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

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Note! These recommendations have been prepared by the Arene working group. They are not joint operational guidelines for universities of applied sciences. Each university of applied sciences (UAS) defines its own policies independently.

Artificial intelligence (AI) competence has become an integral part of working life. Arene's recommendations and the traffic light model support the responsible use of AI in learning, teaching, assessment, and competence development. The role of universities of applied sciences is to ensure adequate working life competences, with AI skills forming part of digital competence and generic skills. In particular, the importance of critical thinking is emphasized when utilizing AI as part of higher education. These recommendations also promote the development of sufficient AI literacy in accordance with the EU AI Act, as part of digital literacy, digital citizenship and responsible digital courage.

The shared recommendations on the use of AI by Universities of Applied Sciences enable common practices in higher education. The use of AI both challenges and creates opportunities for developing the quality of higher education, the level of competence and its assessment, as well as the relevance of curricula. Universities of Applied Sciences are encouraged to share good practices and experiences in the use of AI as part of teaching, learning, studying, as well as research, development, and innovation activities.

Arene recommends that Universities of Applied Sciences use AI in a responsible manner as part of learning and studying, teaching and teaching support, as well as in research, development, and innovation activities with stakeholders, as follows:

- At the organizational level, Universities of Applied Sciences are recommended to ensure that both staff and students have the capabilities to use AI and AI tools responsibly.
- At the teaching level, teachers are recommended to ensure the purposeful and ethical use of AI and the verification of competence.
- At the study level, Universities of Applied Sciences are recommended to support, guide, and advise students in the responsible use of AI and in the development of AI literacy.

Arene monitors the development of generative AI and AI-assisted technologies and updates these guidelines as necessary.

Common principles

Universities of Applied Sciences should take the following principles into account:

Understanding:

- Teachers should understand what can be done with AI applications in teaching and learning, and how they can be used to support learning and facilitate everyday work.
- Students should be able to recognize what AI can and cannot do and assess when the use of AI is purposeful and permitted.
- AI systems are only software and have limitations. Teachers should be aware of these limitations in order to evaluate the suitability of AI use in different situations.

Competence:

- Universities of Applied Sciences must provide guidance and training for staff and students in the basic use of AI tools as well as in field-specific applications.
- The development of AI competence should be reflected at the curriculum level.
- Students must be supported in learning to use AI by modeling appropriate use cases. Teachers must familiarize themselves broadly with the use of AI as part of teaching, learning tasks, and assessment. Teachers need to understand how the use of AI supports teaching, as well as the limitations it involves.
- Students may use AI to support their own learning and studies, taking into account data protection and ethical principles.

Ethics:

- The use of AI tools must adhere to general ethical principles such as fairness, equality, impartiality, and respect toward others.
- When using AI, equal treatment must be ensured. The use of AI must not produce outcomes that favor or discriminate against anyone.
- Students must act in accordance with shared policies and the guidelines of their own University of Applied Sciences as well as those of working-life partners.
- Assessment cannot be outsourced to AI; it is a legal responsibility carried out by the teacher. Teachers may use AI in assessment in accordance with their institution's guidelines, but they must always independently form the final evaluation and feedback and make the assessment decision themselves.

Responsibility:

- AI tools should promote students' learning and the development of working-life skills. Universities of Applied Sciences must ensure sufficient AI literacy among staff and students by utilizing national and EU-level frameworks.

- Teaching staff must develop their AI literacy and use AI responsibly as part of their teaching. Teachers must design instruction in a way that allows them to assess students' actual competence, rather than just their ability to use AI.
- Students must develop their AI literacy and take a critical approach to AI-generated outputs. The author is always responsible for their own work, even when AI has been used as a tool. AI should be used to support learning, not replace it. Cognitive effort should not be delegated to AI.
- Reports produced by AI detection tools must not be the sole means of identifying misconduct; rather, they can guide both teachers and students in evaluating how the use of AI should be disclosed and how it may be used. The author is always responsible for their outputs. Misconduct is assessed in accordance with the University of Applied Sciences' own guidelines on academic integrity and AI use.

Transparency:

- Universities of applied sciences must ensure that the operating principles and decision-making processes of AI tools are openly available and understandable to all users. This promotes trust and enables the critical evaluation of AI use.
- The use of AI must be made visible in both teachers' and students' work. This increases transparency and clarifies which parts of the work are the individual's own contribution and where or how AI has been utilized.
- Students must be able to distinguish AI-generated text from their own writing and, when necessary, refer to AI as a source, even though AI is not a scientific source per se. Students are required to critically reflect on AI-generated outputs.
- Teachers must openly communicate the use of AI in assessment or in providing feedback. AI-assisted assessment must be transparent to the student.

Data protection:

- The use of AI tools must not compromise the data protection or privacy of staff nor students.
- Teachers must comply with the university of applied sciences' data protection policies also when using AI tools.
- Teachers and students must use AI tools and services provided by their institution that meet information security requirements.
- Teachers may not input students' student work into external language models or other AI services outside the higher education institution without their consent.
- Teachers and students must assess the reliability of AI-generated information and be able to identify errors, biases, and ethical risks.
- The use of AI must ensure respect for privacy, confidentiality, data protection, and copyright.

Recommendations for the organisational level of universities of applied sciences

At the leadership level, universities of applied sciences must enable the responsible use of AI for teachers, staff, and students. The use of AI tools must be guided and supported, primarily through tools provided by the organisation.

At the organisational level, universities of applied sciences must act as follows with regard to AI tools:

- **Enable:** AI tools must be accessible, and guidance on their use must be provided to both staff and students.
- **Provide guidance:** The use of AI tools must comply 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:** Stakeholders must be informed about the capabilities, limitations, and uses of AI tools.
- **Educate / 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 related to the leakage of sensitive data and copyright infringements. Universities of applied sciences must identify data protection risks and handle sensitive data appropriately.
- **Monitor developments in the field:** Keeping up with developments in AI technology and awareness of emerging practices influence the use of AI in universities of applied sciences. Institutions must evaluate and update their ethical guidelines and operating principles as needed to reflect current trends and best practices. By participating, where possible, in broader discussions on the ethical use of AI and in initiatives by professional communities and other organisations, universities of applied sciences can contribute to developments at the national level.
- **Monitor use:** By collecting data and feedback on the use of AI through open channels and reporting of issues, universities of applied sciences promote transparency and develop the use of AI within their communities.
- **Act responsibly:** Universities of applied sciences must recognise environmental impacts at both organisational and individual levels as part of the responsible use of AI.

Universities and other educational institutions should consider the impact of AI on learning processes and thesis work, and initiate discussion from both disciplinary and working life perspectives.

Universities of applied sciences must take into account the requirements of the EU AI Act (2024/1689), which aims to regulate the use of AI based on risk.

Recommendations for teachers in universities of applied sciences

Teachers must understand the opportunities of AI in teaching and learning and further develop their teaching to respond to the AI era.

Teachers in universities of applied sciences play a key role in teaching working life skills. AI is one of the tools used in working life. The effective and responsible use of AI requires strong domain-specific foundational competence as well as critical thinking skills. Teachers are encouraged to support the development of AI literacy as part of learning assignments and their assessment. Teachers must ensure that graduates from universities of applied sciences have the capabilities to utilize AI.

In universities of applied sciences, teachers can use Arene's traffic light model to define the use of AI in assignments and the assessment of assignments in relation to AI use. In particular, teachers are encouraged to use the traffic light model (Figure 1) to identify in study units:

- **Ensuring foundational competence:** Teachers must identify those parts of the learning content where it is justified to prohibit the use of AI entirely in order to ensure foundational competence without AI support (*red traffic light*). In such cases, the use of AI is not part of the assessment.
- **Development of critical thinking:** Teachers must identify those parts of the learning content where it is justified to allow the use of AI (*yellow traffic light*) or to require its use (*blue traffic light*). In these cases, the use of AI is taken into account in the assessment of competence. Critical thinking skills are also essential when AI use is fully permitted (*green traffic light*); in such cases, the use of AI is not part of the assessment.

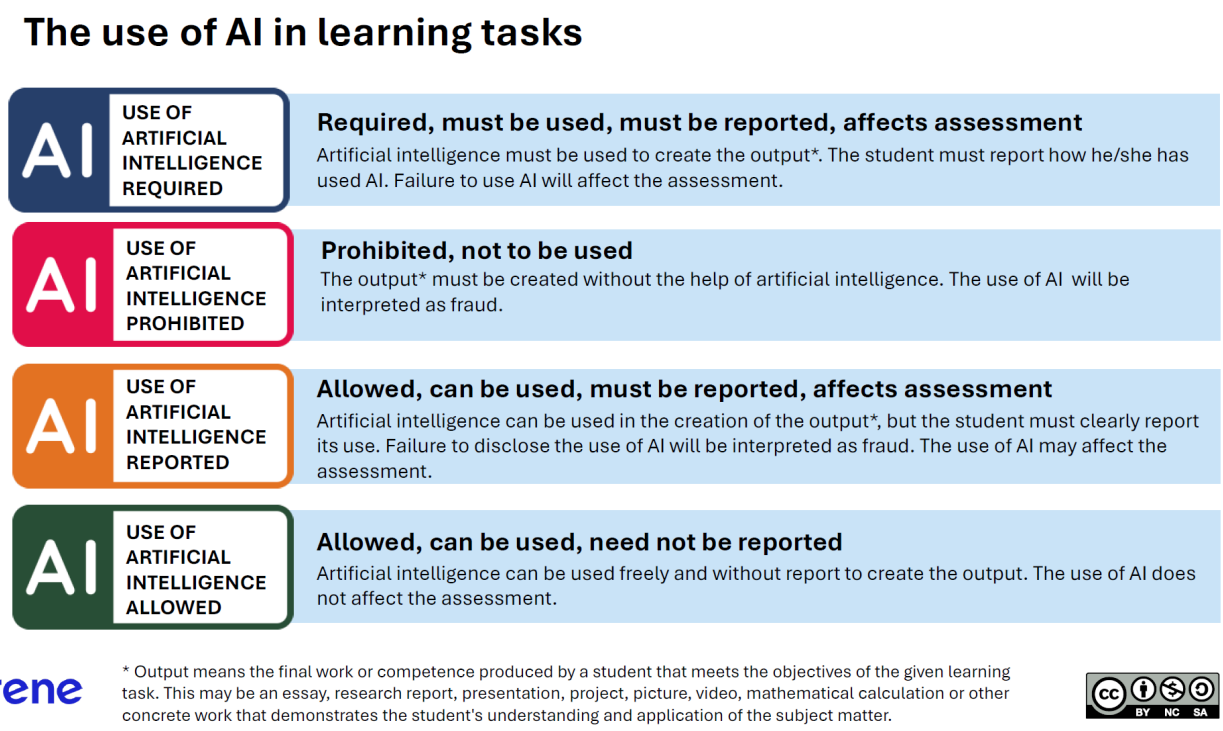

Figure 1 The Traffic Light Model (link)

In teaching at Universities of Applied Sciences, the use of AI tools should strengthen students' working-life skills. Therefore, teachers are recommended to act as follows:

- **Encourage:** Positively encourage students to use AI as part of their studies.
- **Guide:** By providing guidance, ensure the appropriate and responsible use of AI. Instruct students on how to use AI in ways suitable for each course.
- **Utilize:** By using AI tools to support teaching design, assessment, and guidance, teachers enhance their own competence and understanding of the possibilities and limitations of AI.
- **Participate:** Teachers should share their knowledge within their UAS community about the capabilities, limitations, and uses of AI tools. By participating in discussions on the ethical use of AI and in institutional AI-related initiatives, they promote responsible AI use.
- **Consider field-specific aspects:** Teachers should familiarize themselves with developments and examples in their own field and apply this knowledge to their teaching. They should also share experiences of field-specific practices and models.
- **Apply:** The responsible use of AI tools should be integrated into each course to ensure that students develop an understanding of field-specific needs and use cases, as well as the ability to apply AI in internships and theses.
- **Support critical thinking:** Teachers must recognize that critical evaluation of information, as well as critical reflection on disciplinary knowledge and practices, are key generic competencies for students in Universities of Applied Sciences (Arene, 2022), and their importance is further emphasized in the age of AI. Learning tasks should be designed in a way that fosters the development of students' own critical thinking alongside knowledge and skills acquisition.
- **Assess responsibly:**
  - Teachers are recommended to ensure that, in terms of learning tasks as well as teaching and assessment methods, competence can be reliably demonstrated at both basic and advanced levels, even when AI is used. Arene's traffic light model helps teachers guide the use of AI, assess competence in this context, and make assessment principles transparent to students.
  - Teachers may use AI solutions provided by their own institution in teaching and assessment, taking into account institutional data security and data protection guidelines, as well as the obligations of the EU AI Act in the processing and evaluation of students' learning outputs. Assessment cannot be outsourced solely to AI; it is always a legal responsibility carried out by the teacher. Students' work or personal data must not be entered into external AI services or submitted to them for evaluation. AI-assisted assessment must be transparent to students.
  - AI may be used in the preliminary assessment of suspected misconduct, but the final determination is the responsibility of the teacher or another designated staff member, in accordance with the institution's academic integrity guidelines.

Recommendations for students at Universities of Applied Sciences

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

The use of AI tools can personalize and support learning. However, students must ensure that the use of AI enhances their own understanding and development of competence, rather than replacing independent thinking or the learning process. Students are always responsible for the content of their own study assignments and for the materials subject to assessment.

Students at Universities of Applied Sciences are encouraged to use AI in order to develop their working-life skills as well as AI competence in their own field. When using AI tools as part of learning and studying, students should take the following into account:

- **Think critically:** Critically evaluate all information you receive from AI and verify its accuracy and reliability using original sources. Use AI-generated information to support your own thinking and to help structure knowledge, not as a substitute for thinking.
- **Build proficiency:** Practice using AI for different purposes.
- **Use to support learning:** You can use AI, for example, to support ideation, build a knowledge base, search for information, and assess your own competence and learning.
- **Participate in discussion and give feedback:** You are part of the UAS community. Discuss and reflect on experiences of using AI with others involved in the learning process.
- **Report:** Promptly report errors and issues related to the use of AI in teaching.
- **Act responsibly in the thesis process:** Follow your institution's guidelines on misconduct and the use of AI in theses. Use AI services to support your own competence. Be aware that misconduct includes presenting ideas, processes, results, or text generated with AI services as your own. (Link to TENK guidelines)

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