue interaction in the future. For example, voice-controlled virtual assistants respond to increasingly complex questions and provide individual responses.

The role of universities of applied sciences in ensuring working life competence

The role of universities of applied sciences is to ensure that graduates have sufficient working life skills (professional competence, general working life skills and self-management skills) when they start working at companies. Even before artificial intelligence becomes a tool for all sectors, digital competence has been identified as one of the most significant competence needs of the 21st century, which can be included in both professional competence and general civic skills (European Commission 2021). In the future, the use of artificial intelligence which is part of digital competence will become increasingly common at work, and artificial intelligence will affect employees at different levels (Ministry of Education and Culture 2023). Despite the diverse potential of artificial intelligence, it will not replace human thinking, substance competence and development through social interaction and value creation. The utilisation of artificial intelligence in teams and as a sparring partner and support for individual work helps individuals and the community to develop their skills and improve their performance. This may improve the efficiency of work and well-being at work. It is important that students graduating from Finnish universities of applied sciences have the skills to use artificial intelligence regardless of the sector.

Artificial intelligence = Supportive intelligence and its ethical use

Artificial intelligence should rather be referred to as supportive intelligence. Artificial intelligence is not "intelligent" and, for example, applications do not have an understanding of their content, even though they may serve as an assistant, a brainstormer, a sparring partner, a mentor and a booster. The grammatically correct and ostensibly sensible output creates a misconception of the intelligence of the application and the correctness of the answer, even though it may be completely distorted in terms

of content. In other words, it does not eliminate the need for substance competence from the user, but instead emphasises it so that we can ensure that the information produced by artificial intelligence is correct. Artificial intelligence reflects the training data entered into it. Possible inaccuracy of the information, i.e., hallucination in the response, must be borne in mind as a restriction on use. In addition, it may provide biased or harmful information, which is due to the training data used in the teaching of the language model. The majority of the source material used to teach today's language model comes from Western countries. The fact that materials from all countries have not been equally used as source material weakens the quality of the application and its ability to produce objective information, taking into account different cultures. The responsibility for the accuracy of the produced information rests with the user of artificial intelligence. In utilising artificial intelligence, users must develop their AI literacy, i.e. their ability to understand and critically assess the activities and outputs of artificial intelligence. Artificial intelligence itself does not care whether or not something is true.

The discussion around artificial intelligence is strongly related to ethics. For example, the European Union has prepared its own ethical guidelines on artificial intelligence. These guidelines have previously been largely linked to the development of artificial intelligence. The ethical principles of the use of artificial intelligence can be derived from good general scientific practices at universities of applied sciences:

- 1) The authors are responsible for the accuracy, correctness, integrity and originality of their works, including the use of artificial intelligence.
- 2) AI does not fulfil the author's requirements, taking into account accountability.
- 3) Scientific writing practices must be followed in the use of artificial intelligence. The works must be the author's own, and they must not present the ideas, information, words or other material of others without sufficient reference. Artificial intelligence is not a source of scientific text. The author must ensure that the citations are correct.
- 4) The content produced by AI can be biased and damaging or strengthen existing harmful stereotypes. The author must always take ethical perspectives into account.

[Link to TENK's guidelines](#)

Appendix 1 – Example of instructions for teachers on the use of artificial intelligence

The use of AI in learning tasks



Required, must be used, must be reported, affects assessment

Artificial intelligence must be used to create outputs*. The student must report how he/she has used AI. Failure to use AI will affect the assessment.



Prohibited, not to be used

The output must be created without the help of artificial intelligence. The student should use only their own knowledge, understanding and skills. The use of AI is forbidden for a justified reason and will be interpreted as fraud.



Allowed, can be used, must be reported, may affect assessment

Artificial intelligence can be used in the creation of outputs, but the student must clearly report its use. Failure to disclose the use of AI will be interpreted as fraud. The use of AI may affect the assessment.



Allowed, can be used, need not be reported

Artificial intelligence can be used freely and without report to create the output. The use of AI does not affect the assessment.

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